

**Business and Health Administration Association
Division of MBAA International
2014 Meeting
Chicago, Illinois**

ABSTRACT AND PAPER PROCEEDINGS



**BHAA President – Deborah Gritzmacher
Program Chair – Zach Frank
Proceedings Editor – William K. Willis**

PROCEEDINGS of the BUSINESS AND HEALTH ADMINISTRATION ASSOCIATION

**CHICAGO, IL
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2014 PROCEEDINGS EDITOR

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Letter from the BHAA 2014 President



Deborah Gritzmacher
Clayton State University

Dear Colleagues and Friends,

President's Message

Welcome to the 2014 Business and Health Administration Association (BHAA) academic meeting. Again this year we have the opportunity to hear high quality, diverse papers that have been our trademark. Not only do we have academicians with years of related business and clinical experience, business leaders, and clinicians, we also have students mentored by these members. We are able to create our own future leaders. I applaud you all for the work you do.

I have been fortunate enough to be a part of this organization since 2002. It has been a period of academic growth, learning, and great pleasure to be able to associate with distinguished leaders in healthcare. We are enveloped in an atmosphere of collegial support and sharing. Thank you all for allowing me to work with you and learn from you.

Sincerely
Deborah Gritzmacher
President – BHAA 2013/14

Letter from the BHAA 2014 Program Chair



Zach Frank
Washburn University

I am so fortunate to have the opportunity to greet you for the 2013 Business and Health Administration Association (BHAA) Conference. I welcome you to a participant group that is diverse in specialty, nationality, cultural, and ethnic origin. We merge offerings from “scholars, teachers, students, practitioners, regulators and planners from a variety of business and health related disciplines, such as healthcare administration, pharmaceutical and healthcare marketing, pharmacy, healthcare management, health economics, health policy, medicine, public health, nursing, health informatics, and global health” (Avinandan Mukherjee, 2012). We as members of the planning committee are so grateful for this richness.

MBAA and BHAA have a long history of quality, collegiality, and respect among and between disciplines. I trust that you will find presentations that relate and enrich your specific interest, and you will benefit from ideas that expand your vision. I hope that you will take advantage of the opportunity to engage others in conversation about the presented subjects, different approaches to similar issues, and that you will take advantage of the available entertainment.

Thank you all for your submissions and we look forward to you joining us next year.

Sincerely,
Zach Frank
Chair – BHAA 2013/14

Letter from the BHAA 2014 Proceedings Editor



William K. Willis
Marshall University

Dear BHAA Colleagues:

I would like to welcome you to the BHHA conference. I personally enjoy attending the conference and look forward each spring to participating. Those who attend the conference have an abundance of opportunities to network with individuals from different universities, both domestic and international, and to share in the thought-provoking presentations from those in academia, as well as students who maybe presenting for the first time at a conference. The conference has something to offer all who attend.

It is my pleasure to serve as your Proceedings Editor for this year's conference. The dynamic nature of healthcare allows for the research and presentation of a multitude of diverse topics. This year the conference presentations include various topics focusing on the many and varying aspects of healthcare. The BHAA family continues to expand as we reach out to new colleagues each year. As each annual conference passes, we have more international participants, illustrating the impact of the conference.. Domestically we continue to see new faces and meet new colleagues, all sharing the same desire to learn.

I would like to express my gratitude to Zach Frank and Deborah Gritzmacher whose help in compiling the proceedings was invaluable and greatly appreciated. In addition, I would like to thank all of the delegates who submitted papers for this outstanding conference. Enjoy the conference!

William K. Willis
Proceedings Editor - BHAA 2013/14

Best Paper Awards

BHAA OVERALL BEST PAPER AWARD

Overweight and Obesity Among Children: An Evaluation of a Walking Program.

Nashat Zuraikat and Julie Cash

TRACK: HEALTHCARE MANAGEMENT

Early Mobilization in ICU Patients

Alex Hunter, Leslie Johnson, William K. Willis, and Alberto Coustasse

TRACK: HEALTH and WELLNESS

The Influence of Positive Psychology on Employee Assistance Programs

Nicole Veglahn and Kem Gambrell

TRACK: CLINICIANS

Advances in Dental Technology: What is New in Endodontics (Root Canal Treatment?)

David P. Paul, III

TRACK: HEALTHCARE ECONOMICS

Financial Advantages of Hospitals' Relationships with Accountable Care Organizations

David P. Paul, III, Rodrigo Camargo, Thaisa Camargo, Stacie Deslich, and Alberto Coustasses-Hencke

TRACK: CORPORATE HEALTH

Financing of Renal Dialysis

Marisa Borelli, David P. Paul, III, and Michaeline Skiba

TRACK: STUDENT LED

The Effect of Bankruptcy on Consumer Credit

Brandon Hougom and Kem Gambrell

TRACK: PHARMACEUTICAL HEALTHCARE ISSUES

The Business Case for Hospital Telepharmacy in North Dakota and Northwestern Minnesota

Shelley Doherty-Johnson, Daniel Friesner, David M. Scott, Ann M. Rathke, and Christian Albano

TRACK: HEALTHCARE MARKETING

Medical Tourism Comparing Bypass Surgery in the U.S. and Abroad

William K. Willis and Alberto Coustasse

TRACK: HEALTH CARE EDUCATION

Optomizing Learning in Project-Based Capstone Courses.

Randolph Schwering

TRACK: HEALTH INFORMATICS and TECHNOLOGY

*Issues, Challenges, and Findings in Healthcare Information technology (HIT).
Implementations: A Literature Review*

Rangarajan Parthasarathy and Linda Knight

TRACK: NURSING

The American Epidemic: The U.S. Nursing Shortage and Turnover Problem

Patrick Cox, William K. Willis, and Alberto Coustasse

TRACK: PHYSICAL THERAPY

Using ASTYM to Reduce Costs Associated with Plantar Facitis

Jessica Peschel and Zach Frank

TRACK: ETHICAL and LEGAL ISSUES

Aging and the Rising Costs of Healthcare in the U.S. Arguments For and Against Age-Based Rationing as a Solution.

Hengameh M. Hosseini

TRACK: PUBLIC HEALTH

The Topeka El Centro Community Health Project: The Impcat of Education

Adrienne Hearrell, Amanda Keeler, Dawna Leck, Lindsey Peterson, Mary Root, Katherine Ure, and Zach Frank

TRACK: GLOBAL HEALTHCARE REFORM

Healthcare Reform: How We Might Make Progress Through Translational Research

Dennis Emmett

TRACK: PREGANNCY and WOMEN'S HEALTH ISSUES

TRACK: INTERNATIONAL HEALTHCARE and HEALTHCARE ISSUES IN SLOVAKIA

Drug Utilization in Management of Cardiovascular Diseases in Slovakia: Review of Period from 2005-2012

Robert Babela, Marian Karvaj, Marian Fasko, Jana Hruskova, Jan Stevlik, and Tomas Tesar

BUSINESS AND HEALTH ADMINISTRATION ASSOCIATION

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TRACK

HEALTHCARE MANAGEMENT

EARLY MOBILIZATION IN ICU PATIENTS

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EARLY MOBILIZATION IN ICU PATIENTS

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ABSTRACT

Introduction: Bed rest or immobilization is frequently part of treatment for patients in the intensive care unit with critical illness. The average intensive care unit length of stay was 3.3 days and for every day spent in an intensive care unit bed, the average patient spent an additional 1.5 days in a non-intensive care unit bed. Daily costs have increased more than 30% from 2000-2005 with an average daily cost of \$3518. Weaning from mechanical ventilation has been correlated with increased intensive care unit and hospital length of stay. Mechanical ventilation has been correlated with the development of intensive care unit-acquired weakness and delirium. The purpose of this research was to analyze the effects of early mobilization for patients in the intensive care unit to determine if it has an impact on the length of stay, cost of care and medical complications.

Methodology: The methodology for this study was a literature review. Five electronic data bases were utilized with 27 articles were referenced for this research.

Results: Intensive care unit length of stay was reduced with statistical significance in several studies examining early mobilization. Limited research on cost of intensive care unit stay indicated savings potential with early mobilization. Early mobilization was shown to decrease delirium by 2 days, reduce risk of readmission or death, and reduce ventilator assisted pneumonia, central line and catheter infections.

Discussion/Conclusion: Early mobilization for decreased length of stay in the intensive care unit exhibited mixed results. When implementing early mobilization in the intensive care unit, total costs were shown to decrease and fewer medical complications were noted. Early mobilization should become a standard of care for critically ill, but stable patients in the intensive care unit.

INTRODUCTION

Critically ill patients often survive because of the care received in the Intensive Care Unit (ICU), but are often plagued with costly physical and psychological sequelae that may be worsened with immobility. Bed rest or immobilization is frequently part of treatment, due to pharmacologically induced sedation and/or Mechanical Ventilation (MV) (Drolet, et al., 2012). Hippocrates may have implied that pain is relieved by bed rest, but modern day researchers have found that bed rest is potentially harmful with complications of pulmonary edema, atelectasis, bone demineralization, muscle wasting, vasomotor instability, constipation, back pain, pressure ulcers, contractures and blood clots (Lipshutz & Gropper, 2013).

Length of Stay (LOS) in the ICU has been used as a measure of resource utilization because it is surprisingly consistent among most diagnoses (Arabi, Venkatesh, Haddad, Shimemeri, & Malik, 2002). LOS has been documented as short as 24 hours, and as long as 132 days (Arabi, et al., 2002). Weaning from MV has been correlated with increased ICU and hospital LOS. The ICU houses less than ten percent of total hospital beds, yet ICU care represents one third of total health care costs (Shorr, 2002). Daily costs have increased more than 30% from 2000-2005 with an average daily cost of \$3,518 (Halpern & Pastores, 2010). Neuromuscular weakness, or ICU Acquired Weakness (ICU-AW), as well as, impaired physical function are two long term complications that ICU survivors often face (Desai, Law, & Needham, 2011).

ICU-AW has been defined as bilateral weakness, ranging from severe to paralysis, with or without a loss in deep tendon reflexes (Brummel, et al., 2012). Developing ICU-AW has been attributed to sepsis, immobility,

multiple organ failure, hyperglycemia, and corticosteroid use (Brummel, et al., 2012). In patients mechanically ventilated for greater than seven days, evidence has shown up to 58% suffer with ICU-AW (Griffiths & Hall, 2010).

The most frequent primary admission diagnoses to the ICU include acute myocardial infarction, respiratory distress, coronary artery bypass grafting, congestive heart failure, cerebrovascular accident or intracranial hemorrhage, other cardiovascular dysfunction, pneumonia, sepsis, Urinary Tract Infection (UTI), diabetic ketoacidosis, and gastrointestinal bleeding (Lilly, Zuckerman, Badawi, & Riker, 2011). Lilly, et al., (2011) attempted to provide benchmarks for critical care practice in the United States (US) by examining 243,553 adult admissions in 271 ICUs, found that the average ICU LOS was 3.3 days and that for every day spent in an ICU bed, the average patient spent an additional 1.5 days in a non-ICU bed.

A multitude of life sustaining measures such as catheters, monitors, and sedative medications mixed with unstable vital signs, electrolyte imbalances, unusual sleeping patterns, and even abnormal behaviors, make early mobilization intimidating (Adler & Malone, 2012). Avoidance of bed rest with early mobilization is a potential option to reduce weakness acquired during ICU stay, but intensive Physical Therapy (PT), including ambulation, is often avoided in mechanically ventilated patients (Truong, Fan, Brower, & Needham, 2009). Low level of patient mobility is a common practice in the ICU, with 27% of ICU patients receiving PT, and only 6% of mechanically ventilated patients receiving PT (Needham, Wang, Desai, Mendez-Tellez, & Dennison, 2007). A systematic review by Adler and Malone (2012) concluded that mobilization can safely occur within two to four days of intubation in critically ill, but stable ICU patients. Early mobilization has recently been associated with improvements in respiratory function, level of consciousness, functional independence, cardiovascular fitness and psychological well-being (Drolet, et al., 2012).

Respiratory failure was the most common reason patients were admitted to the ICU, because of the need for MV. According to Ely, et al., (2004) specific medical complications, including delirium, were associated with an increased ICU stay and with MV. Delirium is an acute mental status change with inattention, and either disorganized thinking or an alerted level of consciousness (Thomason, et al., 2005). Delirium has been found in up to 32% of ICU patients, rising to 77% in mechanically ventilated patients (Cavellazzi, Sadd, & Marik, 2012). Ely, et al., (2004) demonstrated an increased hospital LOS of ten days in those patients who developed delirium.

The purpose of this research was to analyze the effects of early mobilization for patients in the ICU to determine if it has an impact in the LOS, cost of care, and medical complications.

METHODOLOGY

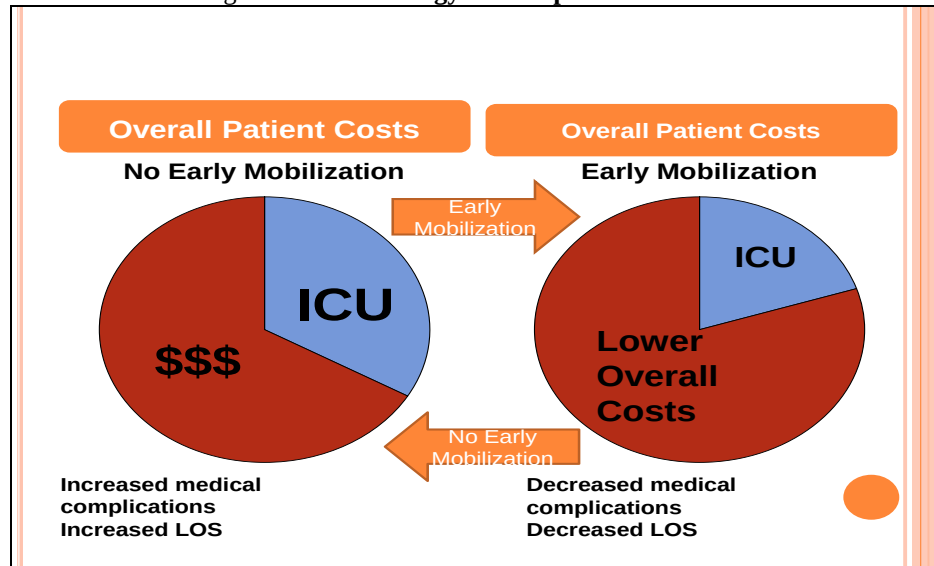
The primary hypothesis of this study state, critically ill patients who participate in early mobilization activities had shorter LOS and decreased cost of care. The secondary hypothesis includes patients in the ICU had fewer medical complications with early mobilization.

The methodology for this study was a literature review. The West Virginia University library on the Charleston Area Medical Center Memorial Campus in Charleston, West Virginia was used for full text articles, utilizing the PubMed, EbscoHost, ProQuest and CINAHL databases. Google was used when articles could not be located through the above databases. Key terms used in the search included 'ICU' AND 'early mobilization', AND 'cost', OR 'length of stay', OR 'acquired weakness' OR 'complications'. The Physical Therapy Journal was also explored. The search was limited to articles published 2002 through April 2013. Articles were limited to the English language. Primary and secondary data were included from original articles, research studies, and reviews. Relevant articles were selected after review of abstracts was performed. Twenty-seven articles were chosen for this research. This search was completed by AH and LJ and validated by AC.

The conceptual framework for this research is illustrated in Figure 1. The authors argue that early

mobilization in the ICU can decrease ICU LOS thus decreasing the patient's overall hospital LOS and medical complications contributing to an overall decrease in cost of care. Without early mobilization, patient will stay sicker for longer periods and the cost to patients, hospitals and insurance companies will be greater.

Figure 1. **Methodology: Conceptual Framework**



RESULTS

ICU LOS with Early Mobilization

One of the first studies investigating early mobilization in ICU patients with Acute Respiratory Failure (ARF) was a prospective cohort study in a university medical ICU (MICU) (Morris, et al., 2008). The protocol group was initiated into the protocol within 48 hours of MV with the mobility team, while the usual care group received Passive Range Of Motion (PROM) daily by the bedside nurse. Both ICU and hospital LOS were significantly different between the protocol and usual care group (Morris, et al., 2008), (Table 1).

Table 1. LOS Results in ICU with Early Mobilization

Author	Design	PT Interventions	Findings
Morris, et al., 2008	- Prospective Cohort Study - Protocol n=165 - Usual Care n=165 n=330 - Single Center - ARF MV≤48 hours	- Mobilization program 7 days/week by mobility team (PT, RN, NA) - Starting with PROM and progressing with transfers and sitting vs usual care	- ICU LOS Protocol: 5.5 days vs. usual care 6.9 days (p=.025) - Hospital LOS protocol 11.2 days vs usual care 14.5 days care (p=.006)
Burtin, et al., 2009	- Randomized controlled trial - n=90 67 Computed	Treatment initiated on ICU day 5, given another 7day stay	*NO difference noted in ICU or Hospital LOS or vent weaning time

Author	Design	PT Interventions	Findings
	• 36 Control • 31 Treatment Group	- likely • Both groups received UE/LE therapy exercises and functional training • Treatment group had an additional cycling session for 20 minutes total duration 5 days a week	
Malkoc, et al., 2009	• Intervention Study with Control from retrospective chart review • n= 510 • 277 intervention • 233 control	• Intervention group received chest PT with individualized activities ranging from exercise to mobility twice per day 5 days/week • Control group received standard nursing care	1. Ventilator dependent days Intervention: 14.0+/-5.9 p<0.005 Control: 20.0+/- 6.1 p<0.005 2. ICU LOS Intervention: 15.8+/-8.5 Control: 25.5+/-4.5
Schweickert, et al., 2009	• Prospective • Randomized controlled trial N=104 - All patients completed study • 2 Centers MV $\leq$ 72 hours • Expected to cont MV least 24 hours • 55 Control • 49 Intervention	• Treatment group ext mobilization day of enrollment • Sedatives interrupted ○ Control – PT/OT Delivered when ordered (typically not sooner than 2 weeks on a mechanical vent)	1. LOS ICU • Treatment: 5.9 • Control: 7.9 p=0.08 2. Hospital LOS • Treatment: 13.5 • Control: 12.9 p=.93
Needham, et al., 2012	• Seven month prospective before and after quality improvement project • Prospective QI case controlled ○ n=57 ○ 27 pre QI ○ 30 post QI • Single Center • Patients MV 4 days or more	• Creating positions for FT PT/OT and PT Rehab Aide • Established guidelines for safe early mobility or PT/OT • PRN sedatives vs. continuous infusions • Default activity level of as tolerated instead of bed rest	1. ICU LOS reduced by 2.1 days 2. Hospital LOS reduced by 3.1
Ronnebaum, et al., 2012	• Retrospective chart review ○ n=28 ○ 13 patients SPT	• SPT=Standard Physical Therapy when deemed appropriate • MP=Early	1. Mean ICU LOS a. SPT 24.9 +/-13.7 days b. MP 13.3 +/- 6.3 days c. p=.007 2. Mean MV days

Author	Design	PT Interventions	Findings
	15 patients MP - Diagnosis of non-neurological respiratory failure and were put on MV upon admission	- Mobility protocol involving interdisciplinary team and daily meetings - PT evaluation to occur within 24 hours in MP group	a. SPT 30.9 +/- 20 days b. MP 14.5 +/- 8.7 days c. p=.007 3. Mean interval until the initiation of PT a. SPT 12.9 +/- 9.7 days b. MP 6.1 +/- 4.6 days c. p=.02
Titworth, et al., 2012	Single Institution Prospective Intervention trial	- Pump plus (progressive upright mobility program) - Other rehab activities - Transfer in 2 months	1. LOS before mobility program implementation 12 to 8.6 days after (p≤0.01) 2. Reduction in Neuro ICU LOS from 4.0 to 3.46 (13% difference) (p≤.004) 3. 0.02% reduction in LOS with each unit increase in mobility score measured

Key: ARF= acute respiratory failure, MV= mechanical ventilation/mechanically ventilated, QI= quality improvement, PT= Physical Therapy, OT= Occupational Therapy, FT= full time, RN= registered nurse, NA= nursing assistant, PRN= as needed UE= Upper Extremity, LE= Lower Extremity

A randomized controlled trial of 90 critically ill patients examined the effects of bedside cycling and demonstrated no significant difference between control and experimental groups in ICU or hospital LOS (Burtin, et al., 2009). Of importance to note with this study, is that both groups received strengthening and functional training, but the treatment group received an extra 20 minutes of cycling per day in a supine or semi-recumbent position (Table 1).

The impact of PT in ICU LOS in a preeminent Turkish Hospital was examined in ventilator dependent patients (Malkoc, Karadibak, & Yildirim, 2009). The control group received only standard nursing care, and the experimental group participated twice per day five days per week in the chest physiotherapy program individualized to each patient, and included activities ranging from postural drainage to exercise and mobilization (Table 1).

The efficacy of combining early sedation interruption with PT and Occupational Therapy (OT) was investigated in a randomized controlled trial with the intention to treat all 104 mechanically ventilated patients (Schweickert, et al., 2009). Computer generated randomization occurred with blinding of therapists to treatment assignment. This two center study used computer randomization and blinding of therapists, with initiation of early exercise and progressive mobilization in patients who had been on the ventilator less than 72 hours, but were expected to remain on the ventilator at least 24 more hours. The control group received sedation interruption with therapy as ordered by the primary team, typically not initiated until patients were mechanically ventilated for 14 days or more. ICU LOS and hospital LOS were not significantly different in this study (Table 1).

A seven month prospective study before and after quality improvement project was conducted in a 16 bed MICU in an academic setting which studied early rehabilitation in patients with acute respiratory failure (Needham, et al., 2010). This single center study targeted patients who had been ventilated 4 or more days. Interventions were not specific to a protocol, but instead, consisted of creating positions for therapists and a Rehabilitation Aide (RA), establishing guidelines for safe and early mobilization, and altering standards for sedatives from continuous to as needed and changing activity orders from bed rest to as tolerated (Table 1).

A systematic review investigating outcomes of mobilization in patients requiring MV was conducted using many of the already mentioned studies (Li, Peng, Zhu, Zhang, & Xi, 2012). Using 17 eligible studies, the authors found that active mobilization may positively impact the ability to wean from the vent and may decrease both ICU

and hospital LOS (Li, et al., 2012).

Ronnebaum, Weir, & Hilsabeck (2012) completed a retrospective chart review study comparing the effectiveness of a Mobility Protocol (MP) utilizing daily meetings with an interdisciplinary team to safely initiate early mobilization when stable with Standard Physical Therapy (SPT). Twenty-eight charts were reviewed of patients in respiratory failure requiring MV (Table 1).

An early mobility program, titled PUMP Plus, was initiated in the neurointensive care unit at Shands Hospital at the University of Florida from April 1, 2010 through July 31, 2010 (Titsworth, et al., 2012). Unless it was clinically contraindicated, the study population of 3291 patients was automatically enrolled in the early mobility program of progressive mobility. Results of the PUMP Plus study demonstrated a statistically significant decrease in hospital LOS from 12 days before the mobility protocol implementation to 8.6 days after, a decrease in neurointensive care LOS by 13 % from 4.0 days before mobility implementation to 3.4 days after and a correlation between LOS and mobility score (Table 1).

A financial model was developed using data from existing studies and from the actual implementation of early mobilization in the MICU at Johns Hopkins Hospital (Lord, et al., 2013). Data from this study of early mobilization in the ICU indicated a 22% reduction in stay with an average of 5.4 days before intervention and 3.9 days post intervention (Lord, et al., 2013).

Cost of Care with early mobilization in ICU

According to Dasta, et al., (2005), patients requiring MV in the last quarter of 2002 accrued higher hospital costs with an average of \$47,158 compared to those patients not requiring MV with an average of \$23,707. Average daily ICU cost studied in 2002 were highest day one and day two, stabilizing on day three as evidenced by \$7,728 +/- 8,509 day one, \$3,872 +/- 4,223 day two and \$3,436 +/- 3,550 day three (Dasta, et al., 2005).

In 2008, Morris, et al., examined early ICU mobilization in the treatment of ARF, finding the total direct inpatient cost for patients in the protocol group to be \$6,805,082 with an average patient cost of \$41,142, while the total cost for the usual care group was \$7,309,871, with an average patient cost of \$44,302.

Ronnenbaum, et al., (2012), performed a retrospective chart review in 2008 compared the effectiveness of a Mobility Protocol (MP) with Standard PT (SPT) demonstrated an average difference of 11.6 days fewer in the ICU in the MP protocol, as well as a \$22,000 savings per patient in the MP.

The financial model created using data from the Johns Hopkins Hospital early mobilization implementation identified three areas of costs associated with early ICU mobilization which included personnel, training, and equipment (Lord, et al., 2013), (Table 2).

Table 2.

Admissions Per Year	Estimated Savings
200	\$34,134
600	\$224,378
900	\$358,475
2000	\$645,951

The Impact of Early Mobilization in ICU on Medical Complications

The randomized controlled trial by Schweickert, et al., (2009) demonstrated a significant difference in reduction of days of ICU delirium, 2 days in the treatment group compared to 4 days in the control group, and in ICU acquired paresis at hospital discharge, 31% treatment group compared to 49% control group.

In a cohort study of 280 acute respiratory failure survivors, using parent data from a prior study, Morris, et al., (2011) found that patients who did not participate in an early mobilization group were statistically significant with 1.77 odds ratio (OR) of readmission or death.

The PUMP Plus study demonstrated a 60% decrease in hospital acquired infections (such as Ventilator Associated Pneumonia (VAP), central line infections and catheter associated UTI's) with increased mobility scores, but no significant difference was noted in pressure ulcer development (Titsworth, et al., 2012).

DISCUSSION

Early mobilization for decreased LOS in the ICU exhibited some mixed results as discussed below. When implementing early mobilization in the ICU costs were shown to decrease. Fewer medical complications occurred with the implementation of early mobilization in the ICU.

While the sample size for the PUMP Plus study was large (n= 3291), data was only collected for 2 weeks prior to the initiative and for 2 weeks after the initiative, with pre sample size of 77 and post sample size of 93 (Titsworth, et al., 2012). The PUMP Plus study used the iMOVE mobility assessment tool, which was noted to be both valid and sensitive. This study hypothesized that increased mobility would be correlated with decreased pressure sore incidence, as had been shown in other studies, but it did not, likely due to low prevalence of pressures in this unit. While the PUMP Plus study was conducted in a neurointensive care, it provides external validity to our

study regarding progressive mobilization with ventilated and non-ventilated patients.

ICU-AW is common following critical illness and often the recovery is incomplete, as demonstrated in a 5 year post illness study of survivors of acute respiratory distress syndrome, which showed normal pulmonary function, but reduced 6 Minute Walk Distance (6MWD) compared to normal averages, representing long lasting physical impairment. Muscle wasting and fatigue have been documented as functional limitations at one year post ICU discharge, with 6MWD results being 66% of predicted values, with only 49% of survivors able to return to work (Titsworth, et al., 2012). So, while this research indicates possible immediate cost savings with early mobilization in the ICU, the total cost of ICU illness to full recovery is unknown.

It has been suggested that total ICU costs are related to LOS, but frequently ICU costs are fixed, representing overhead costs of running a hospital, and these costs do not change regardless of LOS (Kahn, Rubenfeld, Rohrbach, & Fuchs, 2008). For example, in a retrospective cohort study of all patients undergoing MV for at least 48 hours in the ICU at the Hospital of the University of Pennsylvania in Philadelphia fiscal year 2006, reducing ICU and hospital stay for all patients would save \$673,941 in variable costs, which was only 0.9% of total hospital costs (Kahn, et al., 2008).

While the earlier mobilization study by Ronnebaum, et al., (2012), sounds convincing with shorter LOS and \$22,000 per patient savings, this study is a retrospective chart review study with a small sample size. This study demonstrated shorter MV days with earlier mobilization, and inferred reduced ventilator assisted pneumonia and decreased blood stream infections with its supporting literature.

Burtin, et al., (2009) found no difference in ICU or hospital LOS with the cycling intervention. It can be argued that both groups received strengthening exercise and functional mobility training so while supine or semi-recumbent cycling had an impact on 6MWD and the functional task of improving sit to stand, no change in LOS was noted.

The Turkish study by Malkoc, et al., (2009) demonstrated promise with reduced ventilator days and reduced ICU LOS with the use of PT, but the arguments lacked conviction, as the supporting research in the document was before 2002. The validity is questioned as the experimental group was extubated within 14 days, and the control group was dependent on ventilatory support longer, extubated within 20 days.

Morris, et al., (2011) used survey follow up to determine results regarding readmission rates and death rates. This method provides questionable reliability, as the reader cannot be certain the survey was filled out by the appropriate person, or that the survey was filled out accurately. Only 8% were lost to follow up according to the research.

Li, et al., (2012) performed a systematic review of mobilization in ventilated patients in the ICU and may have noted some success with ventilator weaning and LOS, but the study limitations were significant due to considerable heterogeneity and limited methodological quality. Researcher bias may have impacted results in the work by Needham, et al., (2012), as Dr. Needham has produced much research regarding the success of early mobilization in the ICU. Other study limitations include small sample sizes with high numbers lost to follow up, as well as, high rate of mortality in the population studied.

Hospital systems are under increased pressure to produce quality outcomes and reduced costs. Utilization of early mobilization can likely reduce LOS, hospital costs and medical complications. Changing the culture of bed rest in the ICU is possible and valuable. The cost of early mobilization could be further reduced by training lower paid staff such as mobility technicians rather than higher paid therapists or nurses. Patients on MV should be mobilized as soon as they are medically stable to minimize complications.

Further research should focus on longitudinal studies to determine the entire cost of care with adequate follow up to determine functional status in the home and in the community. Other research could examine true ICU and hospital costs and how patient volumes and turnover rates impact those costs. And, because quality plays an increasing role in reimbursement, time of critical illness discharge should be investigated to ensure discharges occur at the appropriate time to avoid readmissions.

CONCLUSION

While the cost saving benefit is not fully realized by the research available, early mobilization has the potential to reduce LOS and medical complications. Early mobilization in the ICU would likely benefit patients, hospitals and insurance companies. Because of its benefits, early mobilization in the ICU should become a standard of care due to the potential reduction in medical complications.

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ORGANIZATIONAL COMMITMENT AND EMPLOYEE ENGAGEMENT IN A HUMAN RESOURCE ORGANIZATION

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ORGANIZATIONAL COMMITMENT AND EMPLOYEE ENGAGEMENT IN A HUMAN RESOURCE ORGANIZATION

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INTRODUCTION

Human service organizations struggle with not only the expectation of high quality service, but also in these current economic times, strained resources. Additionally, some human service organizations work with populations that create unsafe environments for employees of the organization. These dynamics place a unique challenge, specifically in regards to engaging and keeping quality employees in this industry. Given the challenges of creating and maintaining organizational commitment for human service organizations, the purpose of this research is to determine why human service workers remain committed to their organizations in spite of high expectations, strained resources, and a potentially volatile working environment.

Background

Scholars have defined organizational commitment in a number of different ways. For instance, Buchanan (1974) identified three components of the construct that have since appeared in many definitions of organizational commitment in one fashion or another. According to Buchanan (1974), an individual committed to an organization would demonstrate characteristics such as (a) identification – the adoption as one’s own goals and values of the organization, (b) involvement – the psychological immersion or description in the activities of one’s own work role, and (c) loyalty – a feeling of affection for and attachment to the organization (p. 533). Eisenberg, Monge, and Miller

(1983) argued that at least three elements are integral parts in any definition of organizational commitment. These include: (a) a strong belief in and acceptance of the organization's goals and values, (b) a willingness to exert considerable effort on behalf of the organization, and (c) a strong desire to maintain membership in the organization (p. 181). Meyer and Allen (1991) argue for a relationship between attitudinal and behavioral commitment. They see each one affecting the other. Consequently, they pull the common themes together to present a three-component framework: affective, continuance, and normative commitment. These researchers viewed commitment as a psychological state that (a) characterizes the employee's relationship with the organization and (b) has implications for the decision to continue or discontinue membership in the organization (Meyer & Allen, 1991, p. 67). However, the similarities end here. Meyer and Allen's (1991) research claims that.

Affective commitment refers to the employee's emotional attachment to, identification with, and involvement in the organization. Employees with a strong affective commitment continue employment with the organization because they *want* to do so. Continuance commitment refers to an awareness of the costs associated with leaving the organization. Employees whose primary link to the organization is based on continuance commitment remain because they *need* to do so. Finally, normative commitment reflects a feeling of obligation to continue employment. Employees with a high level of normative commitment feel that they *ought* [italics added] to remain with the organization. (p. 67)

Meyer and Allen (1991) argue that it is more appropriate to consider affective, continuance, and normative commitment as components, than other types of commitment because in their view, an employee can experience all three forms of commitment to varying degrees. Although researchers will typically agree that commitment is a multidimensional construct, this summary of organizational commitment literature provides evidence of the disagreement concerning what exactly those dimensions are. However, it appears that Meyer and Allen's (1991) conceptualization of organizational commitment captures in arguably a more clear fashion, the common elements found in other definitions: attachment, identification, internalization, exerting effort on behalf of the organization and in exchange for benefits and rewards.

Besides defining organizational commitment, it is important to understand how an employee develops organizational commitment. Arguably, most of the literature pertaining to antecedents of organizational commitment revolves around the employee's work characteristics. Job satisfaction is often connected with organizational commitment (Hackett, Bycio, & Hausdorf, 1994; Igarria & Guimaraes, 1993; Konosvsky & Cropanzano, 1991; Mathieu & Zajac, 1990). Cranny, Smith, and Stone (1992) viewed job satisfaction as a combination of cognitive and affective reactions to the differential perceptions of what an employee wants to receive compared with what he or she actually receives. Researchers have disagreed whether job satisfaction is a precursor of organizational commitment or if organizational commitment is a precursor of job satisfaction. For example, Bateman and Strasser (1984) found commitment to be a precursor of satisfaction, while Williams and Hazer (1986) found satisfaction to be a precursor of commitment. And Curry, Wakefield, Price, and Mueller (1986) found no causal relationship in either direction.

Perceived organizational support is also an often recognized antecedent of organizational commitment (Buchanan, 1974; Cook & Wall, 1980; Eisenberger, Huntington, Hutchinson, & Sowa, 1986; French & Rosenstein, 1984; Steers, 1977). Eisenberger et al. (1986) concluded that perceived organizational support was seen in the extent to which the organization valued an employee's contribution. Support can be experienced through praise and approval as well as pay increases, promotion, job enrichment, and influence over policy. Eisenberger and his colleagues (1986) suggest that perceived organizational commitment will increase an employee's affective attachment to the organization.

Researchers have also viewed *socialization* as an antecedent of organizational commitment (Allen & Meyer, 1990; Buchanan, 1974; Caldwell, Chatman, & O'Reilly, 1990; Mowday, Porter, & Steers, 1982; Pierce & Dunham, 1987; Wiener, 1982). Mowday et al. (1982) argue that in order to understand the development of commitment, there must be a delineation of three stages: the pre-entry stage, early employment period work experiences, and the middle/late career stages. During the pre-employment stage, individuals enter organizations

with different levels of commitment to the organization (Allen & Meyer, 1990; Mowday, Porter, & Steers, 1982; Wiener, 1982). Employees will be influenced by their experiences in their own family and the various cultural experiences they have been a member of previous to their new organization (Allen & Meyer, 1990; Wiener, 1982). Consistent findings have also noted that early work experiences can have a significant impact on commitment to the organization (Buchanan, 1974; Caldwell, Chatman, & O'Reilly, 1990; Pierce & Dunham, 1987). Caldwell, Chatman, and O'Reilly (1990) found that an individual's commitment to an organization can be shaped by the recruitment process as well as the steps the organization takes to teach him or her about the organization's values and how work is done. Pierce and Dunham (1987) found in their study of hospital personnel that early work experiences that were able to produce a sense of responsibility were a significant predictor of commitment after three months of employment. Meyer and Allen (1988) studied recent university graduates who had accepted full-time permanent jobs with a number of different companies. The results of their study suggested that employees' experiences immediately following entry into an organization play a significant role in shaping their commitment to that organization.

Need for Study

Due to the ongoing need to understand employee organizational commitment and employee engagement, and the lack of depth of current research, specifically around human services, further exploration of why human service workers remain committed to their organizations is needed. The study of why individuals are dedicated to their organizations in the human service industry is important given the current economic times. Resources are strained, yet the high expectations remain. Arguably, in some cases, the need is even greater due to increased demand for funding to stretch government and private investments. Further, because of potentially volatile environments for some human service programs, employees may feel unsafe and unwilling to remain in a setting where physical injury is not only possible, but likely. Studies such as these add to the extant body of knowledge related to the construct of organizational commitment and employee engagement. This study has particular relevance given its usefulness to public and private human service organizations.

METHODS

The purpose of this study is to determine why human service workers remain committed and engaged with to their organizations. To research this phenomenon, this study will use a human service organization in the Midwestern part of the United States that works with a high risk population with a tendency towards violence. The population consists of severely developmentally disabled or traumatized young adults who live as full-time residents of the organization. Due to the specific nature of sample selection, this study is using a quasi-experimental design (Creswell, 2009). Additionally; this study will use a mixed methods approach to further investigate the variables of organizational commitment and employee engagement.

Initially, a descriptive qualitative methodology will be implemented using Meyer and Allen's (1997) Three Component Model measuring organizational commitment and the Gallup Employee Engagement Instrument. These surveys will be administered to staff over 18 years of age to measure their degree of organizational commitment and engagement. Data will be analyzed through a cross sectional design using inferential statistics (Creswell, 2009). Creswell (2009) suggests that a cross-sectional design collects all participants' information at one time. Additionally, interviews will be conducted to further explore "why" employees stay, are committed and engaged with their human service organization. Once interviews are obtained, the recordings will be transcribed and reviewed. Code words and themes will be identified and a qualitative codebook will be used to enhance reliability, in an effort to pinpoint any variation from the named codes (Creswell, 2009).

CONCLUSION

Due to the high risks of working with severely developmentally disabled or traumatized young adults, and the need to hire and maintain engaged and committed employees, this study will look at organizational commitment in a human services organization. To date researchers and organizations have some degree of understanding

regarding employee engagement and developing organizational commitment, however, there is limited grasp as to why certain individuals are drawn to, and stay at high stress and risk jobs. This study will be a step towards further bridging these gaps, specifically in the human service environment.

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SOCIAL MANAGEMENT AND ITS USE IN SOCIAL WORKER'S PRACTICE

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ABSTRACT

The paper focuses on analysis, comparison and logical systematization of control elements and factors in social management from the aspect of the social workers' management practice. Our concern is social capital from the aspect of social knowledge, skills and social contacts in social workers' direct practice and a relation to success and management efficiency. In the empirical section, we compare the impact of traditional financial -personal capital to the impact of social capital in a relation to success and efficient management in practice.

Results refer to close interconnectivity between social and financial capital with various scale of influence on success and effectiveness in management. In this paper we have verified the necessity of the social development management in the process of social worker managerial practice improvement.

Key words: Social Management. Social Worker. Concept of Social Management. Social Capital.

INTRODUCTION

We find ourselves in a period of increased demands on providing sufficient financial resources for the social sector, while in the meantime there are continuous increasing demands on managerial knowledge and skills in the field of quality functioning of social systems and services. The main aim of this paper is to provide a comprehensive analysis of the social management elements and factors, followed by revealing their preferences and influence on the success and efficiency in the social worker's management practice.

The theoretical part of this paper contains selective systematization of different social management components and factors, followed by the proposal of a logical framework for social worker requirements in practice. The main part of the logical framework is social capital as a tool for the specification of different components and factors in social management.

METHODS

We used quantitative methods of processing data obtained through a questionnaire. The scaling method allowed us to transform the subjective expression of respondents into objectively measurable variables. The sequence of statistical procedures included: analytical - descriptive and exploratory methods, correlation methods for the measurement of interrelations, the comparative non-parametric methods.

Research of preferred operative tools of social management in social worker practice is a complicated mix of objective and subjective factors; therefore we have selected combination of qualitative and quantitative research methods. The development of the research questionnaire was preceded by piloting, which was focused on the validity testing of survey questions. Research questions were tested through the qualitative method of semi-structured guided conversation with managerial staff in the social sector. The research was realized in social service facilities and in state administration units which are directed at social agenda. Respondent selection used specific criteria such as: territoriality - within Slovakia and professionalism- managerial practice in social affairs. There were altogether 1087 potential respondents in social work management practice. We obtained questionnaires from 536 respondents, which represents a 49.31 % return. For the verification of our statements we have formulated following hypotheses:

1. Success and effectiveness in social worker managerial practice is closely connected with the social workers' preferred management strategies and instruments
2. Success and effectiveness in social worker managerial practice is higher if the social worker had received education in managerial skills.
3. The individual level of managerial procedures has more influence on success and effectiveness in management, then the choice of professional techniques.

RESULTS

Research results pointed out that the effectiveness and success of social worker's management practices is influenced by formal – financial and personnel management tools, as well as informal - relations management tools in the form of social capital management tools. The most preferred management strategy is the use of financial management tools and personnel capital, but these tools do not demonstrate significant influence on success and effectiveness. A social worker with a higher level of education has a higher preference of social capital strategic tools. The vast majority of social workers in management practice are interested in further education. In connection to explanation of working hypotheses we introduce following findings:

Based on frequency analysis we have found that social management instruments showed the highest scale of influence on success. Teamwork management and social programming were on the first places. Up to 64.55 % respondents declared that team work management and social programming had the highest influence on success and effectiveness in management.

Results showed us that even though the individual level of management is considered to be the most effective methodological practice in management, the methodological-technical practices show higher influence on success and effectiveness in management. It is verified by fact that up to 61.8 % of respondents declared that their success and effectiveness depends more on the choice of methodological-technical practices in management. Based on chi-square statistic tests we have found that there is a statistically important correlation between the selection of management levels and the extent of influence of methodological-technical and individual factors of management.

CONCLUSION

The practical benefit of our research is that it empirically validates the concept of social management, which is a central element of social capital which can logically identify basic management tools of informal and formal nature for social workers' management practices needs. We managed to prove the fact that the management tools of social capital are commonly used in the practice of social workers and some of them greatly affect the success and efficiency in the management processes of social work.

The most important findings from our research were the following:

1. Success and effectiveness of social worker practice does not have a statistically important correlation to specific managerial strategies that are preferred by social workers, but to a smaller degree success relates to whether social workers completed managerial skills training.
2. Even though the social capital is considered to have the highest share of influence on success and effectiveness of social worker managerial practice, in reality, the most preferred strategy is using financial and personal capital.

3. Individual level of managerial procedures is the most preferred method; with medium degree of influence on success and effectiveness in management; while the choice of professional-technical level is not so preferred, but it shows a high degree of influence on success and effectiveness.
4. The higher degree of education the social worker obtained, the higher the degree of preference for strategic instruments of social capital is.
5. Managerial staff of state administration prefers use of social capital.
6. Staff in municipal offices prefers mostly financial capital managing strategies.
7. Education in management has a medium size degree of influence on success and effectiveness.
8. The majority of social workers in managerial practice is interested in further education and training and the existence of social management standards. As the most preferred specialization they pointed the management of specific skills in social work and the management of contacts.

Generally the findings show that effectiveness and success of managerial practice of social worker are influenced both by formal financial-personnel instruments and by non-formal relational instruments in the form of social capital managerial instruments.

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THE BUSINESS CASE FOR THE EFFICIENCY AND EFFECTIVENESS OF TELE-INTENSIVE CARE UNITS

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THE BUSINESS CASE FOR THE EFFICIENCY AND EFFECTIVENESS OF TELE-INTENSIVE CARE UNITS

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ABSTRACT

A tele-Intensive Care Unit (tele-ICU) is the use of telemedicine in an Intensive Care Unit (ICU) setting, using technology to provide care to critically ill patients by off-site clinical resources. This literature review examined a large number of studies of the implementation of tele-ICU systems in hospitals. Generally, implementation of a tele-ICU system was associated with cost savings, shorter lengths of stay, and decreased mortality. Implementation of tele-ICUs is initially relatively expensive but result in cost savings and better clinical outcomes. Intensivists working these systems are used more effectively providing better clinical outcomes for patients at lower costs for hospitals.

INTRODUCTION

Telemedicine is the use of medical information exchanged from one site to another via electronic communications to improve a patient's clinical health status. Telemedicine includes a growing variety of applications and services using two-way video, smart phones, wireless tools, and other forms of telecommunications technology (American Telemedicine Association, 2013-ok). A tele-ICU involves the use of telemedicine in an Intensive Care Unit (ICU), using technology to assist in providing care for critically ill patients by off-site clinical resources (Aust, 2012).

More than four million patients are admitted to ICUs each year (ICU Outcomes, 2012); treatment for these critically ill patients accounts for 30% of acute care hospital costs (Wenham and Pittard, 2009). Patient safety concerns persist in the ICU and serious medication errors in this environment alone account for 78% of serious medical errors in the ICU (Rothschild et al., 2005). Costs are high; hospital costs for critically ill patients have been estimated in 2003 to be in excess of \$67 billion annually - mortality rates averaged from 10% to 28% or approximately 540,000 deaths each year (Angus et al., 2004; Kersten et al., 2003; Mayr et al., 2006.)

ICU costs are expected to escalate because of the continuous growth of the aging American population and increasing complexity of care both available and required (Angus et al. 2000). A patient 65 to 74 years of age is more than three times likely to use critical care units compared to a middle-aged patient, and a patient over 85 is 6 times more likely to use the critical care unit (Fifer et al., 2010).

Tele-ICUs can be effective when established in hospitals. Three distinct types of tele-ICU have been identified. In a decentralized tele-ICU, a medical facility or multiple medical facilities are located at remote sites such as office, home, or mobile. There is no distinct tele-ICU, rather there is a process of care having multiple sites of access to the patient, with physicians monitoring the patients. A centralized tele-ICU program has been often implemented as the tele-ICU system of choice. In the centralized system, one central ICU provides intensive care via telemedicine and remote monitoring to several satellite ICUs. Finally, a hybrid of centralized and decentralized tele-ICU models has been explored, to include continuity of care, data collection and reliable multiple specialists and local physicians with higher levels of patient knowledge, however, only one hospital has implemented such a tele-ICU In the tele ICU model the tele-ICU is a definable entity providing continuous monitoring to sites with high level of needs via private, dedicated telecommunications lines (Reynolds, Bander and McCarthy, 2012). Networks of audiovisual communication and computer systems link hospitals ICUs to intensivists and other critical care

professionals, which can be used to store and forward data (e.g., medical records), to conduct remote real-time monitoring of vital signs or chronic conditions, or to facilitate staff interactions via video, phone or online computer. Video cameras located on the ceiling of an ICU patient room can zoom to see equipment and monitors and cameras typically have an electronic doorbell to announce that the tele-ICU staff are in visual contact to share observations and care recommendations with bedside caregivers (Myers and Reed, 2008).

Studies have demonstrated both clinical and economic benefits associated with adoption of tele-ICUs, including decreased mortality rate, decreased incidence of ICU complications, decreased ICU length of stay and decreased ICU costs following a 16 week implementation of technology-enabled remote care (Breslow et al. 2004; Groves, Holcomb Smith, 2008; Rosenfeld et al., 2000). A recent meta-analysis of non-severity-adjusted data from 11 studies (Wilcox and Adhikari, 2012) confirmed these results and found each of them to be statistically significant. These results are particularly important, as studies which reported results based upon both severity-adjusted data and non-severity-adjusted data have found that level of statistical significance of these outcome variables when using non-severity-adjusted data was higher than when using severity-adjusted data (e.g., Kohl et al., 2012; Lilly et al., 2011).

Savings appear to have been achieved because higher quality care was delivered to critically ill patients (Venditti et al., 2012). It has been estimated that full implementation of the tele-ICU standard in community hospitals could prevent between 5,400 and 13,400 deaths and could potentially save \$5.4 billion annually (Pronovost, Waters and Dorman, 2001).

One of the main barriers to adoption of tele-ICUs has been installation costs: the cost of construction, installation and training the “command center” for a tele-ICU system has been estimated to be between \$2 and \$5 million, with each additional tele-ICU added to the system costing \$250,000 (“NEHI, MTC and HTC”, 2007). Such substantial financial outlays can be a challenge for hospitals and health systems that lack significant financial savings or borrowing capacity, especially with annual operating costs of about \$2 million including maintenance costs, licenses, staffing expenses, and additional upgrades (Nielsen and Sarcino, 2012). If the tele-ICU system is not fully compatible with the hardware or software systems of the physical ICU, additional upgrades maybe required, which would have additional financial consequences.

Regardless of the need for upgrades, staff will have to deal with computer issues including difficulty logging on, short battery life, frequent rebooting, and other technical issues with computer or software. Some of the possible solutions include ensuring computers remain plugged in, passwords are able to be used in multiple programs, and IT assistance to be available by phone and on site as required (Lynden, 2008).

Although tele-ICUs are expensive, they should not be overlooked as a possible solution for ICUs. Since ICU patients frequently have such complex medical and/or surgical conditions there can be more complications (Zapatochny Rufo, 2008).

The purpose of this study was to examine the implementation and utilization of tele-ICU systems to determine their efficiency and efficacy.

METHODOLOGY

The methodology for this qualitative study was a literature research and review of case studies complemented with a semi structured interview of Dr. Craig Lilly, a clinician well versed in the utilization of telemedicine in ICU's (Appendix A). This interview was tape recorded, and only relevant and pertinent answers were used to support the information found in the literature review to provide a comprehensive overview of this technology and its utilization in ICUs. The approach for this research study followed the systematic search steps and a modified research framework utilized by Yao, Chao-Hsien and Li.¹¹ The use of the framework in the current study is appropriate as the focus is on the sub-area of telemedicine application to the intensive care unit.

Figure 1: Conceptual Framework

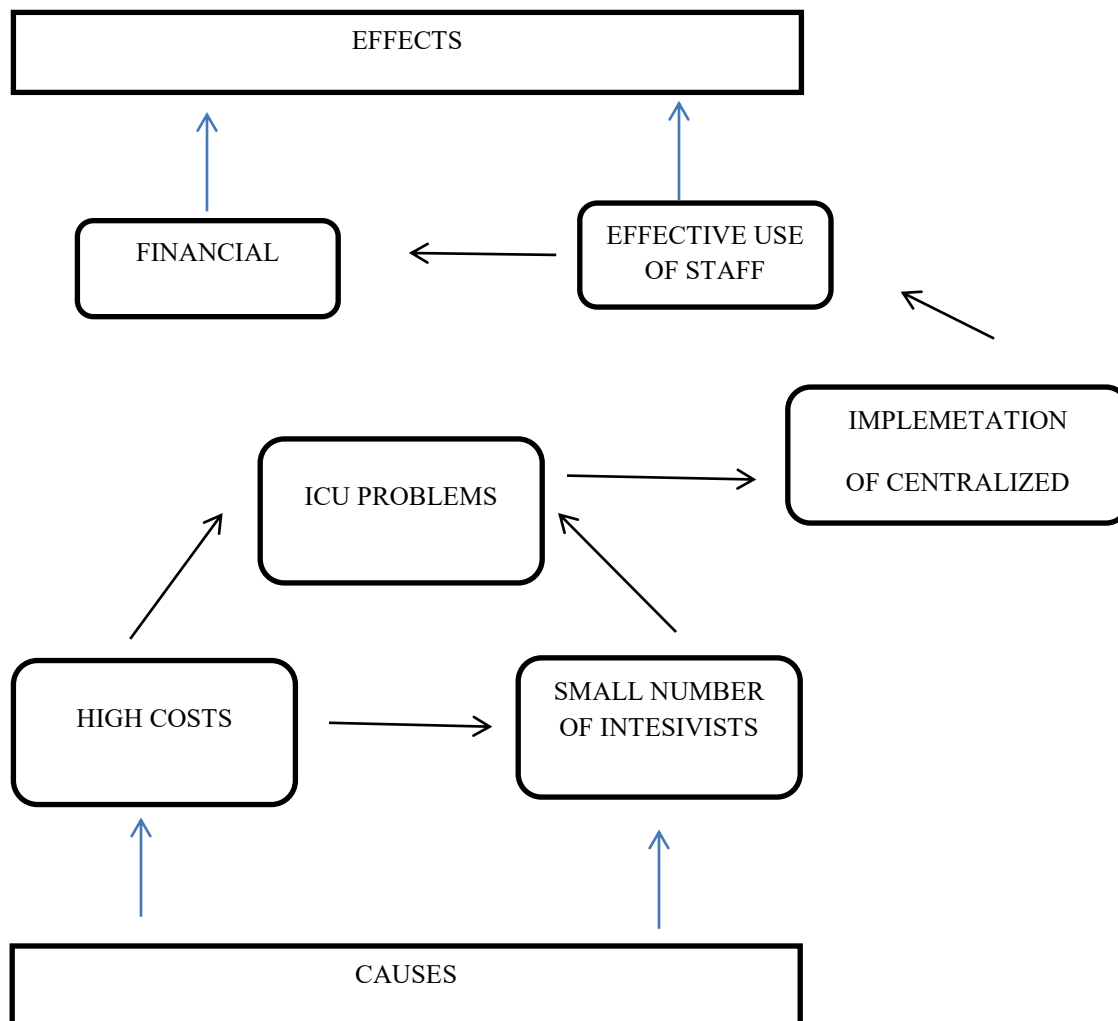


Figure 1 depicts the process of tele-ICU adoption in healthcare. To research how tele-ICU can help to improve healthcare practices in the intensive care unit, it is first necessary to recognize the existing problems in the ICU and issues that drive and impede adoption of tele-ICU by this industry. Then different applications can be identified to solve or partially unravel these challenges. As a final result of analyzing the literature, the benefits and barriers of tele-ICU utilization in healthcare can be identified (Figure 1).

The review was conducted in distinct stages including: 1) determining the search strategy and establishing inclusion and exclusion criteria, 2) literature categorization and 3) extracting and analyzing the findings.

Determining the search strategy and establishing inclusion and exclusion criteria

Telemedicine and its applications in healthcare, can be applied to radiology, psychiatry, emergency medicine, and intensive care medicine, each potentially with its own set of benefits and barriers to implementation and rates of adoption, so it was decided early that the scope of the study should be narrowed just to the tele-ICU. When executing the search, the following terms were used: “tele-ICU’ OR ‘tele-ICU’ OR ‘telemedicine ICU’ OR ‘virtual ICU’ AND ‘cost’ OR ‘benefits.’ A mix of databases and online sources were used to compile a set of references covering both academic peer reviewed research and practitioner literature (grey literature). It was believed that this approach would help create the most comprehensive and up-to-date review. The following electronic databases and sources were used: PubMed, Academic Search Premier, Science Direct, ProQuest, and Google Scholar. Websites of the Society of Critical Care Medicine and American Telemedicine Association were also searched.

Literature categorization

The literature review yielded XX sources which were assessed for information pertaining to this research project. Given the technology- and enterprise-oriented nature of the current study, literature was selected for review based on, but not limited to, the following key areas: technological issues, organizational issues, and organizational impacts. References were reviewed and determined to have satisfied the inclusion criteria if the material provided accurate information about tele-ICU with a particular focus on benefits and barriers to its implementation. Only articles that were written in English were included for review. Attempting to stay current in research, all articles that were older than 12 years (starting from 2000) were eliminated from the search. The results presented were extracted from journal articles, case studies and different online sources.

Literature analysis

In the third step, academic articles and practitioner health IT sources were analyzed and relevant categories were identified. The findings are presented in the subsequent sections using the categories of cost of telemedicine technology in the ICU and several case studies.

RESULTS

How tele-ICUs can be cost effective

According to the leading tele-ICU systems vendor, Philips-VISICU (Goran, 2010), tele-ICU implementation costs ranged from about \$30,000 to \$50,000 per bed (Becker, 2002), therefore the cost of equipping 100 beds was approximately \$3 to \$5 million. Annual operating costs (e.g., overhead, maintenance, staffing) have been estimated by Philips-VISICU to be approximately 20% of the software costs (Cummings et al., 2008), or about \$300,000 for 100 beds. Staffing costs depend on hours in use and level of additional staff in the off-site center;

typical staffing scenarios add approximately \$1 to \$2 million per year per 100 beds covered (Berenson, Grossman and November, 2009).

Brief case study 1: Sentara Healthcare

Sentara HealthCare was the first hospital to establish a tele-ICU program in 2000 through the vendor VISICU (Sentara HealthCare, 2000). Implementation of the tele-ICU took five months and cost more than \$1 million. In 2002, Sentara reported a reduction in hospital mortality of 25% with a 17% decrease in ICU LOS (Sentara HealthCare, 2002). (See Table 1).

Table 1: Tele ICU Cases Studies, Implementation Costs and Major Outcomes

Institution	Setting	Implementation Costs	Major Results/Outcome
Sentara HealthCare	Sentara HealthCare, academic tertiary care medical center	\$1 million	Decreased hospital and ICU LOS; decreased hospital mortality (see Breslow et al., 2004)
Massachusetts Technology Collaborative and New England Healthcare Institute	The University of Massachusetts Memorial Medical Center, academic hospital	\$7.12 million	Decreased length of stay, costs of implementation recovered, lower rates of complications
Resurrection HealthCare	Community hospital	\$7 million	38% decrease in ICU LOS in 6 months = approximately \$3,000,000 in savings (see Goran, 2010)
Franzini et. al, 2011	Five community hospitals/ Six ICUs	Not stated	Hospital daily cost rose 24%, hospital cost/case rose 43%, cost/patient rose 28%

Findings from an independent evaluation by Cap Gemini, Ernst and Young suggested a \$2 million tele-ICU cost that was offset by \$3 million in net savings annually (Sentara HealthCare, 2002). It was also reported extra revenue, approximately \$460,000 per month, due to increased patient throughput resulting from decreased length of stay (Sentara HealthCare, 2010). Table 2 displays the findings of the reduced per patient costs of \$2,150 based on reduced patient expenses and increased ICU capacity, as well. (See Table 2).

Table 2: Sentara HealthCare and Resurrection Health Center tele-ICU implementation savings

Hospital	Cost of Implementation	Outcomes	Return on Investment
Sentara HealthCare savings from 2002-2010 SentaraHealth (2002-ok; 2010-ok) Breslow et al. (2004-ok)	\$1 million	Reduced patient cost (\$2,150) Reduction in mortality (27%) Decreased length of stay (17%)	Average case contribution margin increased 55.6%
Resurrection Health Center savings from 2007-2011	\$7 million	Decrease in length of stay, 38% \$3 million in savings	estimated cost savings of \$11.5 million

		7% reduction in blood transfusions (\$11,200 in savings)	

The centralized model has allowed optimization of time and services of intensivists without the requirement of staffing intensivists at multiple locations. Intensivists in a single location also have given patients the opportunity to stay in location, instead of traveling and being transferred to a different hospital (Goran, 2010). As of 2010, more than one million ICU patients had been cared for using the strategy of frequent re-assessment, alert-prompted evaluation, and rapid response to clinical needs (Sentara HealthCare, 2010).

Brief case study 2: University of Massachusetts Memorial Medical Center

The University of Massachusetts Memorial Medical Center (UMMMC) installed a tele-ICU command center in 2005 and extended the tele-ICU coverage to two Massachusetts community hospitals in 2007 and 2008. Over a period of three years, one tele-ICU command center extended coverage to nine adult ICUs covering 116 ICU beds in central Massachusetts (New England Healthcare Institute and Massachusetts Technology Collaborative, 2010).

Table 3 shows the initial expenses with the installation of a tele-ICU at UMMC. The operating costs of \$7.12 million also required an increment of annual operating cost of \$3.15 million (see Table 3).

Table 3: University of Massachusetts Memorial Medical Center Capital and One-Time Costs for tele-ICU, 2010

Expense Type	% of Total	\$ Amount
tele-ICU Support Center Build out and Servers	17	1,190,000
tele-ICU Licensing and Implementation Fees	34	2,400,000
tele-ICU Equipment Costs	15	1,100,000
Network and Infrastructure Costs	4	260,000
Software Costs	1	80,000
ICU Facility Costs (Cabling, Electrical)	7	470,000
Patient Monitoring System Upgrade Costs	5	370,000
Project Management and Consultant Costs	17	1,230,000
Miscellaneous (Marketing, Travel Expenses, Supplies)	.3	20,000
Total Capital Costs	100%	\$7,120,000

Source: The Massachusetts Technology Collaborative and New England Healthcare Institute, 2010

Table 4 shows the operating costs and the continuous ongoing costs for UMMC. The net effect produced a rapid payback such that total costs of implementation were recovered within one year.

Table 4: University of Massachusetts Memorial Medical Center Capital Ongoing Operating Costs, 2010

Expense Type	% of Total	\$ Amount
tele-ICU MD, NP, and PA Salary and Benefits	72	2,270,000
Software License Fees	7	230,000

Non-Clinical tele-ICU Staff Salary and Benefits	20	630,000
tele-ICU Office Supplies, Telephone, Copier Lease	1	20,000
Total Operating Costs	100%	\$3,150,000

Source: The Massachusetts Technology Collaborative and New England Healthcare Institute, 2010

Dr. L., the Medical Director of the tele-ICU program of UMMMC, stated in a semi structured interview that the centralized tele-ICU program has been one of the most beneficial programs to their hospital. The system itself is a continuous tool that is patient triggered, rather than a robot model that has to be plugged in when the doctor needs extra help, making the doctor do more work. Dr. L explained that a tele-ICU provides high quality care for a lower price due to the fact that more patients are being seen by a more effective workforce.

Brief case study 3: Resurrection Health Center

Covering seven acute hospitals and a long term-care facility, Resurrection Health Center in Des Plaines, Illinois introduced telemedicine into its 14 ICUs in 2007. The tele-ICU command center in Resurrection's Holy Family Medical Center promoted proactive intervention, including trended alerts that showed incremental changes in such factors such as blood pressure, oxygen levels, and drip rates (Society of Critical Care Medicine, 2010).

Within the first 6 months after installation in 2007, a cost savings of \$3 million was reported including \$11,200 from a 7% reduction in blood transfusions. The hospital found a 38% decrease in ICU length of stay in 6 months which totaled to approximately \$3 million in savings (See Table 2).

Resurrection leadership wanted to know how the system was going to prove its return on the \$7 million investment spent to set up all 14 ICU systems simultaneously. In 2011 it was reported that it had a \$387,000 financial benefit; tele-ICU support for ICU patients across the health system resulted in 9,000 ICU days saved for an estimated cost savings of \$11.5 million and also reported the reengineering of the existing tele-ICU infrastructure has target expanded support for tele-stroke, tele-psych, skilled nursing facilities, and sepsis management initiatives (Shaw, 2010).

Brief case study 4: six ICUs in five large hospitals

A study by Franzini et al. (2011) was conducted to determine the costs and cost effectiveness of 6 ICUs in 5 large hospitals in the Gulf Coast region after the installation of a tele-ICU program. Data was obtained from 4,142 ICU patients: 2,034 before tele-ICUs and 2,108 post tele-ICUs. Table 5 shows the ICU average daily cost before and after tele-ICUs were installed. The average daily costs and costs per case increased in all 6 ICUs after implementation (post period) from the period before implementation of the tele-ICU (pre-period). Overall the daily average ICU increased from \$2,851 to \$3,653, or a 28% increase after tele-ICUs were installed which was statically significant. Two hospitals experienced cost increases greater than 30% (See Table 5).

Table 5: 2010 Average Daily Costs Pre tele-ICU and Post tele-ICU Installation in six ICUs in U.S. Dollars

Costs	Overall	ICU 1	ICU 2	ICU 3	ICU 4	ICU 5	ICU 6
Pre tele-ICU Period	\$2,851	2,586	3,647	4,248	3,155	2,355	2,370
Post tele-ICU Period	\$3,653	3,272	4,307	4,252	4,131	3,275	2,746

Change	\$802	686	660	4	976	920	376
Percentage Change	28%	27	18	0	31	39	16

Source: Franzini et al., 2011

The floor daily average costs increased 16%, from \$1,451 to \$1,687, after tele-ICUs were installed. The overall ICU costs per case increased from \$13,029 to \$18,324 in the post period. The authors also found costs per patient for hospitals increased while the costs for patients remained the same. Average ICU hospital cost per patient was \$20,231 in the pre-period and \$25,846 in the post period which was statically significant (See Table 6). Overall, the installation of the tele-ICU programs in the 6 ICUs were associated with higher costs not attributable to medical inflation. Frazini et al. (2011) did note that sicker patients did exhibit lower mortality and also noted that about two-thirds of physicians in their study chose only minimal participation in the tele-ICU intervention (See Table 6).

Table 6: 2010 ICU costs per case Pre tele-ICU and Post tele-ICU installation in six ICUs

Costs	Overall	ICU 1	ICU 2	ICU 3	ICU 4	ICU 5	ICU 6
Pre tele-ICU Period	\$13,029	7,422	12,912	26,296	8,770	13,328	15,167
Post tele-ICU Period	\$19,324	10,797	18,519	33,594	19,002	15,392	18,947
Change	\$6,295	3,374	5,608	7,298	10,232	2,065	3,780
Percentage Change	48%	45	43	28	117	15	25

Source: Franzini et al., 2011

DISCUSSION

This research study has examined potential benefits of implementing a centralized tele-ICU system. The evidence supporting cost savings is mixed. The hospitals in the first 3 cases either saw some form of a full return on investment, actual cost savings, or a decreased length of stay. Dr. L stated that return on investment for hospitals implementing a tele-ICU system depend on how the system is utilized, as well as the number of patients the hospital ICU treats. If a hospital system wants to use a tele-ICU system for safety reasons or to make their workforce more efficient, the tele-ICU can be a tool that would help. Dr. L also mentioned another benefit of implementation is an expansion of markets; the tele-ICU takes care of more patients which decreases geographic barriers and potentially allows the provision of ICU services into previously inaccessible markets.

The hospital systems examined by Franzini et al. (2011-ok) and Morrison et al. (2010-ok) both found that costs, rather than falling after the implementation of a tele-ICU system, rose. Both studies noted that costs associated with physicians choosing a low or non-existent involvement with tele-intensivists rose more quickly than those costs associated with physicians choosing a higher level of tele-intensivist involvement, and Frazini (2011) noted that the tele-ICU system used in the study was not fully integrated with the hospitals' electronic health record system, which may also have contributed to increased cost.

The length of stay decreased due to intensivists having more time to spend with the patient and being able to do more for the patient such as running more appropriate tests.. Franzini et al. (2011) and Morrison et al. (2010) noticed a higher level involvement with patients as well, and patients were being served at a higher level of care than prior to the implementation of a tele ICU system.

Overall, hospitals have few research findings to help guide them when making a decision. The findings of the research does not confirm that the implementation of a centralized tele-ICU system is cost effective, but it does support the hospital uses ICU staff more efficiently.

Study limitations

This literature review was limited due to the restrictions in the search strategy used, such as the number of databases searched. Unfortunately, there appeared to be no follow-up articles – especially ones which provided additional data - to those examined in this study. There were articles about the benefits of tele-ICUs, but limited data on the actual financial savings or cost of implementing a tele-ICU, or other articles had numbers about the savings, but did not have numbers of how much ICUs were costing them before a tele-ICU implementation. Publication and researchers bias may have limited the availability and quality of the research identified for review. Additionally, the research was limited to hospital organizations in the United States alone, thus excluding many international providers of tele-ICU care.

Practical implications

The implication of this study is implementation of tele-ICU systems can be cost effective and improve patient outcomes. Future research should examine the results attributable to the implementation of a tele-ICU. Other potentially fruitful areas include how tele-ICUs affect different types of ICUs such as surgical versus non-surgical ICUs and whether or not similar findings might be achieved in rural hospitals.

CONCLUSION

Although mixed results were found in the literature, the vast preponderance of evidence indicates that the implementation of tele-ICUs system systems produce change with an ICU staff more efficient and effective, providing better clinical outcomes, decreased mortality and lower costs for hospitals.

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APPENDIX A

Questions Asked in Semi-Structured Interview of Expert in tele-ICU:

- Why do you think hospitals should install/invest a tele-ICU program?
 - Why did you think a centralized model would be the best model?
 - How has the tele-ICU been beneficial to your program?
- What could be some improvements to improve the efficiency of the p

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THE CASE FOR INTEGRATING HEALTHCARE MANAGEMENT COURSES INTO THE CURRICULA OF SELECTED HEALTHCARE PROVIDERS

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ABSTRACT

The healthcare delivery system is becoming more complex in large part due to the new organizational structures and new reimbursement schemes. As such it is becoming increasingly more evident that healthcare practitioners must be well versed in these new complexities. Little evidence exists that this knowledge is being imparted by way of the curricula of selected healthcare providers. This paper presents this case by discussing these delivery changes and suggesting way to change this lack in the fundamental education of these providers.

INTRODUCTION

With the ever increasing pressure to make our healthcare delivery system more efficient, less expensive, and provide better outcomes, both practitioners and administrators are being forced to approach their jobs differently. These focal points are not necessarily new, but they do necessitate the need to better integrate the clinical side with the managerial side.

Challenging this integration are the creation of new delivery models, new legislation, and new payment schemes. The healthcare delivery system is at a critical juncture as it transitions into the changes that will be produced by the full implementation of the Affordable Care Act (ACA) and attempts to bring the system in line with today's economic realities. Foremost among these challenges will be the expansion of the Accountable Care Organization (ACO) concept, the ever increasing movement towards bundling payment schemes, the establishment of insurance exchanges to facilitate the purchase of medical insurance by the uninsured, the elucidation of the implications of the still vague provisions of the ACA, and the growing use of case management.

Given the complexities of these delivery and payment schemes, it is essential that both managers and providers understand them and be well versed both academically and experientially in their application.

ACCOUNTABLE CARE ORGANIZATIONS

A major assumption in the rationale for ACO's is that they will improve the quality of care while simultaneously reducing costs. They contain an inherent de-emphasis on the volume of services and focus on coordination of care to improve quality. Their organizational structure consists of a variety of delivery providers and institutions sharing responsibility for treating a group of patients. On the financial side they incorporate new performance measurements and somewhat complicated reimbursement plans. These payment plans run the gamut from total organizational performance to a global budget model somewhat akin to capitation (Vujicic & Nasseh, 2013).

Historically the concept of ACO's has existed for several years and generally referred to the responsibility of a variety of provider organizations to be accountable for cost and quality (Ronning, 2010). The passage of the Patient Protection and Accountable Care Act of 2010 (ACA) provided the framework upon which a much more formalized structure could be ascribed to the ACO concept. This structure was built upon the creation of Shared Savings Programs (SSP) within the Medicare Program by the Centers for Medicare and Medicaid Services (CMS). Essentially CMS, attempting to control costs and improve outcomes, developed the SSP to promote accountable provider organizations. To better define these organizations, the CMS classified them as ACO's. If a provider group seeks to be a participating SSP using the operating principles of an ACO they must have primary care physicians who can demonstrate that can work together to improve outcomes by using the best practices within the ACO concept. Additionally they must:

- Be accountable for quality, cost, and care of a population of Medicare beneficiaries.
- Participate for not less than three years.
- Belong to a legal structure that can receive and distribute bundles shared savings payments.
- Demonstrate that enough primary care physicians are included whose combined Medicare patient population is at least 5,000.
- Have leadership and management and clinical administrative management systems in place.
- Promote evidence – based medicine, report quality and cost measures, and coordinate care including the use of technological systems.
- Demonstrate patient-centeredness (Ronning, 2010).
-

Clearly, given the relative complexity of building an ACO around the conceptual framework of a SSP, both managers and providers will need a firm understanding of the costs, the operations of a SSP, the benefits of this concept, the risks, and the ability to develop and implement a strategic plan. This required skill set can either be acquired as on-the-job learning, or through a more didactic approach. Given the labor time constraints within healthcare delivery, we are recommending the latter approach.

BUNDLING PAYMENT SCHEMES

In considering how curricula are developed for healthcare professionals, there has to be a tremendous effort placed into the content, from introduction to the profession to the clinical application and practical experience that is necessary to embark upon working in healthcare.

It is often thought that management courses are an aside and have historically not been viewed as necessities, rather just good to know type of information. However, as the climate of healthcare evolves, it will be necessary for hospitals, physicians and other healthcare professionals (pharmacists, nurses and administrators) to understand how to initiate steps for the collaboration of caring for the patients. In order to collaborate, there must be a process to establish a method of maximizing reimbursement and quality simultaneously.

According to the National Health Expenditure Projections (2011), the United States Government will soon pay more than 50% of the nation's healthcare bill through Medicare and Medicaid. With the goal of reducing cost, the Center for Medicare and Medicaid Services (CMS) and the Center for Medicare and Medicaid Innovation (CMMI) have decided to partner with Accountable Care Organizations (ACO) and Shared Services Providers (SSP) to create this system of an improved, efficient patient care experience while offsetting and sharing the cost burden between organizations and CMS/CMMI (Sultz, 2014). ACO's consist of a group of providers and suppliers of health care, health-related services, and others involved in patient care working together to coordinate care for the patients they serve (Sultz, 2014). The payment structure for ACO's combine fee-for service payments with shared savings and bonus payments linked with specific quality performance standards for which all providers within the ACO are accountable (Sultz, 2014).

It is important for healthcare professionals to understand this process that will be a major component of how payments will be received for the services being rendered. The Bundled Payments for Care Improvement Initiative (BPCI) is designed to test whether bundled payments can align incentives for hospitals, post-acute care providers, physicians, and other health care personnel to work closely together across many settings to achieve improved patient outcomes at lower cost (Sultz & Young, 2014). Lower costs, improved quality and consistency in discouraging unnecessary services, tests, medications and other costly services which are able to be substituted is what is proposed by the BPCI. Bundled Payments, also called "episode payments" is a way that CMS and CMMI have proposed to accomplish their overall efficiency goals. The bundled payments method links a number of services together for an episode of care. Based on the episode of care and the appropriate services under the bundle, healthcare providers would be provided an upfront sum to manage the care of the patient (Sultz, 2014). If the providers could manage the episode of care under the sum provided they could share the savings. As a result, providers are incentivized to coordinate care better and dis-incentivized from providing unnecessary services (Mirakhor, 2013). The facilities and the providers could be large beneficiaries if the process is done correctly. However, the bundled payment method does create complexities and will require specific skillsets that have traditionally been left to chance in the academic training of healthcare professionals or not addressed at all. Healthcare professionals of the next era must have some key skills, including the ability to collaborate beyond like professionals (working with other groups of professionals who have an overall interest in the positive outcome of the patient), an understanding of the requirements associated with making the payment process run smoothly and avoid issues that may ultimately minimize payments or require an out of pocket payout by the provider in order to accommodate for the improper balance of services provided and finally an understanding of how to manage the process of selecting the proper episodic-care or DRG that is most appropriate for bundling. Each facility will have unique considerations in every aspect of these considerations.

The objective of the BPCI is to improve the quality of Healthcare delivery for Medicare beneficiaries, while reducing the program expenditures by aligning the financial incentives for all providers (Sultz, 2014). There is great potential for the balance of expenditures to be achieved between CMS and providers, but there are some facets of the initiative that are imperative to review to be sure that the cost burden is shared. According to the American Health Associations' Committee on Research's Synthesis Report on Bundled Payments (2010), there are some key areas that must be considered by the providers. These include: 1. identifying and defining bundling inclusions (i.e. what standardized care plans should be included –ex. knee replacement, heart surgery, etc.) 2. establish a timeframe between “episodes”, 3. determine payment rates, 4. identify patient criteria (do patients require a significant number of additional services beyond the bundle?). Some examples of bundled payment programs that have been initiated are: Medicare's Participating Heart Bypass Center Demo, Geisinger's ProvenCare, Medicare's Acute Care Episode Demo, PROMETHEUS Payment, Inc., Fairview Health Services and Dr. Johnson and Ingham Medical Center. Each one of these programs had to consider conditions, services, provider accountability, a payment timeframe, administrator capabilities, how to set payments/discounts and also how to adjust payments if needed (AHA, 2010).

Each one of these standards requires a level of appreciate for the change in healthcare, balance of power in decision making and an understanding of the implications of the financial management process. BPCI will be a counterproductive method if institutions of professional learning rely on “on the job training” for new professionals. Examples of suggestions for course content could include: an introduction to reimbursement methods, bundled payments in and out, the Affordable Care Act addressing what will be the new responsibilities for future healthcare professionals and a collaborative approach to care and healthcare management.

Healthcare professionals will indeed have to manage patients as well as key components of their business, if they are going to be sustainable and reimbursed appropriately for the provided services. Therefore, they must be trained in a non-threatening, non-punitive environment, where the curriculum is enhanced to explore way to make this information relevant and specifics for each field or practice is able to have an applicable experience of learning healthcare management principles as they relate to daily practice and care of the patient. There are implications for physicians, nurses, pharmacists and administrators. The goal of training these professionals of the future should be to equip the knowledge and application of collaborating and understanding these implications of what the lack of preparation and on the job training can be. Lack of preparation in these pertinent areas of management will prove disastrous considering the vast changes to the healthcare system.

INSURANCE EXCHANGES

The Affordable Care Act (ACA) includes a provision for each state to establish an American Health Benefit Exchange (Exchange), an online marketplace to compare and shop for healthcare coverage. These Exchanges will initially serve individuals without employer-sponsored healthcare and small business employers with fewer than 100 employees. Inclusion of larger employees is expected by 2017. The goals of these Exchanges include: (1) to ensure sufficient choice providers, (2) to provide uniformity in enrollment and presentation of health benefits options, (3) to implement a quality improvement strategy and (4) to provide information on quality measures for health plan performance, which includes a rating system on quality and price and a satisfaction survey on enrollee satisfaction (Patient Protection and Affordable Care Act, 2010).

The Exchanges will also be utilized to reward quality through market-based incentives. This includes improving health outcomes through quality reporting, case management and use of the medical home model. In addition, there are incentives for preventing hospital readmissions, improving patient safety, reducing medical errors and health and wellness promotion. (Congressional Budget Office, 2012).

The Congressional Budget Office (CBO) estimates that 12 million individuals will purchase coverage through these Exchange through 2015, with 75% representing those who were previously uninsured. The enrollment through Exchanges is projected to reach over 29 million by 2021 (Congressional Budget Office, 2012). These Exchanges and additional provisions from the ACA will undoubtedly impact how physicians manage their practice and how they are reimbursed in the future.

Despite the major changes forthcoming from the ACA, a recent survey of physicians demonstrated that more than 50% were not at all familiar with how the new policies will affect their businesses. Furthermore, 70% were not familiar with how the claims process will operate. Finally, 55% expect their bad debt to increase as a result of the ACA (PR Newswire, 2013).

Exchanges will shift the role of consumers in the decision making process. Provisions under the ACA establish common rules regarding pricing and reporting and increased transparency about the quality of the provider (Patient Protection and Affordable Care Act, 2010; Orry & Eggbeer, 2012). The increased involvement of consumers in the buying process is expected to place downward pressure on price. This in conjunction with the ACA's focus on new payment forms that incentivize health outcomes and reducing costs will shift from traditional fee-for-service payments to bundle payments, shared savings, and capitation (Orry & Eggbeer, 2012). Furthermore, quality of care will play a significant role in how physicians negotiate with payers, which may lead to lower payments or even exclusion from the provider's network (Bendix, 2013).

The increase in the number of individuals previously uninsured is expected to place additional strain on the country's shortage of primary care physicians. This imbalance in supply and demand has led to government incentives in the form of increased reimbursement rates for primary care services. This increased demand will lead to a shift to non-physician providers, including nurse practitioners and physician assistants (Dageforde, 2013; Jacobson & Jazowski, 2011; Kocher, Emanuel, & DeParie, 2010)

The implementation of Exchanges, though its intentions to create transparency and improve access to health coverage, will impact physician practice. Increased consumer involvement and mandatory reporting will drive prices down changing the structure of payment systems. Payment systems will center on reducing costs and improving health outcomes. Therefore, financial planning should prepare for a shift from uninsured to increased utilization of exchanges, which will lead to changes in payer mix and decreases in payment rates (Orry & Eggbeer, 2012)

CASE MANAGEMENT

With the continuing evolution of new scientific medical information along with medical technology, people are living longer often with complex medical conditions which include single or comorbidity chronic diseases. In conjunction with an aging population, the concentration of healthcare expenditures in the United States (US) is escalating. Currently, US healthcare expenditures exceed 1.7 trillion dollars, which is approximately 15 % of the gross domestic product and 78% of people with single and multiple chronic conditions account for the majority of the utilization of these health care services and health care costs (Vogell et al 2009). Furthermore, a 2001 Institutes of Medicine (IOM) report, “Crossing the Quality Chasm,” states that 23% of Medicaid beneficiaries have five or more chronic diseases (CCMC, 2010). Controlling costs and managing chronic diseases has become an overwhelming concern for not only private and public insurance but also for healthcare policy makers. This has led to a widespread proliferation of case management programs to help slow healthcare costs and to improve quality and delivery of healthcare services in both private and public insurance programs. In 2004, 97% of private health insurance plans have disease management programs for diabetes, asthma, arthritis, heart disease, and HIV/AIDS (Vogell et al., 2009; Fetterolf, Holt, Tucker, & Khan, 2010). State Medicaid programs have also implemented such programs to help with the efficiency and cost-effectiveness.

There are several definitions for case management, but all have similar attributes. The Commission for Case Management Certification (CCMC) (2009) defines case management as a “Collaborative process that assesses plans, implements, coordinates, monitors and evaluates the options and services required to meet the patients or clients health and human service needs. It is characterized by advocacy, communication and resource management, and promotes quality and cost-effectiveness interventions and outcomes.” Central to the case management philosophy is that it is patient or client centered, whereby everyone benefits, including healthcare providers and payers, when patients or clients are navigated to the appropriate services, providers and resources in their communities to promote optimal outcomes of wellness, self-management and functional capability.

Case management is not a new concept, as it originates from the disciplines of public health nursing and social work in the early 20th century (Gritzmacher & Sowell, 2010). Thus, the majority of case managers currently in the healthcare arena are nurses or social workers with advanced degrees. There are four categories of existing case management programs. These include hospital, traditional, direct-care and gap-filling (Gritzmacher & Sowell, 2010). The emphasis for hospital case management programs include discharge planning for patients or clients who are in the hospital for a short duration due to an acute care episode, which may include finding a suitable out-patient service or facility. Discharge planning helps the hospital contain costs by reducing the length of stay for individuals whose management of their medical conditions is better suited for out-patient services. The traditional case management program uses the customary model to assess a client’s health care needs in order to find appropriate services and providers that are available in the community and will help the client navigate through the intricacies of the healthcare system. Persons with complex and or chronic diseases may require the direct-care case management model, where the case manager may be a provider for some of the needed services. The last category of the case management model is the gap-filling model. This model is similar to the traditional case management model but the case manager will also have the authority to purchase or seek out any additional healthcare services or resources that are appropriate and cost-effective for the patient or their family. The use of any of these case management programs can decrease costs and increase the quality of care and services provided, while avoiding duplication of services.

Case management model integrates some of the key components of the chronic care model, which emphasizes the coordination of a client’s care around their chronic illnesses. The utilization of a case manager is also useful for navigating through the two current models of healthcare delivery systems, the patient centered medical home (PCMH) and the accountable care organizations (ACOs). The emphasis on both of these models is to breakdown the medical silos to encourage various healthcare providers to work in tandem to decrease duplication of service, to increase the quality of care to patients and to increase cost-effectiveness.

To have an effective a case management program demands an interdisciplinary approach, which includes the use of available resources and services to increase the effectiveness of evidence-based treatment modalities, quality of care and cost-effectiveness. To have such a program, it is essential that all healthcare professionals

understand the case management paradigm. Current professional programs do not include case management in their curriculum. Implementing a case management course into the various healthcare professions will increase the awareness and the knowledge of the healthcare professional's role in achieving timely, necessary, and optimal healthcare services through collaboration, which will improve health outcomes especially among the chronically ill patients. In addition, this will also help with cost containment even with continued changes in the reimbursement levels by insurers.

MEDICARE PAYMENTS

Medicare in the United States is the largest public health insurance program of our time. As of 2010, Medicare covered 47 million people with an estimated spending amount of \$524 billion dollars (Nemani, 2010). With the baby boomer population aging and thereby producing increases in the cost of healthcare, coupled with an economic downturn, the sustainability of Medicare comes into question. On March 23, 2010, President Barack Obama signed into law the Patient Protection and Affordable Care Act (PPACA) that becomes effective Jan 1, 2014. One of the things that the PPACA is slated to do is generate billions of dollars in Medicare savings and strengthen the care that our Medicare beneficiaries will receive (CMS office of the Actuary, 2010). In order to effectively execute the reforms that the PPACA is implementing over the next several years, providers will need to be educated on the management of healthcare to fully understand the various pieces that make up the PPACA. Being only clinically trained is no longer sufficient because healthcare delivery has become interwoven with intricate operational and payment schemes. In order to provide effective care and cost management to beneficiaries, clinicians will need to understand all aspects of the PPACA and particularly those that are related to Medicare. Fundamental to this understanding will be the incorporation of the new financial realities into the curricula of healthcare practitioners.

Part of the Medicare savings that our providers and clinicians will need to be aware of comes from several aspects of a delivery system overhaul via readmissions, health care acquired conditions and appropriately pricing premiums in Medicare Advantage plans. The idea is that healthcare in the United States is moving towards a value based system of care. Starting in 2013, physician payments have become closely linked to a "value-modifier" that rewards physicians who deliver better care for 5 of the most prevalent conditions – acute myocardial infarction, heart failure, certain surgical procedures, healthcare-associated infections and pneumonia (CMS office of the Actuary, 2010). In practice, physicians who provide better care to their patients will have beneficiaries who will have a lower readmission rate. Essentially the government is rewarding providers who provide quality care to clients with low cost; thereby, reducing unnecessary hospital readmissions which the PPACA states will have a substantial projected Medicare savings. The Affordable Care Act created a hospital readmission reduction program, which is projected to reduce Medicare costs by \$8.2 billion from implementation through 2019 (CMS office of the Actuary, 2010). Readmissions account for 80% of all Medicare enrollees; thus by addressing this key population the healthcare community there will produce a significant dent into the assumed Medicare savings (CMS office of the Actuary, 2010). If providers fail to provide quality care to clients, the reduction in their Medicare payments would be 1% for 2013, 2% for 2014 and 3% for 2015 and all subsequent fiscal years; which will apply to all admissions to the hospital (Barry, Luband, & Lutz, 2010).

Not only will providers get penalized financially upon readmission of a patient, but they will also be penalized if a beneficiary incurs a hospital acquired condition (HAC's). In the past, hospital acquired conditions were reimbursed at a higher rate due to being paid as a secondary diagnosis. According to the PPACA, hospitals will face an additional 1% reduction in Medicare payments if they fall into the top 25% of the national risk-adjusted HAC rates for all hospitals in the previous year (Barry, Luband, & Lutz). This provision will result in a \$3.2 billion dollar reduction in Medicare costs over the next ten years (CMS office of the Actuary, 2010). The positive effect of this provision relates back to providing and being rewarded for quality care to all clients. As a result, a conversation among providers and clinicians will need to include some type of education that centers on the management and education of the team in providing quality care. If we have clinicians who are not accustomed to managing a team to implement the aspects of quality improvement processes, it is likely that some hospitals will struggle and be penalized financially for not meeting the new standards. Due to the lack of education that is found in various clinical healthcare programs across the country, it appears that the United States is doing a poor job at equipping our future providers and managers with the necessary skills to execute what the PPACA are imploring all healthcare

providers do.

With the changes that are happening in our healthcare system due to the PPACA, it is even more important that providers at all levels have a clear understanding of how Medicare, Medicaid and commercial insurance operate. Medicare Part C, which is also known as the Medicare Advantage (MA) programs allows Medicare beneficiaries to receive benefits from private plans such as Health Maintenance Organizations (HMO's), Preferred Provider Organizations (PPO's), high deductible plans etc. Under the MA plans, there are more services covered than under the regular Medicare Part A and B plans. Medicare Advantage plan payments from the government are paid under a bidding process. Plans bid to offer Parts A and B (Part D coverage is handled separately) coverage to their Medicare beneficiaries; the bid is offered as the bid to cover an average, or standard, beneficiary and the bid is to include any plan administrative cost and profit (Davis, Hahn, Morgan, Stockdale, Stone, & Tilson, 2010). CMS bases the Medicare payment for a private plan on the relationship between its bid and benchmark. If a plan submits a bid below than the county level benchmark value, 75% of the difference is paid between the bid and the benchmark (Davis, Hahn, Morgan, Stockdale, Stone, & Tilson, 2010). If the plan bids above the benchmark, the plan is paid the benchmark and then must pass the cost off to the enrollee by charging a premium equal to the difference between the bid and the benchmark (Davis, Hahn, Morgan, Stockdale, Stone, & Tilson, 2010).

The problem with this is that the benchmarks amounts have resulted in higher payments to the MA plans than the Medicare Fee-for-service costs, which range from 100% to over 150% with no measured difference in outcomes (Davis, Hahn, Morgan, Stockdale, Stone, & Tilson, 2010). Thus, higher than normal payments have been being provided to MA plans, which has added to the high healthcare costs for 77% of seniors in the form of higher healthcare premiums (CMS office of the Actuary, 2010). For this reason alone, providers will need to have a thorough understanding of how healthcare insurance payments and plans operate. As a result of the changes, the provider may have an educated consumer who may refuse a battery of tests in an effort to reduce any costs that may be passed on to them. The realization of comprehensive care at a low cost will now take on a new meaning. As a result of realizing the overpayment to MA's, the PPACA will phase in benchmarks that will be set at either 95%, 100%, 107% or 115% with the higher benchmarks being reserved for those counties with the lowest Fee-For Service costs (Davis, Hahn, Morgan, Stockdale, Stone, & Tilson, 2010). Some physician practices may have to acknowledge a possible cut in the revenue stream for their offices due to the changes in MA payments. For example, if the revenue for the physician's office received in 2009 quarter one was \$575,000 with the proposed cuts this income would be \$435,000. With the decrease in payment the physician's office may be confronted with laying off staff, readjusting the budget and/or increasing patient visits in order to make up for the deficit. Without having a firm grasp of the financial implications of the proposed changes, healthcare providers greatly jeopardize their chances for success. At the very least, clinical programs of all types need to implement education that will allow providers to have a working knowledge of healthcare management and insurance processes. Additionally, knowledge of the elements of a value-based healthcare system will allow providers to increase profitability by reaching benchmarks and putting forth quality plans in qualifying areas (Davis, Hahn, Morgan, Stockdale, Stone, & Tilson, 2010).

The last part of Medicare that has major changes is Part D. Medicare Part D currently has an exclusionary period, commonly known as the donut hole, during which most recipients are responsible for a significant portion of their prescription drug expenses. Often times, patients will ask the nurse or physician questions about their financial responsibilities and the nurse or physician will not have an answer. While they can explain the side effects and mechanics of the drug itself, explaining if the medication is covered by their particular benefit is not in the scope of most clinicians. With educated consumerism on the rise, clinicians will now need to be aware and educated of the operations of the PPACA on prescription drug benefits. Prescription drug coverage for enrollees are provided by prescription drug plans (PDPs), which offer only prescription drug coverage or through Medicare Advantage prescription drug plans (MA-PD's) provided to beneficiaries who enroll under Part C (Davis, Hahn, Morgan, Stockdale, Stone, & Tilson, 2010). Prior to the PPACA, the Medicare Part D benefit had a deductible of \$310 and 25% coinsurance up to the initial coverage limit of \$2830 (Nemani, 2010). After beneficiaries reach this point, they end up in the so-called donut hole. The donut hole is defined as the gap in which there is no prescription drug coverage for the enrollee and they are now responsible for 100% of all prescription drug cost until they reach \$6440 (Davis, Hahn, Morgan, Stockdale, Stone, & Tilson, 2010). In order to combat this large gap, the PPACA has developed a Gap Discount program that will be implemented in phases. In phase I starting in 2010, the Health and

Human Services (HHS) Secretary will provide a \$250 rebate to Part D enrollees who reach the donut hole (CMS office of the Actuary, 2010). In phase II, the manufacturers of brand name drugs must enter into agreements with the HHS Secretary to provide enrollees a 50% discount off of the negotiated price of the brand name drugs on the enrollees Part D's plan (CMS office of the Actuary, 2010). In the 2011, part III of the Gap discount phase in the PPACA required that generic drugs become covered in the donut hole by moving into an agreement with pharmaceutical companies (CMS office of the Actuary, 2010). Lastly in phase IV, which begins in 2013 and will run to 2020, the PPACA will require that some brand name drugs become covered in the gap with the enrollee co-insurance starting at 97.5% in the first year to 75% co-insurance in the last year of the phase in.

The PPACA's major focus in the Part D benefit is to enhance the coverage provided to lower-income individuals who enroll in Part D. The subsidy available for the low income population would reduce beneficiaries' out of pocket spending by paying for all or some of the Part D monthly premium and annual deductible and limiting copayment's to a minimal amount (Davis, Hahn, Morgan, Stockdale, Stone, & Tilson, 2010). Part of the education of a clinician that can help them disseminate information to low income individuals is to understand the concept of health literacy and cultural competency. Part of the issue with several curriculum developments of clinicians is that we do not include – or include a minimal amount of necessary subjects such as these into our current educational systems. While healthcare professionals will have the capability to understand the numbers presented, knowing how to relay that information to the population in which many of us work may need to be a learned task. Incorporating courses into our health care curriculum that teach nurses, pharmacist and physicians techniques to relay such complicated information will allow us to present the material in a manner that is clear and concise to our clients.

METHODOLOGY

With the existent complexities of the challenges explained in sections above, we attempted to determine the level of the integration of healthcare management courses into the curricula of four major healthcare practitioner groups. We examined the curricula of at least eight geographically disparate programs from each of the professions of medicine, dentistry, nursing, and pharmacy.

We conducted on-line searches of the curricula from randomly selected programs and identified as many healthcare management oriented courses as possible. We initially looked at any course listed that from its title might suggest that it contained some component of healthcare management. Once these courses were identified, we then sought out more expansive course descriptions of them which would provide substantiation of the content we were seeking.

RESULTS

In the basic curricula of the courses of the medical schools surveyed we found little evidence of discrete courses in healthcare management. The courses that were identified were typically courses that were introductions to either the healthcare system or environment. Additionally, some programs offered courses in healthcare policy, or healthcare economics, or business and healthcare (see Table One below). In many instances these courses were electives, and in some cases for no credit.

The investigation of dental programs yielded even scarcer results. Most of the programs investigated had only somewhat related courses in practice management. These courses were almost universally focused on career opportunities, human resources, payment arrangements, and location selection and financing a starting practice. There was little to no evidence of broader healthcare management related topics (see Table One below).

The nursing programs studied yielded similar results to the dental programs. The only significant appearance of healthcare management content was found in courses that provided an introduction to the healthcare delivery system. An occasional course in healthcare policy was identified as were some infrequent courses in trends in healthcare (see Table One below).

Pharmacy programs offered a similar pattern. In this cohort the predominant healthcare management related course was one addressing healthcare delivery or healthcare systems. Little else of direct relationship was identified (see Table One below).

Table One

Type of Program	Number of Programs	Number of HCMG Courses	Average Number of Course per Program
Medical	11	18	1.64
Dental	8	8	1
Nursing	8	16	2
Pharmacy	9	13	1.44

Most Common Courses by Program Type

Medical	Free Clinical Longitudinal Outreach; Family and Community Medicine Research; Foundations of Clinical Medicine – Integration; Professionalism and the Practice of Medicine; The Practice of Medicine; Topics in Medicine; Public Health Integrative Cases; Healthcare Economics; Medical Finance; Public Policy; Population Health; and, Healthcare Policy.
Dental	Practice Administration; Practice Management; Clinical Practice Management; and, Jurisprudence/Ethics/Dental Practice.
Nursing	Transition, Leadership, and Management; Cultural Diversity in Healthcare; Introduction to Healthcare; Organization of Micro and Macro Healthcare Systems; Issues/Trends in Healthcare; and, Healthcare Systems and Policy
Pharmacy	Healthcare Systems; Pharmacy Administration; Pharmacy Care Management; Pharmacy and the U.S. Healthcare System; and Healthcare Delivery.

DISCUSSION

It is our belief that a strong case can be made for the integration of healthcare management courses into the core curricula of healthcare practitioners. As healthcare delivery more and more evolves into a business model type operation, it will be necessary for practitioners to have working knowledge of the different organizational and payment schemes. We found little evidence that this is currently being done. The only exceptions are joint programs that give a healthcare practitioner's degree along with a MBA and these programs are not widely subscribed.

There have been an untold amount of conversations and writings centered on the Affordable Care Act. Much of this dialogue has used to term healthcare reform. And yet, the reality is the ACA is not about healthcare reform, it is about insurance and who is going to pay for what healthcare services. Clearly, the focus will continue on the business and financial aspects of healthcare delivery. Healthcare providers need to be knowledgeable of these aspects promoting their incorporation into the curricula.

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PATIENT EXPERIENCES IN HOPSITALS

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ABSTRACT

This presentation will provide insight into the patient experience at hospitals; specifically, how staff can learn from the hospitality industry to become customer focused and experience oriented in order to increase patient satisfaction and loyalty in their organization. This presentation will touch on measuring patient satisfaction and patient experience scores, and how creating a better patient experience may or may not lead to better clinical outcomes. This presentation will include insight into a variety of customer service theories & initiatives gathered through a review of literature. It will show how healthcare organizations can create a patient-centered culture through crafting customer experience initiatives..

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PATIENT CENTERED MEDICAL HOMES

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ABSTRACT

Patient-Centered Medical Home (PCMH) is a model for primary care delivery organized around patients and their families. It relies on a team-based approach to provide comprehensive and coordinated patient-centered care through enhancing access to care. PCMH plays an important role in improving healthcare quality including, improvement in health outcomes, enhancement in patient experience of care, and reduction of expensive, unnecessary hospital care. It is expected that the future of the PCMH is bright as the Affordable Care Act encourages its adoption as part of health care delivery reform.

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NON-MONETARY EMPLOYEE MOTIVATION: THE CASE OF KAZAKHASTAN PHARMACEUTICAL COMPANY

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ABSTRACT

The companies are in search of non-monetary employee motivation instruments after the financial crisis. Although many companies cannot afford financial rewards in result of budgetary constraints, the need for employee performance improvement is becoming more demanding. At the time of financial crisis aftermath the employees' low morale and dissatisfaction grew due to the higher conflict and stress levels. These negative consequences may be overcome by improving the 'psychological well-being' (Srivastava, Locke & Bartol, 2001) of employees through the use of non-monetary compensation factors such as career and social rewards (for example, friendship, self-esteem, recognition, task enjoyment etc.) (Schuler & Jackson, 1996). For the companies, there is an urgent need to find the right balance between the financial and non-financial employee incentives (Mesch & Paarlberg 2006). The purpose of this paper is to analyze the employee motivation system at one of the Kazakhstan's pharmaceutical companies in order to find effective non-financial employee motivation instruments. The achievement of strategic goals and optimization of labor costs were taken into account as important factors influencing the results of the analysis.

The monetary and non-monetary compensation system elements were analyzed. The employee grading, pay-for-performance and job evaluation systems have been considered as the most effective monetary employee motivation instruments. The competition among the sales managers, several corporate culture factors, communication means and employee socialization policy are found to be most effective non-monetary employee motivation instruments.

The career development program is the most important motivating factor. This program rewarded employee initiatives and entrepreneurial behavior. Moreover, the achievement of performance goals due to this program outcome resulted in improved employee relations and satisfaction, growth of company's revenues and organizational performance in general.

Key Words: Pharmaceutical company, HRM, employee motivation system, monetary and non-monetary employee motivation instruments, employee grading, job evaluation, career development program

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TRACK

HEALTH and WELLNESS

A BRIDGE FROM “PULLING TEETH” TO EMPLOYEE WELLNESS AT COVINGTON FAMILY DENTISTRY

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ABSTRACT

The Employee Wellness Program developed for Covington Family Dentistry is based on employee-identified health challenges, commitments to wellness activities that address these challenges at or near employees' residences or the office, and a willingness to take responsibility for managing the program and contributing financially to its sustainability. The objectives of the wellness program are to address the health and well-being of the employees, to reduce absenteeism and turnover, and to improve productivity and the financial bottom line. The authors will share the methods used as well as the results to date.

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OBESITY IN BRAZIL

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ABSTRACT

Countries across the world are facing an obesity epidemic. Being the largest country in South America, Brazil is one of the many countries with a rapidly increasing population of obese individuals. Starting at the turn of the century, the consumption of rice and beans among Brazilians has declined as more unhealthy foods are being consumed. As obesity rates continue to increase so do the diagnoses of various diseases and costs associated with treatment. This paper explores some of the causes of this obesity epidemic, along with the impact on health status and risk in Brazil. Opportunities for improvement will be examined, along with the economic impact. Suggestions for health policies will be discussed.

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THE INFLUENCE OF POSITIVE PSYCHOLOGY ON EMPLOYEE ASSISTANCE PROGRAMS

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THE INFLUECNE OF POSITIVE PSYCHOLOGY ON EMPLOYEE ASSISTANCE PROGRAMS

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ABSTRACT

An increasingly fast paced business environment is creating a greater need for Employee Assistance Programs in organizations to take a proactive approach to preventing employee issues related to stress, stress related illnesses, turnover, and absenteeism. Positive Psychology may offer guidance to increase employee Psycap through Employee Assistance Programs and reduce organization cost while improving employee commitment.

INTRODUCTION

The fast paced global environment of business has encouraged a stronger need for organizations to recognize and invest in their “human capital” (Froman, 2009, p. 62) as well as their “psychological capital” (PsyCAP) (Mills, 2013 p. 156) in order to remain competitive. Human capital refers to the “experience, education, skills, knowledge and ideas that people bring to their jobs” (Froman, 2009, p. 62). Psychological capital refers to general well-being of employees, including their emotional and physical health and engagement (Mills, 2013, p. 155).

Organizations have historically taken a proactive approach to invest in human capital through tuition reimbursement, by developing programs to educate and train their employees, and encouraging career growth. In addition, organizations typically take a reactive approach to psychological capital offering employee assistance programs for existing issues. A growing trend to implement a proactive approach of caring for employee psychological health has more recently emerged because of the connection between psychological capital and organizational health. The overall well-being of an employee is critical to the success of the employee and ultimately the organization. This growing trend could influence existing employee assistance programs and the overall structure of the work place. By understanding the impact of employee assistance programs on the PSYCAP of employees, employers can offer programs targeted at increasing Psycap.

The purpose of this paper is to explore literature regarding psychological capital and its influences on employee assistance programs. In addition, gaps in current understanding will be identified as well as ideas for additional research will be suggested.

Employee assistance programs

The majority of Fortune 500 companies offer an Employee Assistance Program (EAP) (Mercer, 2007). Historically, EAPs began as a response to alcoholism issues in the 1970's. The goal of initial programs was to help "detect, confront and refer alcoholic employees" and to remove some of the stigmas around alcoholism (Kurzman, 2013, p. 382). Initially EAPs were used to offer counseling, treatment and other community resources to those affected by alcoholism. Throughout the decade following its inception EAPs expanded to include assistance for other issues commonly faced by workers such as "stress, disability, dependent care, mental illness and addiction (broadly defined)" (Kurzman, 2013, p. 386).

EAPs and EAP practitioners are evolving as more research is performed on the needs of individual workers and the benefits of providing assistance. For example many EAPs also offer services for natural disasters, mergers, bankruptcies, safety concerns, legal help, training, workplace wellness and health, planning for return to work, onsite wellness, and many other services (Center for Prevention and Health Services, 2008). In addition, while EAP practitioners are not required to hold a certification or specialized training, they now are able to obtain a certification of Employee Assistance Professional (CEAP) upon passing a written examination (Kurzman, 2013, p. 387).

While the main focus of EAPs was initially on alcoholism there has been a shift in focus to stress and disability. Research suggests that in a high paced work environment, stress is quickly becoming a major issue faced by employees and the organizations they work for (Yu, Lin, & Hsu, 2009, p. 365). Increased stress levels lead to "burnout, ill-health, high staff turnover, absenteeism, low morale, and reduced efficiency and performance" (Yu, Lin, & Hsu, 2009, p. 365). High levels of turnover, poor performance, and absenteeism are very costly to businesses. Providing employees with an assistance program helps mitigate some expense. "EAPs aligned with an overall health and productivity strategy can perform a critical role in identifying individual and organizational risk factors that may decrease performance (Center for Prevention and Health Services, 2008).

EAPs are generally comprised from one of two models; a core technology model or a comprehensive service model (Kurzman, 2013, p. 390). The core technology model is focused primarily on accessing and providing contacts with health related issues using a reactive approach after the onset of issues. The comprehensive model assumes a healthy worker will also benefit from assistance with personal problems unrelated to health or disease. The comprehensive model centers around the premise that everyone faces stress related to personal issues, resource limitations, and faced paced work environments (Kurzman, 2013, p. 389).

Comprehensive EAPs offer programs aimed at increasing self-efficacy by connecting employees with resources for managing overall health and well-being. Increasing self-efficacy has been shown to decrease the effects of stress and aid in preventing burnout (YU et al., p. 366). Self-efficacy can be increased through "intentional personal mastery, vicarious learning, social support, physiological and psychological arousal, goal setting, contingency planning, positive attributions, and effective coping and risk-management strategies" (Luthan, Youssef, Rawski, 2010, p. 346). Comprehensive EAPs offer resources which improve many of the traits and opportunities listed. Increasing self-efficacy increases quality of life, positive emotions, job performance, organizational commitment, cognitive ability, creativity, and team collaboration (Seijts & Latham, 2011, p. 192). Increasing self-efficacy is also a key component of the theory of positive psychology.

Positive psychology

Psychology is generally defined as the study of mind and behavior (Cayne & Bolander, 1991). Traditionally and until recently the goal of psychologists was to “bring individuals back from a negative, struggling state to a balanced, normative state” (Norman, 2013, p. 29). Recently the field of positive psychology has emerged as a new frame of focus for psychologist and researchers. Positive psychology explores how to move people from a normative state to a flourishing state and/or increase the happiness in an individual’s life by promoting positive emotions (Norman, 2013, p. 29). Positive emotions include joy, gratitude, serenity interest, hope, pride, inspiration, awe, and love (Fredrickson, 2009, as cited in Norman, 2013). Individuals that experience and display positive emotions have a heightened ability to bounce back from diversity, are more resilient, motivated, and engaged (Froman, 2009). Individuals that display positive emotions are also more likely to feel empowered in their decision making abilities (Mills, 2013, p. 155). “Empowerment provides employees and organizations with various benefits including increased commitment, job satisfaction, and performance, and has a negative relationship with job strain and turnover intentions” (Mills, 2013, p. 155).

Some psychologists have suggested that using positive psychology, performance levels can be increased, even creating high performers where unexpected (Norman, 2013, p. 30). Through “positive, forward looking orientation” (Froman, 2009, p. 60) individuals grow because they believe they can. Whether individuals that take a “fixed mindset approach to their abilities...or a growth mindset approach... has crucial implications for their longer term success” (Dweck, 1997, as cited in Norman, 2013, p.35). Individuals that have high self-efficacy and are self-motivated have been found to exhibit more positive emotions such as interest, confidence and excitement (Froman, 2009, p. 62; Yu, et al., 2009, p.374; Seijts & Latham, 2011, p. 192). Self-motivated individuals also tend to display more productive work performance (Seijts & Latham, 2011, p. 192; Froman, 2009, p. 62). Self-motivation and positive emotions tend to have a reciprocal nature. When an individual is positive, motivation increases and when motivation is high, an individual tends to display more positive emotions (Froman, 2009, p. 62). An individual’s ability to experience these emotions varies and depends on “personality, character and cognitive interpretations” (Froman, 2009). However, these “emotions can be triggered and sustained by supportive organizational environments” (Froman, 2009).

Positive Psychology focuses on a proactive approach to building resilience in individuals, teams and organizations by focusing on individual strengths and creating team environments in which those strengths are utilized using appreciative inquiry (AI) and by increasing emotional intelligence (EI) (Mills, 2013, p. 154; Froman, 2009, p. 64). The focus of AI is on strengths and positive actions and reactions. The goal is to harness strengths and increase productivity and collaborative learning (Froman, 2009, p. 64; Mills, 2013, p. 155). EI refers to an individuals’ ability to perceive, access and generate emotions, assist thought processes, and reflectively regulate emotions so as to promote emotional and intellectual growth” (Froman, 2009, p. 62). While organizations can trigger these emotions, it is important to note that positive psychology is not the same as positive feedback. “Positive feedback, rewards and recognition for our efforts are welcome sources of validation; [however] we do not have to rely on them to move forward” (Froman, 2009, p. 61). Feedback is not necessary in order to sustain ourselves, therefore, organizations must take a proactive approach at increasing positive emotions rather than providing feedback after a triggering event (Froman, 2009, p. 61). Organizations can increase positive emotions by fostering a supportive environment, an ethical and trustworthy culture, and investing in the human and social capital of employees (Froman, 2009, p. 63).

Positive psychology on EAP’s

The primary function of modern comprehensive EAPs is to bridge economic development with human development by “creating positive changes in employees’ life styles” (Kurzman, 2013, p.385). Positive psychology demonstrates that positive changes increase an individual’s ability to cope with stress and increases self-efficacy. Increased self-efficacy increases productivity, engagement, collaboration, self-motivation, empowerment, and organizational commitment (Seijts & Latham, 2011). EAPs provide employees with a sense of organizational commitment to employees and “according to the theories of organizational support and reciprocity, an employee’s commitment to the organization is greatly impacted by the degree of perceived organizational commitment to the employee” (Mills, 2013, p. 157). By understanding the impact of increasing employee Psycap by using positive psychology as part of

EAPs, organizations may be able to tailor EAPs to proactively prevent EAP issues such as stress, burnout, and turnover as well as increase employee commitment and reduce cost to the organization from absenteeism and stress related illness. More research is needed to investigate the relationship between the offering and utilization of EAPs that include proactive positive psychology based programs aimed at increasing Psycap (such as stress prevention, healthy well-being, dependent care alternatives, etc.), their effectiveness at increasing Psycap and the results of the EAPs on EAP issues.

METHODS

The purpose of the proposed study is to investigate the impact of using positive psychology as part of EAPs on the success of prevention of EAP issues. The study will establish if the participants have access to EAPs and the type of EAPs (core technology model or comprehensive model). The research will be used to determine if a connection exists between the level of Psycap and stress experienced and the level of availability and participation in EAPs,

Hypothesis: Employers that participate in comprehensive EAPs which utilize positive psychology will experience higher levels of Psycap and lower stress levels.

Participants

Participants will be recruited using social media. Participants will primarily be located in the Upper Midwest of the United States of America. All participants will be over the age of eighteen.

Design

Quantitative data will be collected using the Psychological Capital Questionnaire (PCQ) to access the Psycap level of employees and compared with the individuals personal and workplace stress levels. In addition data will be collected to determine the existence and utilization of employer offered EAPs and the needs of employees for specific EAP programs. The data will be used to determine if employers offer EAPs aimed at increasing PSYCAP and if so, whether employees utilize the programs. The Psycap and stress levels of employees will be compared to determine the relationship and analyzed to determine if there is a relationship with the availability and utilization of EAPs.

LIMATATIONS

Possible limitations include willingness to participate and access to participants from multiple organizations. The instruments will be made accessible online which limits the participants to those with internet and social media access. The population choice is not limited by geographic considerations; however participants may be primarily located in the Upper Midwest of the United States of America by default due to the location of the researcher. Last, findings from this study may not be generalizable to other groups.

CONCLUSION

Traditional EAPs are changing to include issues that are faced by all employees and in addition to providing assistance for existing issues; they are beginning to incorporate a proactive approach to prevention of issues. In order to remain competitive and reduce health care costs and cost related to absenteeism, organizations will need to be interested in multiple bottom lines (Froman, 2009, p. 60; Luthans et al., 2011). “From a cost-benefit perspective, waiting for a worker’s performance to decline... to the point at which he or she is in job jeopardy... is much too costly to the employer” (Kurzman, 2013, p. 395). In order to reduce individual and organization risks, EAPs will

need to include proactive prevention programs as well as incorporating programs with a focus of increasing self-efficacy. Positive Psychology is an emerging area of psychology that can help provide direction for a profession (EAP) that is quickly coming to the forefront of large organizations as a way to create a more collaborative and cost efficient business atmosphere.

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COMPLEMENTARY AND ALTERNATIVE CARE: THE ROLE OF CHIROPRACTIC SERVICES IN HOSPITAL SETTINGS

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ABSTRACT

In past years, Complementary and Alternative Medicine (CAM) has been often ignored and not looked upon as having credibility in the provision of health care. Only recently has CAM offered begun to be covered under some insurance carriers. The Affordable Care Act (ACA) America focuses on improving primary and preventive care as well as hospital care across the United States with a purpose of reducing the overall cost of healthcare. Although a substantial amount of evidence supports these treatments and their cost-effectiveness many health professionals still hold an opposing view. The ACA in its entirety fails to specifically mention the role of CAM in the role of cost reduction. The only mention comes from Section 2706 where it is stated that an insurer providing group or individual coverage cannot discriminate against any health care provider. Chiropractic service, being one of the largest CAM approaches, is certain to see changes. In this article we will look at the role of CAM in hospital settings, principally the provision of Chiropractic treatment, its prevalence, its use and funding, and potential value added to the system.

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PAIN ASSESSMENT IN THE CRITICALLY ILL, INTUBATED PATIENT-NEUROLOGICAL

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ABSTRACT

Purpose: To evaluate the reliability and validity of the FLACC Pain Assessment Tool with the critically ill, intubated patient incorporating five categories of pain behaviors: facial expression; leg movement; activity; cry; and consolability. **Method:** One-hundred critically ill, intubated patients-neurological diagnosis, aged 19 and greater will be admitted to the NSICU via the acceptance of the Intensivist and observed for pain assessment. The purpose of this study was to establish the 1) usefulness, 2) inter-rater reliability, and 3) significance of the demographic data of the Faces, Legs, Activity, Cry, and Consolability (FLACC) pain assessment tool in critically ill, intubated patients-neurological patient. The results of this study showed statistical significance usefulness, inter-rater reliability at the $p < 0.01$ level with no demographic significance. The results of this study showed little significance at the $p < 0.1$ level to financial savings as the previous studies concluded.

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ASSESSMENT OF BRONCHOTHERMOPLASTY IN QUALIFIED ASTHMA PATIENTS

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ABSTRACT

Purpose: To evaluate the long range effects of the asthma candidates for bronchothermoplasty incorporating the four categories of qualifying indicators: ICD 9 specific codes; medications; healthcare utilizations; and lifestyle. Method: two hundred and twenty identified asthma patients, aged 18 years and greater of age within a suburban pulmonary clinic, will be evaluated for bronchothermoplasty and assessed for resolution of the treatment therapy. The purpose of this study was to 1) evaluate the criteria regarding qualification for bronchothermoplasty , 2) longevity effects clinically and 3) financially of bronchothermoplasty,. The results of this study showed five patients qualified for bronchothermoplasty based upon the qualifying criteria. The longevity of clinical and financial effects are being studied currently.

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EVOLUTION OF THE DEVELOPMENT OF A HEALTH SYSTEM THAT FITS ALL

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ABSTRACT

Objective of this project is to design, develop and deploy a health Informatics model in order to enable physicians to make informed decisions when the patient is at the point-of-care. The Model will help physicians to monitor data streams such as vitals and information about previous visits and their findings through medical records retrieved electronically. The focal point is that the Model will provide probabilities of the target variable (Dependent Variable) which might be alarming, especially when the patient is the critical care unit.

Development of the present Model underwent several conceptual design stages to reach the present stage. The four major parameters that play critical roles of enhancement include: a) the scope of the critical diseases from a single disease to other critical diseases, b) the expansion the geographical regions to the entire country, c) the degree of automation, and d) the expansion of stake-holders from health care providers to the insurance agencies, federal, state and local governmental regulators, pharmaceutical companies, and more.

Activities and Accomplishments. A prototype was consisting of three phases: Phase 1: Design of the architecture of the proposed prototype, Phase 2: Test of the Model using relatively little number of records, Phase 3: Implementation of the Model in Health Care Centers. The Model consists of several layers technologies and methodologies enhanced by Big Data Analysis deploying Data Mining tools and techniques embellished with AI Models.

Phase 1 and Phase 2 are completed. One of the top 100 Health Care Research Center is already committed to launch on implementation phase.

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ADVANCES IN DENTAL TECHNOLOGY: WHAT IS NEW IN ENDODONTICS (ROOT CANAL TREATMENT)?

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ADVANCES IN DENTAL TECHNOLOGY: WHAT IS NEW IN ENDODONTICS (ROOT CANAL TREATMENT)?

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ABSTRACT

Endodontics (dental root canal treatment) has changed tremendously over the past two decades, as a result of substantial technological advancements. Improvements in vision, canal cleaning and shaping, and sealing are discussed.

INTRODUCTION

Dentistry is perhaps the most technologically dependent discipline of all the “healing arts,” and changes in dental technologies over the past decade have been substantial. In no dental specialty is this statement more true than endodontics (Fishelberg and Pawluk, 2004; Ruddie, 2009). At its most basic level, endodontics involves drilling into the pulp of an infected tooth, removing the infected tissue, and cleaning and sealing the “inside” of the tooth. While this basic endodontic process has changed little, the technology involved has changed substantially, especially in the area of cleaning and sealing the canal.

Clinical endodontics has changed substantially with the development of several game-changing technologies (Ruddie, 2002; 2009). Superior vision became possible with the development of the dental operating microscope (DOM). Canal preparation procedures became more predictably successful with the development of accurate electronic apex locators, the re-design of endodontic files, and the use of engine-driven rotary techniques. Ultrasonic agitation devices improved the disinfection of tooth canals. Finally, mineral trioxide aggregate (MTA), a

remarkable and biocompatible canal sealant, was developed. Each of these advancements will be presented in the usual order they would be utilized in clinical practice.

OPERATING MICROSCOPES

The inability to locate and treat all of the canals of the root canal system is a major cause of the failure of root canal therapy (Cantatore, Berutti and Castellucci, 2009; Singhal et al., 2012; Vertucci, 2005). Prior to the use of the dental operating microscope (DOM), endodontic treatment was performed using tactile sensitivity, and the only way to “see” inside the root canal system was to take an x-ray (Carr and Murgel, 2010). The DOM changes this situation by providing unobstructed, coaxial, shadow-free illumination while enlarging images so as to allow the viewer to observe structures not easily visible to the naked eye (van As and Napoletano, 2005).

Twenty years ago, perhaps 5% general dentists used magnification, and most were using simple loupes. Now, over 80% use loupes. Interest in the dental operating microscope (DOM) has been slow to develop (Selden, 2002), but this will undoubtedly change now that there is little doubt that procedures done under magnification are better than those done without such technology (Mitsuhsahi et al., 2009). The DOM is an excellent instrument for detecting fractures, cracks, “extra” nerve canals – virtually any endodontic abnormality that is difficult or impossible to see, even with unaided vision or loupes. It can also provide certain non-clinical benefits (Napoletano, 2010):

- it can help patients to better understand their diagnostic findings and why certain treatments may be necessary, especially for conditions or problems that have produced no obvious symptoms to the patient
- it can be used to document procedures by providing “before and after” photographs of procedures. With the patient’s permission, these photographs may also be used for marketing purposes.
- using a properly mounted monitor, it can serve as a teaching tool for staff, and as an explanation of the treatment for the patient
-

Thus, because multiple studies (Baldassari-Cruz, Lilly and Rivera, 2002; Coelho de Carvalho and Zuolo, 2000; Schwarze, et al., 2002; Kulild and Peters, 1990) have shown that use of the DOM significantly increases ability of the dentist to locate and negotiate canals, the DOM is becoming standard equipment in endodontics (Clark, 2008), and proficiency in use of this instrument has been required for successful completion of endodontic graduate programs since 2005 (American Association of Endodontists, 2012).

ELECTRONIC APEX LOCATORS

The removal of non-vital (and vital, if present) pulpal tissue, necrotic material and microorganisms from the root canal system is an essential first step for successful endodontic treatment (Gordon and Chandler, 2004). Primary in this process is the accurate determination of the length of the tooth to be treated: the “working length” of the pulp canal.

Traditionally, the distance from some reference point on the surface of the tooth to just before the end of the root (the “working length”) of a tooth to be treated endodontically was determined by taking one or more x-rays

of the tooth, inserting an instrument of known length into the nerve canal, and repeating the process until the instrument was determined to be just short of the apex of the tooth root. A working length of 1-2 mm from the apex is considered acceptable (Gordon and Chandler, 2004). Unfortunately, although radiographs are helpful, the apical foramen is not always located at the end of the root, so 1-2 mm from the radiographic apex may or may not be the appropriate spot. Once the appropriate working length has been determined, cleaning of the canal(s) may begin, but may be difficult because the canal may be curved and/or the canal anatomy may not be symmetrical. However, proper canal shaping and cleaning is essential for endodontic success.

An electronic apex locator is a ... device used in endodontics to help determine the location of the apical foramen of a tooth and thus determine the length of the root canal space (the “working length”). These devices work by measuring the drop in electrical resistance when a metal instrument reaches the anatomical root apex. Traditionally, working length was determined by the insertion of an endodontic file into the canal to an “average” length, and then making adjustment(s) to the working length depending on how close the file appeared to be radiographically to the apical foramen. Electronic apex locators at determining the proper working length as the apical foramen is not always where it appears to be radiographically.

Electronic apex locators have been shown to produce accurate measurement of working length both in vitro (Lucena-Martin et al., 2004; Goldberg et al., 2005) and in vivo (Hoer and Attin, 2004; Venturi and Breschti, 2005). These studies suggest that the use of electronic apex locators provides an objective and acceptably reproducible working length determination technique (Lucena-Martin et al., 2004), decreasing or even eliminating radiation exposure to the patient (Samdli, 2006). Early apex locators were somewhat inaccurate in wet canals, so accurate measurement of working length required drying of the canal(s). Newer generation apex locators can be used to accurately find the apical foramen, with or without fluids in the canal (Ali et al., 2013; Bernardes et al., 2013).

RE-DESIGN OF ENDODONTIC FILES

For decades, endodontics relied on carbon or stainless steel instruments to clean the canal system by hand (Mortman, 2011). Unfortunately, each these materials have drawbacks. Although carbon steel instruments cut more efficiently than stainless steel ones (Oliet and Sorin, 1973), they are susceptible to corrosion by autoclaving and irrigation solutions (Mueller, 1982). Stainless steel instruments are relatively inflexible, making them less able to clean curved canal spaces, and many canals are not only curved but are far from circular, with outpocketing, evaginations and undercuts containing tissue (Peters, Schonenberger and Laib, 2001).

A basic factor in the re-design of endodontic files has been the development of nickel-titanium (Ni-Ti) alloys, which has allowed the manufacture of vastly improved endodontic instruments. Ni-Ti files have been shown to be 2-3 times more elastic in bending and torsion than their stainless steel counterparts (Walia, Brantley and Gerstein, 1988), which makes NiTi instruments much more efficient for cleaning curved canal walls. NiTi instruments are not corroded by endodontic irrigating solutions (Darabara et al., 2004). This shape-memorizing alloy shows properties of superelasticity (Thompson, 2000), high corrosion resistance, and superior biocompatibility (Serene, Adams and Saxena, 1995). NiTi files do, however, have certain disadvantages: (1) they cannot be “pre-curved” for use in posterior teeth with curved canals where the operator has limited access, and (2) their greater elasticity may result in may actually result in decreased cutting efficiency. These advantages and disadvantages of NiTi files make them especially suitable for engine-driven use (Kreel, 2009), and rotary NiTi instruments are now well accepted (Spångberg, 2001)

The design of NiTi instruments themselves has also changed. The self-adjusting file (SAF), a hollow, thin cylindrical NiTi lattice that adapts to the longitudinal and cross-section of the root canal (Metzger et al., 2010a), was introduced in 2010. The SAF is operated using an in and out vibrating handpiece with 3000 to 5000 vibrations per minute. This action has a scrubbing, sandpaper-like effect on the canal walls. The hollow design allows for constant irrigation throughout the procedure; the SAF operation resulted in root canal walls that were free of debris in all thirds of the canal in 100% of the samples. In addition, smear layer-free surfaces were observed in 100% and 80% of the coronal and middle thirds of the canal, respectively. In the apical third of the canal, smear layer-free surfaces were found in 65% of the root canals (Metzger et al., 2010b).

ENGINE-DRIVEN ROTARY TECHNIQUES

Another major change in clinical endodontics has been the change from hand-instrumentation to engine-driven or rotary instrumentation of the canal. Engine-driven stainless steel instruments have been available for years, but never gained widespread use because of instrument breakage and other problems. The superior elasticity and advanced design of NiTi instruments makes them favorable for effective and safe instrumentation of narrow and curved root canals using low torque handpieces (Mozayeni, Golshah and Kerdar 2011).

Instrument breakage remains a potential problem, but evidence here is mixed; e.g., Tzanetakis et al. (2008) found that NiTi files fractured more frequently than did stainless steel ones, while in a literature review, Parashos and Messer (2006) found the opposite. The differences may be due to “changes in instrument design, instrumentation protocols, and manufacturing methods” (Parashos and Messer (2006, p. 1031), especially as the use of NiTi in endodontics is still evolving (Gutmann and Gao, 2012; Peters and Paque, 2010). Unfortunately, there is at present no standard to test fatigue resistance of endodontic rotary instruments (Plotino et al., 2009). Regardless of the absence of such standards, instrument breakage when using a rotary-driven handpiece and Ni-Ti instruments has been shown to be experience (Fishelberg and Pawluk, 2004; Spili, Parahos and Messer, 2005) and education dependent (American Association of Endodontists, 2008) and an electric handpiece is recommended because it provides constant speed and torque. In any case, the American Association of Endodontists (2008, p. 5) has found that “current experimental and clinical evidence shows that NiTi rotaries promote improved preparation quality.” Rotary instruments may also be used to prepare canals more quickly than hand instruments, making the use of Ni-Ti rotary instruments extremely promising, *ceteris parabus*. Thus, it should not be surprising that use of Ni-Ti instruments and rotary instrumentation is well accepted (Spångberg, 2001) and has been adopted by a majority of dentists in a number of other countries, including Iran (Mozayeni, Golshah and Kerdar, 2011), Australia (Parashos and Messer, 2004), Wales (Locke, Thomas and Dummer, 2013) and Saudi Arabia (Al-Shwaimi, 2012).

ULTRASONIC AGITATION

The need to thoroughly clean and disinfect diseased pulpal systems has been well understood for well over half a century (Grossman, 1943-ILL). Although the goal is to eliminate all irritants within a diseased pulpal system, complete disinfection of the entire root canal system has not proved to be possible, as the challenge of dissolving tissue and killing or eliminating all bacteria from deep complexities that exist within the randomness that is pulpal anatomy has proven impossible (Simmons, 2011). During the instrumentation phase of endodontic treatment, various irrigants can be used to facilitate the process. The use of sonics and ultrasonics aids in the remove of pulp tissue not contacted by files in two ways: (1) cavitation, defined as the formation of thousands of tiny bubbles which rapidly implode, producing a "shock wave" removing biofilm, and (2) acoustic streaming which produces shear forces that will help extricate debris from instrumented canals (Glassman and Kratchman (2011).

The use of sonics and ultrasonics as an adjunct results in better removal of debris than hand instrumentation alone (Jensen et al., 1999; Sabins et al., 2003-ok). In a comparison of several instrumentation systems, Peters, Schonenberger and Laib (2001) found all left 35% or more of the canal's surface area untouched. Thus, the usefulness of ultrasonics lies ... in their ability to produce a relatively clean canal system when conventional instrumentation has failed to remove all debris. Ultrasonics have been shown to produce better preparations with a lower incidence of zip and elbow formations when compared with those prepared by hand and sonic instrumentation, particularly in severely curved root canals (Tang and Stock, 1989).

An important choice is whether to utilize an active versus a passive irrigation method. There is increasing evidence ... that fluid activation ... is helpful in cleaning ... all aspects of the root canal system, including into dentinal tubules, lateral canals, fins, webs, and anastomoses (Ruddle, 2008; Haapasalo et al., 2010). Today, the concern is how to most safely activate any given solution to maximize its exchange and hydrodynamic capabilities. Although no definitive "best choice" of activation technique has yet been determined, there is some evidence that passive ultrasonic activation of irrigants is more effective than active ultrasonic activation (van der Sluis et al., 2007).

MINERAL TRIOXIDE AGGREGATE

Mineral trioxide aggregate (MTA) is a mixture of a refined Portland cement and bismuth oxide, with trace amounts of SiO₂, CaO, MgO, K₂SO₄, and Na₂SO₄. MTA is biocompatible (Kang et al., 2013; McNamara et al., 2010; Torabinejad and Parirokh, 2010), and stimulates mineralization (Gomes-Filho et al., 2009-ok; Okiji and Yoshida, 2009-ok). More importantly, MTA exhibits similar (Camilleri et al., 2011) or less microleakage compared to traditional endodontic sealing materials (gutta-percha and pastes) when used as an apical restoration (<http://dental-materials.blogspot.com/2009/11/mineral-trioxide-aggregate-mta-in.html>; downloaded 7/11/13), and has been shown to release calcium ions in solution, encouraging the deposition of calcium phosphate crystals. Although additional clinical testing of this material is certainly necessary, it clearly shows much promise as an endodontic sealer.

CONCLUSIONS

The practice of endodontics is clearly undergoing a period of change. While the basic principles of cleaning, shaping and obturating canals has changed little, the technology has improved substantially in the past two decades. While far from an exact science, endodontics has improved in predictability due to better visualization capability, ability to more quickly and efficiently clean and shape the root canal system, and more biocompatible sealing of the canal itself. Although predicting future technological improvements is fraught with uncertainty, it seems reasonable to believe that endodontic treatment in the future will continue to improve as better and better diagnostic and treatment modalities become available.

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TRACK

HEALTHCARE ECONOMICS

FINANCIAL ADVANTAGES OF HOSPITALS' RELATIONSHIPS WITH ACCOUNTABLE CARE ORGANIZATIONS

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ABSTRACT

Accountable care organizations are groups of providers who agree to accept the responsibility for elevating the health status of a defined group of patients, with the goal of enabling people to take charge of their health and enroll in shared decision-making with providers. The large initial investment required (estimated at \$1.8 million) to develop an ACO implies that the participation of large health care organizations, especially hospitals and health systems, is required for success. Findings of the study suggest that ACOs based in a larger hospital organizations are more likely to meet CMS criteria for formation because of financial and structural assets of those entities

INTRODUCTION

Comparisons of health outcomes between the United States and other countries are frequently made, in both the academic literature (Davis et al., 2007), professional literature (Medical Mutual, 2013) and lay press (Romasco, 2013). Based upon these comparisons, many think that the U. S. healthcare system costs too much (Peterson and Burton, 2007) and is unsustainable (Fischer et al., 2009a; Schieber et al., 2009) due to virtually continuous increase in healthcare costs (Dove, Weaver and Lewin, 2009; Stephens and Ledlow, 2010). In 2009, the U.S. spent \$8,086 per person on healthcare, and this cost has been steadily increasing for well over 30 years (Cogan, 2011; Lamb, 1991). Cogan (2011) noted that the U.S. spends more on healthcare than any other developed country, but Americans do not have better health outcomes. Fischer et al. (2009a) have pointed out that about 50 million Americans do not have healthcare insurance, and some of those that do have insurance have coverage which is inadequate.

In keeping with these deficiencies, Berwick, Nolan and Whittington (2008) recommended that true healthcare reform in the U.S. would require three changes: improving health at the population level instead of the individual level, improving the process of healthcare delivery, and reducing the per capita cost of providing healthcare. To move toward achieving these three changes, in 2010 U.S. Congress passed the Patient Protection and Affordable Care Act (PPACA) which was designed to strengthen the American healthcare system, by expanding the primary care workforce and reorganizing the current delivery system through organizational and payment reforms (Friedberg, Hussey and Schneider, 2010).

The concept of ACOs was born at the Dartmouth Institute for Health Policy and Clinical Practice (Goldsmith, 2011) and the main idea was to implement ACOs at the beginning of 2012 with Medicare Shared Savings Program (MSSP) as an alternative approach for providers to be paid under the program, rewarding organizations for diminishing Medicare spending growth in individual hospital service areas (Fischer et al., 2007).

ACOs consist of federally certified multispecialty groups of physicians, hospitals, and other healthcare providers which have assumed responsibility for the care of a clearly defined group of Medicare patients on a fee-for-service basis (Berwick, 2011; Relman, 2011). The ACO's goals are for people to become more responsible for their health by engaging in shared decision making with providers, which will increase patient satisfaction (DeVore and Champion, 2011), and to increase quality and efficiency (Kocher and Sahni, 2010), while simultaneously reducing (or at least slowing the rate of increase of) overall Medicare costs (Shortell, Gillies and Wu, 2010).

Although many different kinds of providers have met CMS criteria for being an ACO, they have all been classified by the existing structure of the organization. Four major types, or structures, of ACOs have been defined: Independent Practice Associations (IPAs), multi-specialty group practices, Integrated Delivery Systems (IDSs), and Physician-Hospital Organizations (PHOs) have been identified as the four categories of ACOs (Shortell, Casalino and Fischer, 2010). IPAs are groups of physicians who own a practice and are able to enter into contracts with other organizations (e.g., managed care organizations). Multi-specialty group practices are similar to IPAs, but have more primary care physicians (PCPs) as their members. For example, a multi-specialty group may include PCPs, allergists, internists, dermatologists, and several other specialty practitioners. Both IPAs and multi-specialty groups allow the physician group members some leverage in contract negotiations (Shortell et al., 2009). IDSs consist of groups formed by physicians and hospitals, and provide a wide range of healthcare such as inpatient care, outpatient care, and primary care. PHOs operate much like integrated delivery systems, only the relationship is defined by the agreement between the physicians and hospital. These groups have been formed in response to the oligopsonistic environment (a market with a large number of sellers and a small number of buyers) created by the managed care organizations and other payers in the U. S. healthcare system (Bader, 2009). IPAs and multi-specialty group practices (i.e., physician groups not explicitly including one or more hospitals) may have met the criteria to be classified as an ACO, however, these organizations usually have significant difficulty finding the capital necessary to cover start-up costs, and thus they have been dependent on hospitals to pay for the construction and implementation of the ACO. Therefore, as a practical matter, a formal relationship between hospitals and physicians is required for establishment of a successful ACO.

ACOs are structured via three main principles: payment reform, performance measurement, and delivery system changes (Lee et al., 2010). The current payment method in Medicare is based on fee-for-service, where a payment is made for each instance of health care service provided. This has led to an inefficient and unsustainable system (King, 2011; Moffit and Senger, 2012). The PPACA has proposed a shared savings program for ACOs, where the ACOs would share savings or savings and losses, depending of the model contracted with CMS. Two different models have been proposed: a one-sided model where ACOs and CMS would share savings in a 50%-50% model but all the losses are absorbed by CMS and a two-sided model where both savings and losses are shared between CMS and ACOs, with a distribution of 60% for ACOs and 40% for CMS (DHHS, 2011).

The second principle of ACOs is performance measurement. Improvement of performance has included quality goals, optimizing patient satisfaction across coordinated care, and constantly elevated outcomes (DeVore and Champion, 2011). The healthcare delivery system would move from a fragmented system toward care coordination, with integrated primary care practices and specialties, reducing unnecessary specialty referrals and avoidable complications (Kocher, Emanuel and DeParle, 2010).

Finally, ACOs must make some changes in how they deliver healthcare. These changes must meet certain criteria (Merlis, 2010), including a three-year participation contract; a formal legal structure, and primary care physicians (or groups of PCPs) who are responsible for at least 5,000 patients. A list of primary care and subspecialty physicians who were enrolled for the CMS and contracted with care groups of specialty physicians outside the ACOs is also required. Fink and Hartzell (2010) included as additional criteria for building new ACO networks: a defined leadership structure for consolidated decision making

and a determined process for increased evidence-based medicine, reporting on quality, cost reduction measures, and coordinated care. According to these authors, leadership structure has the expectation of bringing accountability, transparency, and efficiency to the American healthcare system.

As of August 2012, 227 ACOs have been formed and implemented across the U.S. (Fischer et al., 2012). CMS reported it currently has 3 different ACO programs, the Medicare Shared Savings Program, with 115 organizations involved, the Pioneer ACO program, with 32 organizations, and the Advance Payment ACO, with 20 smaller organizations. Aside from these federally organized and implemented ACOs, several private provider organizations have formed ACOs as well (Fischer et al., 2012).

The purpose of this research study was to analyze the structure and financial advantages of hospital ACOs to determine if hospital-based ACOs are in a better position to meet CMS criteria in generating better quality of care and reduced costs than smaller ACO organizations.

METHODOLOGY

The methodology for this qualitative study was a literature research and review of case studies. The electronic databases of PubMed, Academic Search Premier, and ProQuest were search for the term “Hospital ACOs” and “Structure” or “Financial Advantage”. Reputable websites of the American Medical Association and the American Hospital Association were also mined. Citations and abstracts identified by the search were also assessed in order to identify relevant articles. A total of 51 sources were reviewed and 33 selected for this research, 11 of which were utilized in the results. The search strategy was limited to sources published within the last 10 years in the English language. The literature search was conducted by RC, TC, and SD and validated by AC for this research project. Subsequently, all sources were again checked by DP, who cross-referenced and updated the references.

RESULTS

The participants of ACO have been hospitals, critical access hospitals, specialists, and other providers, since these organizations have met the criteria imposed by CMS (Longworth, 2011). This author has mentioned that small organizations would have been less likely to generate all basic levels of care for their enrollees than larger ones because of the criteria constraints; specifically, hospitals would have had advantages in meeting the CMS criteria to become an ACO. Requirements such as written performance standards for quality efficiency, evidence-based guidelines, tools to collect, evaluate, and share data to influence decision-making at the point of care, and description of how shared savings will be used to further improve care could have been limitations for a small organization that didn’t have background on these demands (Longworth, 2011; Shields et al., 2011). In addition, Fischer et al. (2009b) have stated that hospitals would be more likely to control the ACO’s contracting process for two reasons: (1) the generally avoidable Medicare costs were hospital-based; and (2) in several communities, hospitals were the main organized care delivery entity able to perform or execute the model.

The costs with investment in the first-year of operation as ACO have differed depending on the size of the healthcare organization. CMS has estimated that startup and first year costs for an ACO would be about \$1.8 million (Branin et al., 2011; Roach, 2011), with annual savings for the first 3 years of operation to be \$470 million (ACP, 2011), but other estimates of ACO startup costs (Moore and Coddington, 2011) range between \$5.3 million and \$12 million, depending on ACO size, with ongoing annual expenses between \$6.3 million and \$14.1 million. The disparity between the expected initial financial investment and ongoing annual costs associated with establishment of an ACO would certainly impact organizations’ assessment of business risk for an ACO.

Regardless of the type of organization that adopts the ACO model, Gabbay et al., (2011) have mentioned that IDS models and care coordination have presented increased cost-savings while improving quality of care. The authors have found cost-savings in the patient-centered medical homes model when hospital admissions and visits to the emergency department were reduced. Some research has shown relevant cost-savings: in 2010, the Group Health Cooperative of Puget Sound reduced total costs by \$10 per member per month (from \$498 to \$488), with a 16% decrease in hospital admissions and a 29% reduction in emergency departments visits (Bodenheimer, 2011). Another case examined by this scholar was the 2011 Blue Cross Blue Shield of South Carolina implementation of ACOs: the patient-centered medical group had a 36% decrease in length of stay, 12.4% fewer emergency department visits, and 6.5% decrease in total medical and pharmacy expenses. Bodenheimer (2011) also reported that Johns Hopkins Guided Care program showed 24% decrease in hospital length of stay, 15% less emergency department visits, and 37% fewer days in a skilled nursing facility (See Table 1).

--- insert Table 1 about here ---

The formation and implementation of ACO's is relatively new, however, studies have examined both financial and patient outcomes (Bodenheimer, 2011; Milford and Ferris, 2012). Such studies have had varied outcomes in measuring financial and health benefits to the implementation of ACOs, as well as measurements of the benefits in relation to the size and structure of the ACO. In general, larger, hospital based IDSs or physician hospital organizations have had better outcomes compared to smaller independent practice associations or even multispecialty group practices (Ballard, 2012).

Blue Cross Blue Shield of Massachusetts implemented a payment system paralleling an ACO payment organization in 2009, identified as an alternative quality contract, in which integrated delivery systems were measured for performance and financial benefit. While all healthcare costs rose over a three year time period, the participants of the payment system had a smaller rise in costs, around \$53 versus a raise of \$69 for nonparticipants (Song et al., 2011).

Similarly, Partners HealthCare in Boston has shown positive results of the formation and implementation of ACO's. This system includes Massachusetts General Hospital, Brigham and Women's Hospital and over 6000 physicians organized into an integrated delivery system. A study of the outcomes of this organization has shown, as of 2009, significant savings, as well as an increase in positive outcomes. A savings of 7% was identified, as well as a 4% decrease in mortality rates, and a 20% drop in admissions to the hospitals (Milford and Ferris, 2012).

An examination of the performance of Genesys Physician Hospital Organization in Flint, Michigan and Austin, Texas-based Seton Health Alliance, both physician-hospital based organizations, projected positive outcomes for both systems with the implementation of ACO organization. In 2009, both organizations met criteria to form ACOs and could be expected to achieve improved health outcomes, decreasing costs, and improvement of patient satisfaction as identified by this prospective study (Anderson et al., 2012).

Cigna Health, based in Connecticut, has implemented ACOs in several states, including Arizona, New Hampshire, and Texas. These ACOs, in addition to meeting all criteria for ACO implementation, also have begun utilizing registered nurses as care coordinators in an effort to improve patient outcomes and control costs (Salmon et al., 2012). A recent examination of these ACOs revealed positive results of the implementation and utilization of the larger organization ACO. The Arizona based ACO had total costs that were 27.04 less than the per member per month national average, the New Hampshire organization had per member per month costs that were 1.78 less than projected, and the Texas ACO per member per month costs were 6.56 less than projected (Salmon et al., 2012).

DISCUSSION

The formation and implementation of ACOs has the ability to affect significant changes in the U.S. healthcare system. Presumably, the changes will be positive, such as decreasing the growing financial burden of providing healthcare and increasing positive outcomes for patients. An ACO that is based in a larger hospital organization is more readily able to meet CMS requirements for formation due to the financial and organizational assets of those entities.

While larger ACOs have the ability to meet the requirements to form and provide services, some barriers to ACO formation have been identified. Tallia and Howard (2012) examined the Robert Wood Johnson Medical School at the University of Medicine and Dentistry in New Jersey and identified four significant barriers to ACO formation and implementation. Providers involved in the ACO experienced difficulty in collaborating and cooperating to achieve ACO status, initial financing to form the ACO was difficult to gain, federal antitrust laws prevented the participation of some providers, and, as ACOs are somewhat reminiscent of the health maintenance organizations of the 1990's, many providers were doubtful about the positive effects of ACO formation and implementation, thus the providers did not want to participate (Tallia and Howard, 2012).

The practical implications of this research are that, with the advent of new healthcare policies and legislation, providers will be held more accountable for patient outcomes and providing preventive healthcare. Forming ACOs is one way providers will be able to work together to meet the needs of patients, while meeting state and federal standards for financial and clinical performance. Providers need to be motivated and willing to work together to form and utilize ACOs in an effort to meet CMS standards. Further, concerns about ACOs repeating earlier health maintenance organization failures can be mitigated by ensuring providers meet not only structural and financial standards, but the more stringent quality standards for ACO formation. Hospital-based organizations may have structural and financial advantages in meeting CMS criteria for ACO formation.

This study has some limitations. ACOs are a new way to organize providers and to reach a patient population, as well as bill for services. Current research is limited to the small number of providers that have been able to actually organize into ACOs and begin utilizing the structure for providing care, and the even more limited data available regarding the success (or lack thereof) of these early ACOs. The study was also limited to an examination of the size of the ACOs and the effect it has on financial outcomes, while other variables, such as the age of the ACO or the commitment of the providers to the ACO may have an effect on the financial viability of the organization. Finally, researchers' and publication bias cannot be ruled out.

CONCLUSION

The findings of the current study suggest that ACOs based in a larger hospital organizations are more likely to meet CMS criteria for formation because of financial and structural assets of those entities. In addition, ACOs could provide more coordination and preventive services, which in turn, could contribute to a decrease in healthcare spending.

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Table 1: Financial and Patient Outcomes of Accountable Care Organization Utilization and Implementation

Author	Location	Type of ACO	Financial Outcomes	Patient Outcomes
Milford and Ferris, 2012	Boston, Massachusetts	Integrated Delivery System	7% savings with the implementation of ACO	20% decrease in inpatient admissions, 4% decrease in mortality
Salmon et al., 2012	Arizona, New Hampshire, and Texas	Integrated Delivery System, Physician-hospital Organization	Per member per month costs were \$27.04 less than the national average, \$1.78 and \$6.56 less than projected	Not assessed
Song et al., 2011	Massachusetts	Integrated Delivery System	Participants had a \$53 raise in costs, nonparticipants had a \$69 raise in costs	Not assessed
Bodenheimer, 2011	Puget Sound, Boston, and South Caroling	Integrated Delivery Systems and Physician-hospital Organizations	Decreased costs by \$10 per member per month, and decreased medical costs by 6.5%	Decreased ER visits by 12.4%-29%, decreased LOS by 24%-36%, decreased admissions by 16%
Correia, 2011	Throughout the United States	Physician Hospital Organization versus smaller ACOs	Larger organizations could lose \$500 per beneficiary, smaller ones could lose \$1000	Not assessed

FRUGAL INNOVATIONS IN HEALTHCARE: WHAT THE BOTTOM-OF-THE-PYRAMID CAN TEACH THE WORLD

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ABSTRACT

Sustainable healthcare innovations for Bottom-of-the-pyramid (BOP) refers to the concept of the ability of economically disadvantaged people to trigger frugal, creative and 'recombinable' innovations that can stimulate creation of new healthcare technologies, products, and processes (Gupta, 2012). Two views emerge in literature regarding the potential of BOP consumer segments in providing a viable economic unit for healthcare innovation. Indeed Gupta (2006) proposes a model that is about 'sink' to 'source' when looking at BOP segments. He notes however, that the economically disadvantaged people are not 'sink'. In this paper, the economically disadvantaged people are viewed as having the potential to provide healthcare solutions. They provide models of extreme affordability and often user friendliness. The BOP healthcare segments include groups within low income categories, and, when considering the global aspect of business, segments of consumers with little access to the healthcare market and low economic development (Prahalad and Hammond, 2002; Prahalad and Hart, 2002; Pitta et al., 2008; Subrahmanyam and Gomez-Arias, 2008). It is important to note that the BOP consumer segments are not static. Because of economic developments there are changes that cause movements within and out of the group.

Globally, BOP healthcare segments cannot be ignored. The success of healthcare for all could be influenced by the decision of focusing not only on the high-income market, which is not significantly large globally, but also on lower income segments (Prahalad and Hammond (2002), Prahalad and Hart (2002)). Prahalad (2005) goes further by suggesting that such strategies would result in profits for global companies while simultaneously reducing poverty. He outlines a plan for how private enterprise, government, non-governmental organizations and the poor can work collaboratively toward economic development and social transformation in the healthcare field. He concludes that "a 10 to 200 times advantage (compared to the cost structures that are oriented to the top of the pyramid markets) is possible if firms innovate from the BOP up".

The significant aspect of BOP is its bottom-up approach. There is lack of literature that has attempted to deal with the missing part of healthcare issues. The BOP environment presents an opportunity to test sustainable healthcare technologies, leapfrogging the obstacles that established technology might present in developed countries. Once tested and validated those experiments would be ready to invade Western markets with a disruptive effect (Christensen et al., 2001). Another important aspect of the bottom-up approach is frugality. Innovation originated by users or common people to address very practical healthcare problems of daily life is usually known as grassroots or frugal innovation. This phenomenon is present in low income countries but it has also diffused in industrialized countries (Hargreaves et al., 2011). Different countries have different approaches. In India, for instance, frugal innovations are embodied by the Hindi word "Juggad". Juggad colloquially means a creative idea or a quick workaround to get through commercial, logistic or law issues (Radjou et al., 2012). Similar terms are used in other countries like gambiarra in Brazil, zizhu chuangxin in China, jua kali in Africa, DIY in the US and UK and solution D in France. These share some very basic features (Tiwari & Herstatt, 2011): They must be i) robust to deal with infrastructure shortcomings (such as electrical voltage fluctuation); ii) fault resistant to cope with unsophisticated or even illiterate users; iii) affordable for larger sections of the society.

The paper describes 20 case studies of frugal innovations in the healthcare sector – addressing healthcare service providers, pharmaceutical companies, health technology developers, device manufacturers, public health services and government. Implications for adoption of these frugal innovations in the developed country contexts are discussed.

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THE HUMAN TOUCH: A PHENOMENOLOGICAL STUDY OF SPIRITUAL CARE WORKERS IN THE HOSPITAL SETTING

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THE HUMAN TOUCH: A PHENOMENOLOGICAL STUDY OF SPIRITUAL CARE WORKERS IN THE HOSPITAL SETTING

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ABSTRACT

Spiritual care providers have long been part of the patient care team in the acute care hospital setting,

though opinions about their value to patient care vary. Under the laws which set Medicare reimbursements to medical facilities for services provided (Van de Water, 2010; Guterman, Zezza, & Schoen, 2013), reimbursements have declined while costs have risen. As hospitals cut costs to adjust for declining reimbursements, nonessential services are at risk for reduction (Rolfes, 2013). Given this, there is a need to document the value of chaplaincy work in the acute care hospital setting to support hospitals continuing to offer spiritual care services.

OVERVIEW OF STUDIES AND DEFICIENCIES IN PAST STUDIES

Research on chaplain effectiveness generally falls within two categories: patient satisfaction studies and outcome studies of specific chaplain-patient interactions (Gleason, 2012). Gleason (2013) states that the best assessor of spiritual care value is the patient (Gleason, personal communication, 6 April 2013), yet patient surveys after care frequently share the issue of being nonspecific as to what exactly provided the satisfaction: was it a direct result of spiritual care intervention, or might similar emotional support from another source have provided the same level of satisfaction (Richardson, Owens-Pike, & Bauck, 2011)?

Ethical considerations also exist around data collection. Patients and their families are by definition in a vulnerable state at the time they use hospital chaplain services. Data collection is difficult without intruding upon them at a time when their resources are needed for healing and recovery, or obtaining information after they have left the hospital.

One outcome-related approach has been to measure spiritual care efficacy from other members of the patient care team, specifically their impression of the value of spiritual care to patient treatment. Cadge, Calle, and Dillinger (2011) compared how pediatricians and chaplains working together at the same medical center viewed the work of a chaplain. This method, while not capturing the opinions of the customer (patients and their families), avoids the risks of the methods mentioned above.

Significance of study

The study of the value of spiritual care can add critical information to the health care equation and patient experience. Hospitals are more likely to allocate funding to continue to support their spiritual care staff if knowledge is generated to support the continuance of spiritual care. A study focused on spiritual care is of interest to health care administrators and practitioners seeking to provide the best medical care possible with limited budgets, and to spiritual care professionals as it measures effectiveness by querying a skilled and discriminating pool of informants (medical professionals working full time in the acute care setting).

Purpose statement

Due to these gaps in understanding, the purpose of this qualitative study is to collect perceptions from hospitalists, internists and acute care nurses of the value of the patient care provided by professional chaplains in the hospital setting. The research question to be addressed is: how do hospital spiritual care providers add value to the patient experience? Specifically, this study will look at how chaplains help patients with healing, decision-making, emotional well-being, and comfort.

LITERATURE REVIEW

Defining chaplaincy roles

Chaplaincy varies in definition, role, and responsibility between patients and other health care providers and among health care delivery systems (Cadge, Calle, & Dillinger, 2011; Piderman, Marek, Jenkins, Johnson, Buryska, & Mueller, 2008). In the US and Canada, hospital chaplains are required to be certified by one of five certifying agencies which have common requirements that include: (a) a graduate theological education, (b) endorsement in a particular faith tradition; (c) clinical pastoral education equivalent to a year of post-graduate education, and (d) demonstrated clinical competencies (Sakurai, 2003). Chaplains define their role as aiming to “offer a sense of God’s attentiveness and compassion in the midst of suffering and struggle” (Piderman et al., 2008, p. 58). Chaplains see a primary function as responding to crisis (Sakurai, 2003). Chaplains value the attention they can pay to healing and the spiritual and emotional support they provide, and speak of healing in the healthcare setting as an outgrowth of relationships (Cadge, Calle, & Dillinger, 2011).

From a patient perspective, a Mayo Clinic study asked hospital patients to rate the importance of listed reasons for requesting a chaplain visit. The top rated reason was “to be reminded of God’s care and presence” (Piderman et al., 2008, p. 61). Patients value their chaplains’ listening skills, their presence in times of anxiety, and the care they provide to the patients’ families (Piderman et al., 2008, p. 64).

From the physician perspective, a 2011 study compared how pediatricians and chaplains working together at the same medical center viewed the work of a chaplain (Cadge, Calle, & Dillinger, 2011). Chaplains had a broader view of their place in patient care, providing perspectives of “wholeness, presence, and healing” (p. 302) for the families. The study also found some pediatricians saw the chaplains as part of the interdisciplinary team and as providing support to patients and families, especially around deaths. Some pediatric oncologists in the study viewed chaplains similarly to social workers, as an additional resource on whom to call rather than as integral to the care team. Some physicians expressed concerns about accommodation of the wide variety of faiths represented among patients and their families and the need for complementary and alternative medicine (Cadge et al., 2011).

Changing roles

The Joint Commission has changed its recommendations regarding provision of religious and spiritual care to hospital patients (Cadge, Freese, & Christakis, 2008). Prior to 1997, health care facilities were not at risk for citations for the lack or quality of pastoral care. The Joint Commission has added recommendations that each patient have, at the very least, a spiritual assessment that looks at how his or her spirituality may affect the care received (Sakurai, 2003). The content of this spiritual assessment is not specified, though the Joint Commission offers a list of potential survey areas (Joint Commission, 2008).

Chaplains’ work around the process of dying and grief continues to develop as they add the rituals of various faith traditions, create formal bereavement programs, and serve as spiritual figures who provide the transition of the loved one from life to death (Cadge et al., 2011; Barletta & Witteveen, 2007).

The role of a chaplain has expanded from providing prayer and faith rituals, to support of the whole patient and the family (Sakurai, 2003). Mulder and Carey in 1999 (as cited in Barletta & Witteveen, 2007) listed seven key roles of spiritual care providers: 1) a quiet attentive presence and a listening ear, 2) bedside visitation, 3) counseling for issues associated with bereavement, personal crisis, grief, and loss, 4) organization of funerals, 5) prayer, 6) sacraments and rituals, and 7) encouragement and support of patients by respecting their dignity and bringing peace and hope.

Researchers from the Department of Sociology at Brandeis University studied whether the Joint Commission's recommendations have had measurable effect on how hospital systems provide spiritual care up through 2008 (Cadge, Freese, & Christakis, 2008). Smaller hospitals and rural area hospitals were less likely to offer spiritual care than were urban hospitals (Cadge et al., 2008). The study authors suggest this could be attributed to the presumed availability of local religious leaders, combined with lack of resources to fund and operate a spiritual care department. Sakurai (2003), a Catholic chaplain, states replacement of hospital chaplain services with local clergy visits is ineffective, as "the chaplain's role is radically different from that of community clergy" (p. 28). Hospital chaplains are trained first to investigate each patient's belief system and honor what has meaning for the patient (Sakurai, 2003). Differences between the duties of a chaplain and of community clergy are also defined by the Health Insurance Portability and Accountability Act's instructions regarding patient privacy (Health Insurance Portability and Accountability Act, 1996). Community clergy may be welcome guests in the health care setting, but because they are not on staff, their access to patient information is limited, while hospital chaplains, as members of staff, have more extensive access (Sakurai, 2003).

Next Steps: professionalism as source of value perception

Chaplains face heavier workloads as the number of chaplains employed by US hospitals decreases, with a chaplain-to-patient ratio estimated at 1.8 to 2.6 full-time-equivalent chaplains per 100 patients, the higher number being found in religiously affiliated hospitals (Piderman et al., 2008). To continue to grow the role of the chaplain, in order to meet changing needs and changing budgets, the Standards of Practice Acute Care Work Group of the Association of Professional Chaplains, Association for Clinical Pastoral Education and National Association of Catholic Chaplains released the second draft of its Consensus Document for Standards of Practice for Professional Chaplains in Acute Care (2009). This document is considered to be under constant review as needs and conditions in the industry change (Standards of Practice Acute Care Work Group, 2009).

Spiritual care professionals lack hard evidence of the effectiveness of their patient care and the benefit they provide to health care systems (Gleason, 2012). Hennepin County Medical Center, located in Minneapolis, Minnesota, sought ways to "work with a management paradigm that demands tangible proof that any service offered provides measurable benefits" (Richardson, Owens-Pike, & Bauck, 2011, p. 22). Utilizing a process improvement tool called Plan-Do-Study-Act, or PDSA (Institute for Healthcare Improvement, 2012), chaplains at Hennepin County Medical Center invited patients and families to report on what they found valuable about spiritual care. The study involved contacting family members of hospitalized patients and interviewing them about their experiences. This approach demonstrated to hospital administration that spiritual care was contributing to the system's improved patient satisfaction scores, leading to increased budgeting for grief support hours and improved alignment of the chaplains with organizational mission, vision, and values (Richardson et al., 2011, p. 26).

Flannelly, Weaver, and Handzo (2003) looked at the source of oncology patient referrals to chaplain care at Memorial Sloan-Kettering Cancer Center in New York City. This study found that nurses produced the highest percentage of referrals, theorizing that nurses may be more religious themselves and citing also the formal orientation of nurses to pastoral care. A 10-year comparison of chaplaincy in the New York City area studied the time chaplains spent with patients and with their families (Vanderwerker, Handzo, Fogg, & Overvold, 2008), and found a correlation between increased referrals to chaplain care and shortened hospital stay lengths. These two studies are rich sources of data about referrals which may be useful in recommending changes that will increase effective use of chaplain services.

As determined through literature, the position of the hospital chaplain is defined from the perspective of licensure and in the perceptions of other health caregivers, patients and their families, and chaplains themselves. The role of the hospital chaplain has changed over past decades and continues to

change as financial pressures require every member of the health care team to add to the value equation. The part chaplains play in patient healing and experience, however, is still not clearly defined and understood.

METHODS

The aim of this study will be to solicit opinions from the hospital care team most responsible for the patient's care of how spiritual care adds to patient care experience in the hospital setting. This qualitative, phenomenological study will collect impressions and opinions from respected experts in patient care to explore how spiritual care workers add value to the patient experience. For the purposes of this study, "spiritual care worker" and "chaplain" are used interchangeably as denoting professional members of hospital staff whose primary job role is provision of spiritual care and support.

Sample

The population of interest in this study is the medical doctors and nurses who provide the acute care of patients in inpatient settings where full-time chaplains also work. Two hospitals were selected using data collected by the WHA Information Center, LLC (2012), both of which met two criteria: size in number of staffed beds and presence of full-time spiritual care staff. Medium to large hospitals are more likely to staff with full-time spiritual care workers than are small or critical-access hospitals (Cadge, Freese & Christakos, 2008; WHA Information Center, LLC, 2012).

The sample consists of hospitalists/internists and critical care nurses from from the respective parties. Responses will be sought from at least four providers from each facility each of the selected hospitals. Organizational approval will be obtained.

Data Collection

Data will be collected by the use of an interview conducted by telephone or in person, recorded for transcription and analysis. Each potential participant will be emailed with an explanation of the study and invited to be interviewed at a convenient time and venue.

Interview questions are adapted from tools developed by Wendy Cadge for her 2011 studies (Cadge et al., 2011). These are semi-structured interviews conducted face to face. Cadge's study subjects were pediatricians, pediatric oncologists and spiritual care providers in pediatric hospitals. Her questions have been revised to include medical professionals in general acute care hospitals caring for patients of all ages.

Interviews may take as little as 45 minutes to complete or as long as the respondent desires, but each respondent will be asked to set aside 45-60 minutes for the interview.

Data analysis

All personally and institutionally identifying data about the respondents will be replaced with coded identifiers during analysis, to protect confidentiality. Responses will be analyzed for codes and themes related to the results medical providers have observed from the intervention of spiritual care providers in the care of patients and their families.

Anticipated Ethical Issues

This study avoids the ethical issue of intrusion upon patient privacy by surveying providers rather than patients and their families. Other ethical issues that may be of concern are possible breach of patient confidentiality. Should this occur, the respondent in question will be notified of the breach and the response will be edited to redact protected health information and replace it with anonymous language. Finally, participants risk being identified by their respective employers. This will be avoided by not identifying the hospitals queried in the study other than describing size and general location (“mid-sized acute care hospitals located in the State of Wisconsin”) and by maintaining the anonymity of the participants.

CONCLUSION

If chaplaincy and spiritual care add significant value to the patient experience, they are worth funding. This study seeks to explore the benefits of spiritual care on the patient experience in efforts to help provide evidence that this service is of value. To date little research has been done exploring the perceptions of medical personnel in regards to spiritual care workers and how their efforts impact patient experiences, healing, and attitudes.

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COMMUNITY HOSPITALS vs. PHYSICIAN OWNED HOSPITALS or HOW TO EXCISE ENTREPRENEURIAL DOCTORS FROM THE MEDICARE PAYMENT PRESCRIPTION

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COMMUNITY HOSPITALS vs. PHAYSICIAN OWNED HOSPITALS or HOW TO EXCISE ENTREPRENEURIAL DOCTORS

FROM THE MEDICARE PAYMENT PRESCRIPTION

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ABSTRACT

This paper examines – through the lenses of Punctuated Equilibrium Theory, Advocacy Coalition Framework and Multiple Streams Theory – action leading up to the closure of the Stark Law loophole through the ultimate passage of the Patient Protection and Affordable Care Act in 2010. It will describe, according to theory, how the dynamics of policy change were propelled by forces both inside and outside of healthcare to halt the “triple dip” by entrepreneurial doctors.

INTRODUCTION

In America the healthcare industry presents a centuries-long, complex mesh of competition, government intervention and support, scientific breakthroughs, and measures designed to insure against the costs of illness. During the last 100 years, physicians' roles and status changed, adding to the cost and availability of healthcare for citizens. Eventually the notion of insurance against the financial implications of illness began to take hold; U.S. efforts to achieve “universal coverage” or government-sponsored social health plans began with Theodore Roosevelt, but were opposed by the powerful American Medical Association (AMA). By the 1950s, national healthcare expenditures were 4.5 percent of the gross national product (www.pbs.org/healthcarecrisis/history.htm) and “the medical profession had emerged as the dominant actor within American medicine, and its formidable lobbying organization had become the most feared pressure group in U.S. politics” (Hacker, 1998, p. 117). Throughout this explosive 20th Century growth, community hospitals remained “central, civic, almost sacred institutions with long and honorable traditions” (Scott, Ruef, Mendel & Caronna, 2000, p. 1). In the 1960s, President Lyndon Johnson signed Medicare and Medicaid into law. These federal and federal-state social health programs covered families and individuals with low income, few resources and advancing age (Patel and Rushefsky, 2006, p. 123). The 1970s brought hospital integration, ending the era of hospitals as decentralized structures, and heralding a shift toward privatization and corporatization of healthcare. Under Ronald Reagan's presidency, Medicare shifted to payment by diagnosis (DRG) rather than by treatment. Some have claimed DRGs “created a clear misalignment between the incentives facing hospitals and those facing physicians” (Wilensky, Wolter & Fischer, 2006, p. 1). President Bill Clinton sought to reorganize healthcare with a 1993 presentation to Congress of a “mammoth plan for reforming the American health care system” (Rudalevige, 2002, p. 8). Throughout time and policy changes, it remained incumbent on physicians to admit patients to hospitals; that power structure did not change and reinforced the importance of the physician in any medical arrangement. Physicians are, simply put, gatekeepers to healthcare services. According to Hacker, “Of all the groups mentioned in health policy analysis, the medical profession looms largest. Unlike most social programs, government health insurance involves the purchase of services from a clearly defined and often extremely powerful profession” (1998, p. 65). In short, healthcare in the United States has endured constant change “characterized by tensions among market-driven, entrepreneurial forces, bureaucratic and administrative regulations, and social/ethical concerns over how best to deliver high-quality and cost-efficient medical services to all citizens” (Perry, 2010, p. 24).

Background on Stark Laws and related conflict

Congress passed the first portion of the so-called Stark Laws (Omnibus Budget Reconciliation Act of 1989), which prohibited physician referrals of designated health services (DHS) for Medicare and Medicaid beneficiaries if the physician or an immediate family member had a financial relationship with that entity (42 U.S.C. 1395nn). A financial relationship includes ownership, investment interest, and compensation arrangements (42 U.S.C. 1395nn[h][5]) and covers pharmacies, labs, imaging centers and “whole” hospitals. Penalties include denial of DHS or Medicare payments and financial penalties of \$15,000 per violation. Stark Laws are lodged in the Social Security Act and declare physician self referrals conflicts of interest, based on the notion that such arrangements can lead to overutilization of services, driving up costs and limiting competition. At the same time Stark Laws went into effect in the 1990s, healthcare costs rose at double the rate of inflation. “Managed care,” or the arrangement for health care in which an organization – such as an HMO, another type of doctor-hospital network, or an insurance company – acts as an intermediary between the person seeking care and the physician, was introduced and expanded to moderate healthcare cost increases (American Heritage Dictionary). By 1995, certain physicians who wished to enhance their incomes had discovered a loophole in the Stark Act. That loophole allowed physicians to establish specialty hospitals, which were not technically “whole hospitals” and which allowed physicians to refer their patients to their own facilities, setting up what has been dubbed “The Triple Dip” (Kahn, 2006, p. 131) or the entitlement to professional fees, facility fees and dividends paid from hospital investments through the treatment of one patient. The triple dip practice alarmed community hospitals from both financial and patient safety perspectives. Physicians generate their income from the Medicare program by providing professional services to their patients, often referred to as professional fees. Community hospitals, on the other hand, derive their income from the Medicare Program through provision of technical services, often referred to as technical components. These dangers were outlined in several Government Accounting Office reports, scholarly research reports, Senate hearings and roundtable discussions, and media accounts (GAO/HEHS-94-129R, 1994; GAO, 2004; GAO/HRD-93-124; GAO-04-167; www.finance.senate.gov; Inglehart, 2005; Mitchell, 2005).

Kelby Krabbenhoft, CEO of Sanford Health (formerly Sioux Valley Hospital) in Sioux Falls, South Dakota, organized and led a community hospital coalition from 1997 through the 2010 passage of the Patient Protection and Affordable Care Act against that external threat: doctors who were building their own specialty hospitals and referring their patients to their facilities in order to secure a larger share of the healthcare dollar. Thus began a face-off between coalitions of specialty and community hospitals, or a process labeled “intercurrence, disharmony and complexity” (Sanders, 2008, p. 50).

RESEARCH QUESTION

How was collective action taken by community hospitals against self-referring physician-owned hospitals ultimately effective in closing a loophole in federal laws affecting Medicaid and Medicare? This paper examines – through the lenses of punctuated equilibrium theory, advocacy coalition framework and multiple streams theory – action leading up to the loophole closure through the passage of the Patient Protection and Affordable Care Act in 2010. It will describe, according to theory, how the dynamics of policy change were propelled by forces both inside and outside of healthcare. These three theories were chosen because each “posits the individual as the motivator of action” as well as unit of analysis (Schlager, 1999, p. 234), utilizes rational choice models, considers types of actors, develops general variables and relationships among them, and identifies the scope of the conflict and outcome.

PUNCTUATED EQUILIBRIUM THEORY (PE)

Punctuated equilibrium points to periods of stability that are interrupted by large-scale policy

changes sparked by crises that engage new and expanded audiences (Baumgartner & Jones, 2009, p. 25). The theory points to Institutions and organizations embedded in broad social and political environments, operating within limits induced by what Simon has termed “bounded rationality” (1972, p. 163). These environments and limits help explain political stability more often than particular institutional arrangements. Policy stability is a function of two forces: friction in the rules of the game that make action difficult, and bounded rationality among political actors. Policy evolution is disjointed and episodic. Large-scale policy changes can be associated with electoral changes or with subsystem-based dynamics, or with a sense of urgency that overwhelms politics and causes actors to unite and act in concert to solve a problem that has become salient (Baumgartner & Jones, p. 125). How issues are portrayed and which institutions have jurisdiction is important in understanding how policy agendas are set. Definition of issues is central to political processes in disequilibrium. Baumgartner and Jones focus on explaining how temporary equilibria, positive feedback effects and potential for rapid change are effected through punctuating events. When a system is subject to positive feedback, small disturbances are amplified, causing major disruptions across time. These are sometimes called bandwagons, escalations or issue expansions (p. 16).

Policy images are communicated differently by supporters and opponents. Baumgartner and Jones contend “key social actors,” including the media and policy entrepreneurs, set the tone of policy images and changes in this tone indicate “patterns of mobilization” (p. 26). Problems will only attract the attention of government officials if there is an image connecting the problem with a governmental solution. Problems and solutions, new and enlarged dimensions of conflict, policy venues and interactions all contribute to a self-reinforcing system that is characterized by what Baumgartner and Jones term “positive feedback” (Baumgartner & Jones, p. 37; Schattschneider, 1960, p. 27). Thus, variables in PE theory include policy images, social conditions and public problems/solutions, new dimensions of conflict, policy venues and interactions. Actors, or agents, are defined as those who “act as carriers of their institutional context who reproduce and help perpetuate logics” such as the provision of charitable, not-for-profit healthcare service to the community (Scott et al., 2000, p. 36). Actors in the policy subsystem may include policy entrepreneurs, media, interest groups, Congress, the President, the Supreme Court, and bureaucrats. Consideration of actors necessarily includes the positions they hold, the actions they take, the information they possess, outcomes achieved and distribution of costs and benefits of outcomes (Schlager, p. 235). Because PE focuses on agenda setting (dependent variable) by a “selective attender,” independent variables include “interest group activity, mass mobilizations, media images, and so forth” (Schlager, p. 254). PE theory examines the build-up of collective action, but through the consequences of changes in policy images, institutional arrangements and venues.

Entrepreneurial physicians introduced a new dimension of conflict with their decision to benefit from the Stark Law loophole in the late 1990s. Building their own hospitals clashed with the federal government’s edict that doctors ought not be able to collect fees twice or thrice from the same patient and served as a crisis – or what Pierson describes as an “exogenous shock” (2000, p. 266) and Capoccia & Kelemen (2007, p. 341) term a “critical juncture” – that mobilized community-based hospitals determined to close the loophole. In this case, it is the physicians who moved into the loophole’s void to build their own specialty hospitals that constituted the critical juncture. The critical juncture ended in 2003 when Sioux Valley’s (now Sanford Health) coalition mobilized criticism in the policy subsystem to close the loophole. Thus began the process that led to the loophole’s closure through the passage of Obama Care in 2010 (Baumgartner & Jones, p. 257).

When examining the question of whether an event or series of events constitutes a punctuation, the examiner must lodge the inquiry in a unit of analysis (Yin, 1994, p. 21). The unit of analysis is policy entrepreneur Sen. Charles Grassley, chair of the Senate Committee on Finance. The environmental stimulus was Congressional action, especially the Senate’s Committee on Finance, in leading the issuance a moratorium, soliciting testimony and passing legislation ultimately signed by President Obama as the Patient Protection and Affordable Care Act. Other variables included actors in the policy subsystem such as Kelby Krabbenhoft, CEO of Sanford Health and the Coalition of Full Service Hospitals (180 community hospitals in 17 states), media, opposing interest groups (physician owners, vocal particularly through the

Physician Hospitals of America (PHA), Medical Facilities Corporation, American Surgical Hospitals Association, Renaissance Hospitals, Baylor Hospitals and factions within the AMA), Congress, and bureaucracy (Centers for Medicare and Medicaid Services, Government Accountability Office). Accounts from periodicals such as the Wall Street Journal, New England Journal of Medicine and USA Today, spelled out the financial gains enjoyed by entrepreneurial physicians and helped to set, enlarge and promote the venue and agenda, as did a series of Senate hearings, roundtables and conferences. The selective attenders in this case were Sen. Charles Grassley (R-IA) and Sen. Max Baucus (D-MT), who led Congressional efforts to place a moratorium on building new physician hospitals as well as include loophole closure language in the 2010 Patient Protection and Affordable Care Act.

ADOVCACY COALITION FRAMEWORK (ACF)

As does the punctuated equilibrium theory, the ACF uses the individual unit of analysis and focuses attention on groups of like-minded individuals and groups. Policy subsystems can be considered opposing advocacy coalitions, or coalitions comprised of industry, Congress, and other allies that oppose the stances of another coalition (Sabatier, 1983). Each policy subsystem corrals resources and seeks opportunities presented by the societal cleavages, consensus necessary for policy change and openness to change in the political system. The ACF, as it was first proposed, addressed these matters:

- The role of technical information in setting out the problem, causes and impacts of solutions;
- The time required (usually a decade or more) to understand appropriate research and strategy;
- The iron triangle, which is broadened to include journalists, researchers and analysts as well as actors (such as brokers or mediators) at all levels; and
- A solution nested within policies and programs that can be conceptualized as belief systems.

Coalitions are formed to pursue “policy core preferences” (Sabatier & Jenkins-Smith, 1999, p. 133). The ACF expands the view of dynamic coalition members to not just interest group leaders and legislators, but also actors such as agency officials, researchers and journalists (p. 127). Bounded rationality fits ACF, too, as the theory considers actors to have limited ability to process information, weigh losses more heavily than gains, and gain perspective through “pre-existing normative and perceptual beliefs” (p. 131). Dynamic exogenous factors such as changes in public opinion, government action or social/economic trends can spur coalition formation and collective action. Once formed, coalitions coordinate interaction and share information in order to develop a shared perspective, cost-sharing agreement and lobbying strategy (Sabatier & Jenkins-Smith, p. 139). Because most policy subsystems contain at least two politically viable coalitions with differing viewpoints about policies and policy change, there is normally a mediator or policy broker involved who seeks to minimize conflict (Sabatier & Jenkins-Smith, p. 150). In many cases, it is the demonstrated impact of a policy that leads to conflict, and subsequent research that seeks a suitable solution, often through “venue shopping” (Baumgartner & Jones, 1993, p. 36). Coalitions may explore multiple venues, even simultaneously, as they attempt to gain traction and affect opinion. Independent variables in the ACF include institutional arrangements at the constitutional level, system level, and subsystem level. Institutional variables include strategy, venues/forums, resources, belief systems and collective-action capabilities (Schlager, p. 249-250). Actors, or agents, are defined as those who “act as carriers of their institutional context who reproduce and help perpetuate logics” such as the provision of charitable, not-for-profit healthcare service to the community or leadership to a Senate committee (Scott et al., 2000, p. 36). Actors in the policy subsystem may include policy entrepreneurs, media, interest groups, Congress, the President, the Supreme Court, and bureaucrats. Consideration of actors necessarily includes the positions they hold, the actions they take, the information they possess, the resources they control, outcomes they achieve and distribution of outcome costs and benefits (Schlager, p. 235).

The idea of coalition building – or what Truman in 1951 called “interest groups” – in order to fight the loophole allowing physicians to self-refer patients to hospitals they own was organized by one Midwestern leader. Krabbenhoft articulated to the hospital board and staff, prospective coalition members, the leader of the Senate Finance Committee (which oversees the Medicare program), former leader of the House Ways and Means Committee and author of the so-called Stark Laws, then ultimately President Obama, a reminder of the core policy objective: Protect patients from doctors who wished to financially capitalize on patients’ woes up to three times. This articulation summed up changes in socio-economic conditions (doctors making money at the expense of taxpayers), changes in public opinion (the triple dip wasn’t in a patient’s best interest), changes in the governing coalition/policy subsystems (opposition from the leaders overseeing Medicare and Medicaid). The community hospital coalition took collective action, seeking action in multiple venues to influence public opinion, and spurring government action to stop the construction of new physician-owned hospitals. Once formed, both pro-moratorium and anti-moratorium coalitions coordinated interaction and shared information in order to develop shared perspectives, cost-sharing agreements and lobbying strategy in order to close the loophole and re-establish equilibrium (Patel & Rushevsky, 2006, p. 451; Truman, 1951, p. 40; and Kessel, 2001, p. 27). Sen. Charles Grassley, chair of the Senate Finance Committee, seized the policy entrepreneurship role, and recruited Sen. Max Baucus, as well as then-Rep. Pete Stark, to enlarge the conflict and help shape public opinion. Sharing information about the financial rewards for physicians through media accounts, also helped to set the agenda and broaden the iron triangle. Compiling GAO information about Medicare payments, and reports by academics conducting research on the overall effects on patients admitted to physician-owned hospitals, also contributed to growing and picture of greedy doctors putting their wallets before patient health concerns. Embedded in the belief system was the notion that as healers, doctors should not take financial advantage of their patients or taxpayers through the Medicare system. The PHA fought back through the same venues, but didn’t have an influential policy entrepreneur in the legislative venue, nor the same powerful story to relate through the media. Sen. Grassley had drawn attention to the issue through hearings and conferences (institutional rules), negotiated White House support, and located a suitable bill where the Stark Law loophole closure could be nested to achieve new policy output and impact.

MULTIPLE STREAMS THEORY (MS)

MS theory also pays attention to agenda setting and rational decision making. It further considers how choices are made, how policymakers’ attention is rationed, how and by whom issues are framed, as well as how the search for solutions is conducted (Zahariadis, 1999, p. 73). MS is especially sensitive to how information affects choice. It frames a process in “which individuals are viewed as less capable of choosing the issues they would like to solve and more concerned about addressing the multitude of problems that are thrust upon them, largely by factors beyond their control. Attention to a particular issue is a function of opportunity, bias, formal position in an organization or government, and the number of issues competing for policymakers’ attention” (Zahariadis, p. 75-76, and March & Romelaer, 1976).

Kingdon is renowned for the MS theory, which he utilizes to frame the convergence of problems, policies and politics in a pre-decisional phase as they flow through a narrow window of opportunity. Conditions or events are identified as problems, primarily through individuals affixing their own categorizations and values. Policies are ideas generated by policy networks – consisting of bureaucrats, congressional staff members, academics and researchers – and vetted in hearings, papers and conversations during gestation periods (Zahariadis, p. 85). According to Kingdon’s argument, politics are comprised of “national mood, pressure group campaigns, and turnover in administration or legislatures” (Zahariadis, p. 77). It is when all three come together at once that a policy window, which has a short duration, is opened (Kingdon, 1995, p. 169). Once the window has opened, a policy entrepreneur – also known as “believers,” actors of “plenary authority” or “prime movers” (Sanders, 2008, p. 45) – takes action by coupling a problem with a solution and seeking out receptive politicians. The agenda is set by events in the policy stream, including national mood, and is impacted primarily by interest groups, media, legislators, the executive office and other members of the policy network. Rather than focusing on collective action, MS

theory attends to critical roles played by the policy entrepreneur and alternatives or “conditions that support broad-based collective action that leads to major policy change” (Schlager, 244). It is the institutional position of the entrepreneur that provides the power to couple the streams through rank, influence and access. The dependent variable is the policy entrepreneur, and independent variables include national mood (agenda setting), interest groups, turnover in legislative leadership, and policy alternatives in the policy stream.

In the case of entrepreneurial doctors circumventing Stark Laws, the action arena included the operational level (individuals acting in for-profit and not-for-profit hospitals), state levels (where hospitals are granted certificates of need), and the national level (the Government Accounting Office, Senate Finance and House Ways and Means Committees – which oversee the Medicare and Medicaid programs – and the executive office). The time had finally come when the opportunity had arrived for Congress and the President to use their formal position and bias in favor of a comprehensive healthcare solution to focus attention on a particular solution. National healthcare law affecting Medicare and Medicaid had been designed and tweaked over time to ensure federal payments were fair and patients received good care. In the case of the fight against the expansion of physician-owned hospitals, prime movers/policy entrepreneurs emerged both locally and nationally to “change the dominant belief system regarding healthcare” (Groenwegen, 1994, p. 137). While the coalition of community hospitals began seeking a policy change in the early 2000s, it wasn’t until nearly 10 years later that conditions shifted and the policy window finally opened. After President Obama’s campaign promise, “We believe that quality and affordable health care is a basic right” (<http://www.presidency.ucsb.edu/ws/?pid=78283>), and his subsequent election in 2008, that the problem, policy and politics aligned. Baucus and Grassley met with President Obama and Vice President Biden at the White House, and by mid-May 2009, the duo had published their third set of detailed policy options for healthcare reform. These options included reducing levels of spending, reevaluating health tax subsidies and changing non-health tax provisions (May 18, 2009, Senate Finance Committee news release). Throughout the summer, three Republican and three Democratic members of the Finance Committee met 31 times to negotiate a formal healthcare reform proposal. Baucus introduced the Finance Committee’s healthcare reform bill in September 2009, called The America’s Healthy Future Act. Senators introduced amendments through mid-October, when the committee voted to approve it, 14-9. By November, Baucus teamed up with Majority Leader Harry Reid and Sen. Chris Dodd to draft and introduce the Patient Protection and Affordable Care Act. This act merged the Finance Committee’s healthcare reform bill with one passed by the Senate Health Education Labor and Pensions Committee. The newly drafted act went to the Senate floor for debate on Nov. 19, 2009. From there, Baucus led debate through the Senate’s passage of the Patient Protection and Affordable Care Act in December of 2009 (Vote: 60-39), a bipartisan healthcare reform summit at the White House in February, House passage in March 2010 (Vote: 219-212) and ultimately, the President’s signature on March 23, 2010 (Conway, 2010, p. 2). The Act’s passage, among hundreds of other impacts on access to affordable healthcare, had the effect of closing the loophole, and essentially “grandfathering” in all pre-existing physician-owned facilities while prohibiting new construction or expansion of such facilities. Suddenly healthcare policy had gained a national focus, the public mood had shifted, and new congressional and executive leadership had identified a solution to the overall issue of affordable healthcare that had nagged the nation since Teddy Roosevelt’s presidency.

CONCLUSION

Theories combine qualitative and quantitative approaches to help explain policy processes. Viewing one policy change unfold over time through three different theoretical frameworks allows greater understanding of the structure, contexts, resources and constraints, and actual decisions that connect policy actors. While there may not be great predictive power in these theories, there is much to be learned through the rigor entailed in employing a theory (or three) to examine a set of dynamic, documented circumstances of upheaval leading to restabilization. Insight is gained by scrutinizing activities, motivations, agendas, interests and successes of policy actors introduced in this paper, including information presented here that was gathered from internal records of Sanford Health, the Coalition of Full-

Service Community Hospitals, Congressional records, government studies, independent studies, periodicals and personal interviews. These documents were utilized to corroborate and augment evidence, and supported a more rigorous analysis of how the Patient Protection and Affordable Care Act was developed by actors in the subsystem, passed by Congress and signed into law in 2010.

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DIVERSITY AND THE AFFORDABLE CARE ACT: IMPLICATIONS FOR THE FUTURE

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ABSTRACT

This presentation will cover the role diversity has played in health care delivery. The context of diversity will be explained in various health care setting. The presenters will discuss implications for diversity in patients, employees, and other key stakeholders in planning health service delivery. Examples of how communities and how organizations are addressing this issue and outcomes are discussed. The presenters discuss the opportunities for effective use of diversity resulting from the Affordable Care Act and its implication on hiring efforts based on diversification methodologies.

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TRACK

CORPORATE HEALTH

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FINANCING OF RENAL DIALYSIS

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ABSTRACT

The incidence of end stage renal disease (ESRD) and its associated co-morbidities such as diabetes and hypertension continue to increase as the population ages. Most ESRD patients qualify for Medicare coverage, leading the U. S. government to initiate a reform of the payment system for dialysis facilities in an effort to decrease unnecessary spending and save for the growing future. The effects of reduced reimbursement rates, bundled payment options, and quality incentives on the current dialysis system, including kidney dialysis units, physicians and patients, are examined.

INTRODUCTION

End stage renal disease (ESRD) is the final stage of chronic kidney disease (CKD) and is defined as an irreversible condition in which the kidneys cannot function adequately for an individual to sustain life. The kidneys perform many functions including the removal of waste products from the blood, fluid and electrolyte balance, blood pressure regulation, mineral metabolism, and the production of erythropoietin. Those with ESRD require a form of renal replacement therapy, such as hemodialysis, peritoneal dialysis, or

kidney transplantation. Appropriate renal function is required to sustain life in those diagnosed with ESRD.

Treatment

Hemodialysis, a procedure that filters the fluid, electrolytes, and waste products from the blood, is the most common form of renal replacement therapy. Hemodialysis requires a vascular access through which blood may be removed from, and cleansed blood may be returned to, the body. Very complex dialysis machines function and perform as the artificial kidney, filtering and cleansing the blood. Hemodialysis can be performed in several potential settings: acute care, outpatient, or in a home setting, although outpatient dialysis is the most common modality of treatment. While patients are being dialyzed, they are constantly being assessed by the staff performing the treatment. Generally, dialysis treatments run three times a week for approximately three to four hours.

Incidence

ESRD affects individuals of all ages, but the incidence (and associated co-morbid conditions) does increase with age. Kidney disease can occur in anyone of any ethnicity, although the incidence is greater in African Americans, Hispanics and Pacific Islanders than white Americans (USRDS, 2012). The primary causes of ESRD are diabetes mellitus, hypertension, and glomerulonephritis (NKF, 2012).

The number of those diagnosed with ESRD is steadily increasing (CMS, 2011), especially for those over 65 (“Kidney Disease Statistics,” 2012). According to 2010 data from the United States Renal Data System (USRDS), there were 594,374 patients, nearly 20% of which were new to dialysis, receiving some form of treatment for ESRD. The incidence of ESRD is expected to rise to 700,000 by 2015 (CMS, 2012). There are currently an estimated 86,000 patients awaiting kidney transplantation as compared to 23,000 in 1995 (USRDS, 2012). Certainly, ESRD affects a significant and growing portion of the population.

Importance

The number of patients with ESRD is projected to grow at three to five percent annually (First Research, 2012). As the ESRD population increases, there will be a greater demand for renal dialysis services, nephrologists, and skilled staff to treat this expanding patient population. Since most dialysis units are currently at a full capacity (ACI Renal Services Network, 2010; Griffiths et al., 2012), this projected increase in demand is expected to result in a need for additional dialysis centers to treat the growing demand for renal services.

ESRD patients constitute a specific portion of the Medicare population due to their ESRD diagnosis. Those with ESRD are granted entitlement to the Medicare program regardless of their age; they are the only under 65 group eligible for Medicare. Ninety three percent of the U. S. ESRD population receives Medicare funding (Nissenson and Rettig, 1999), and this population consumes per capita costs seven times greater than the average Medicare beneficiary (Hirth, 2007). The average overall cost of ESRD patients in 2006 was \$43,335 while the average cost of a Medicare patient without ESRD was \$7,654 (Rubin, 2009). Dialysis treatments at a minimum of thrice weekly are costly in addition to the large number of drugs these patients require. ESRD patients require close monitoring of their health by their nephrologist and other specialty physicians. It is evident this growing population consumes a great deal of federal funds, making it necessary to consider reform initiatives. The newly imposed Medicare prospective payment plan initiated January 2011 has impacted dialysis organizations throughout the U. S. and is a significant fiscal concern for the industry (Renal Business Today, 2011).

MEDICARE AND ESRD

Medicare Coverage

One becomes eligible for Medicare upon reaching 65 years of age, or if diagnosed with permanent kidney failure. For those with preexisting private health insurance under the age of 65 and newly diagnosed with ESRD, the privatized insurance is the primary source of insurance for up to 33 months. The 33 month period is broken down into a 3 month waiting time frame for the Medicare coverage to begin, and a 30 month coordinated benefit period in which Medicare acts as the secondary payer (Hirth, 2007). In this coordinated benefit period, Medicare will pay for the services the private or unionized insurance plan does not cover. Once Medicare is considered the primary payer, the privatized insurance becomes the secondary insurer paying for the costs Medicare does not cover (e.g., co-payments, outpatient drugs, and other fees).

CKD progresses through five stages until it reaches ESRD, but often earlier stages are not recognized, effectively increasing the reported prevalence of late diagnosed stage four or five CKD. Individuals with early stage CKD are frequently unable to receive preventative and routine care if they do not have appropriate healthcare coverage in which referral to a kidney specialist is warranted, which could slow the disease process. It is not uncommon for individuals to present to the emergency department as symptomatic and receive a diagnosis of kidney failure. In addition, efforts to increase screening and preventative education regarding the risks associated with diabetes and hypertension are certainly indicated.

Medicare provides different benefits depending on the setting and the type(s) of coverage provided. Medicare coverage part A includes costs and treatments incurred while in the hospital, a skilled nursing facility or hospice (CMS, 2012). For those with Medicare part A, coverage includes inpatient dialysis treatments incurred in an acute care facility. Those that qualify for Medicare Part A coverage should qualify for Part B, requiring a monthly premium. For those with Medicare part B, coverage is more extensive and includes a wealth of outpatient medical services. Outpatient dialysis treatments, physician services, and laboratory testing are covered under Medicare Part B (CMS, 2012). For those patients on peritoneal and home hemodialysis, Medicare part B covers the dialysis self-training, home supplies and equipment, medication necessary for the treatment, and support services for check-ups and emergencies (CMS, 2012). Medicare does not pay for health aides to assist in the treatment or lost pay due to the diagnosis or treatment; some portions of these may be covered by a private insurance. If the patient has secondary insurance, Medicare co-payments and outpatient drugs not included in the Medicare plan will be billed to the secondary insurance. What the secondary insurance will pay depends on the policy providing the benefits and the policyholder premium. Medicare Part D is also offered for an additional premium for outpatient prescription coverage.

Need for Secondary Co-Insurance

Those who qualify for Medicare Part A do not have to pay a premium for this portion of the plan as it is funded through collected taxes while the individual or spouse was employed. For those qualifying for Medicare Part B, monthly premiums are determined based on financial situation and the average monthly premium is \$99.90 (CMS, 2012). For those under the original Medicare plan, a 20% co-payment of the dialysis approved services is required; Medicare pays the remaining 80%. For those with a Medicare Advantage Plan or Medigap (supplemental insurance), all or part of the 20% co-payment may be covered.

Among the dialysis treatments, specialized physician visits, vascular surgeries, prescription drugs, etc., ESRD patients incur significant medical costs. In outpatient expenditures alone, the average cost per person per year in 2012 was \$30,369 (USRDS, 2012). A great deal of the patient's time is consumed by the need for medical attention, limiting the amount of time that can be contributed to the workforce. Since the schedules of these patients are medically demanding, it is difficult for individuals to obtain

employment. The dialysis treatment itself is also draining, consuming a great deal of energy that could have been used in the workforce. Due to the lack of energy, declining health status, and busy schedule, many ESRD individuals become unemployed. Therefore, it is essential ESRD patients have supplemental insurance to cover the costs that Medicare does not cover. Those without supplemental insurance may face a financial burden and increased stress due to the financial hardship of being unable to afford care. Secondary supplemental insurance is most important due to the large number of outpatient drugs ESRD patients are prescribed. Kidney failure patients are prescribed a plethora of medications not only for the kidney disease, but for co-morbid conditions. Those without secondary insurance face challenges in getting their necessary prescribed medications and often have to rely on grants and assistant programs for help. ESRD patients must strictly adhere to a medication regimen or they risk a multitude of adverse events.

DIALYSIS IN THE MODERN ERA

Major improvements have been made to dialysis treatment; mortality has greatly decreased due to technology advancements and a surge of medical knowledge (Cross, 2003). Today, there are thousands of dialysis units located throughout the United States, eligible to all individuals. Every patient who presents to the hospital emergency department has a right to be treated, with or without medical insurance. All patients with kidney failure are given the opportunity to receive dialysis in efforts to sustain life. Once the patient is medically cleared for discharge, finding an outpatient dialysis center becomes the issue. Prior to acceptance into a unit, the patient has to be financially cleared, meaning the insurance the patient carries must be approved by the unit. Although the vast majority of dialysis patients are covered by Medicare after their first 90 days of dialysis, patients must still pay for the first 90 days of treatment, either out of pocket or through other coverage. Not surprisingly, those without private insurance, Medicare, or Medicaid are often harder to place. If the dialysis unit agrees to accept underinsured patients, the unit is assuming a potential financial loss in terms of increased expenses and decreased reimbursement. Through local state regulations, certain rules are in existence for the treatment of indigent patients. New Jersey for example is required to provide services for at least 3.5 percent of the patient population that are uninsured or underinsured. Failure to comply with the state regulation can result in a civil penalty each year the facility does not comply (State of New Jersey, 2006). Those patients unable to find an outpatient dialysis facility willing to treat them must remain in the hospital, eating up space and cost, because they cannot be discharged without accommodation to an outpatient dialysis unit. This contributes to the excessive and unnecessary cost of the current healthcare system.

The number of dialysis facilities has greatly increased since the first dialysis treatment. Today, multiple dialysis facilities are conveniently located in almost every city, often within miles of one another.

The dialysis industry is very concentrated with large investor-owned chain dialysis facilities (e.g., Renal Care Group, Gambro, Fresenius, Davita) dominating the market. These large chains operate more than 90% of all US dialysis centers (First Research, 2012). There are smaller dialysis companies that also compete (e.g., Dialysis Clinic, Inc., American Renal Associates, Renal Care Partners), along with free-standing and hospital-based units. It is not unusual for the larger chains to acquire smaller competitors. Large for-profit chains have also integrated backward, developing and producing products and services other dialysis units require, making the entire industry effectively even more concentrated. This degree of concentration is not unexpected, as larger chains of dialysis clinics have been shown to have lower costs due to economies of scale (Dor, Held, and Pauly, 1992; Hirth et al., 1999).

The dialysis corporations, regardless of size, may be categorized as for-profit or non-profit. Generally speaking, for-profit organizations maximize their potential profits while non-profit keep in mind the goals of the public interest. Non-profit organizations tend to provide more educational and clinical research. For-profit institutions have motives to maximize profits via financial incentives that may reduce the quality of care the patients receive as exemplified by the fact that they have a higher mortality rate than non-profit organizations (Fields, 2010). Profits could be maximized by reducing the number of

hospitalizations patients in their clinic receive, knowing the unit will not be reimbursed for an empty seat. Similarly, admitting more costly patients to an acute care setting would reduce the financial strain on the unit.

How each dialysis unit is reimbursed is reliant on the type of each operational unit. Although the reimbursement rate does fluctuate minimally, it is mostly dependent on the location of the unit (e.g., urban or rural). Rural units are reimbursed at a slightly higher rate, as they typically are smaller in size. Other factors affecting the reimbursement rate include the number of patients in the region, the medical necessity of the unit, and the type of unit (free-standing or hospital-based). Increases in reimbursement rates occur for units temporarily closed due to construction, change in ownership, or natural disaster, and local health care providers' salaries. Typically, hospital-based units receive two to three percent higher payments than free-standing units (Hirth, 2007).

Past Medicare Payment Plan

Prior to the current prospective payment system, Medicare offered an upper limit payment of \$138 per each dialysis treatment based on reasonable cost (Ketchum, 2005). In 1983, CMS changed its payment plan to offer a composite rate of \$128 for free-standing dialysis units and \$132 for hospital associated facilities (Hirth, 2007). Non-routine laboratory tests and injectable medications were counted as separately billable items and not included in the composite rate. Medications the patient received necessary to the ESRD diagnosis were separately billable. Due to the negative balance the facilities encountered from the low reimbursement rate, they were able to recuperate profits from the medications billed for separately.

The composite rate varies somewhat depending on facility location and facilities demonstrate exceptionally high costs such as caring for a large number of outlier patients. The largest issue with the composite rate is the infrequency of its adjustment. While all other medical reimbursements have been automatically updated due to inflation, the dialysis composite rate seldom changes. A fight to convince Congress to require CMS to at least review the composite rate automatically would have greatly increased stability in the industry. This rate rose only 6.8% between 1990 and 2006, during which time the U.S. Medical Care Services Consumer Price Index increased by 107% (Zigmond, 2006). The lack of adjustment has led to financial problems which dialysis units face today. Due to healthcare reform, the payment plan methodology once again has been changed.

Current Payment Plan

In full effect as of January 2011, the Medicare Improvements for Patients and Providers Act issued a new bundled prospective payment system, Medicare's first-ever mandatory pay-for-performance program: the ESRD Quality Incentive Program (Watnick et al., 2012). The Centers for Medicare and Medicaid Services (CMS) instituted a four year transition of the new policies and payment plan to all dialysis facilities, approximately 5,233 clinics (CMS, 2012). Each unit had the opportunity to elect the new payment plan at once, or go through the four year transition which incorporates a blended rate of the old and new payment methodologies. Some of the objectives for the new system included the elimination of incentives to over use profitable drugs that were billed separately, increase desirable clinical outcomes, and enhance efficiency of the system (CMS, 2012).

The bundled prospective payment plan extends to all dialysis services (in-center and home-based) and includes labor, supplies, equipment, laboratory testing, and medications pertinent to ESRD. Services such as laboratory testing and injectable medications had never been included in the composite rate but were separately billable. Laboratory testing not included in the bundle will be billed to Medicare part B on a fee-for-service payment (CMS, 2012). The biggest change and adjustment in the new bundled plan is the inability to bill separately for some drugs. This could lead to some interesting incentives: (1) there is less

of an incentive to overtreat clinical conditions such as anemia by separately billing; and (2) there is also an incentive to undertreat conditions now included in the composite rate (Hirth, 2007). The bundled payment plan will decrease the reimbursement rate by two percent, putting additional financial strain on the dialysis units (Renal Business Today, 2011). There is some fear that the lowered reimbursement rate will cause operational costs to run a dialysis unit to be greater than revenues, especially after the bundled plan becomes 100% effective. As of January 2011, the current bundled reimbursement rate is \$229.63 per dialysis treatment (CMS, 2012; Iglehart, 2011).

Incorporated into the changes proposed by Medicare is a Quality Incentive Program (QIP) that will offer payment based on the dialysis centers' ability to perform on a pay-for-performance plan. Clinical measures will be reported via Crown Web, CMS's ESRD information system, and will act as the incentive to increase quality of care through this imposed pay for performance plan. A reimbursement reduction ranging from 0.5%-2% over the course of a payment year may be imposed on those facilities which fail to meet the performance standards. Each facility receives a total performance score based on six quality performance indicators (CMS, 2012).

To offset the financial burden of expensive outlier patients, case-mix adjustment is available. For example, larger patients require more dialysis and medication than smaller patients, and those who are sicker and older require more staff time. Case-mix adjusters include body-mass index less than 18.5 (i.e., those exhibiting malnourishment) and the elderly. Selections of six co-morbid diseases are reimbursed at an adjusted rate. Payment for acute co-morbid conditions (e.g., gastrointestinal bleed, bacterial pneumonia) is made for no longer than four months unless a separate reoccurrence is documented (CMS, 2012). These adjustments affect only the composite rate, not separately billable services such as non-routine lab testing.

At the present time, it is uncertain whether bundling will ameliorate the increase in the total cost of dialysis to Medicare (Iglehart, 2011).

Clinical Indicators

Under the prospective payment plan, Medicare reimbursement is based on the status of clinical indicators which are generated from national guidelines assembled from evidence-based research (NKF, 2012). National guidelines are used as benchmarks to assess each unit's level of quality care delivered. Guidelines are created through non-profit organizations such as the National Kidney Foundation Kidney Disease Outcome Quality Indicator and Kidney Disease: Improving Global Outcomes. Facilities are required to report quantifiable data to one of the eighteen ESRD networks which assess the need for additional quality incentives, track national trends, allocate opportunities for improvement, and compare standards regionally (Hirth, 2007).

Patient Referrals

To maximize revenues, a dialysis unit must maintain a census of patients equivalent to the number of chairs, number of shifts, and staff available to operate the unit. Units strive for a vacancy rate of less than or equal to five percent. For example, a center having twelve patient stations would be most cost effective if all twelve of those chairs were filled for all three shifts of patients. What would be less profitable would be having only nine out of the twelve chairs occupied. Fixed costs are just that – fixed. The administrative, nursing and ancillary staff would still have to be paid regardless of a decreased census. The cost of rent and utilities would be unchanged although the incoming revenue would decrease. Therefore, it is economical to eliminate any vacant dialysis slots throughout the day.

A decreased census may be due to a lack of incoming patients or referrals, or when a patient is hospitalized or expires. New patients must be accepted into the clinic to fill those slots, otherwise a loss of revenue is guaranteed. Dialysis units often receive referrals from the nephrologists who care for their patients. Having a large nephrology group practicing in the immediate area will greatly help the unit obtain referrals. Additionally, having a medical director on staff who has privileges in an acute care facility nearby can be the unit's biggest source of referrals. Dialysis clinics that have an acute care dialysis center also have an advantage on acquiring in-house patients, predominantly new starts to dialysis.

Patient satisfaction rises when the dialysis unit accommodates the needs and requests of its patients. If the patients are satisfied with their dialysis unit, the nephrologists are more likely to refer new patients. Customer relations such as how the patients are accommodated at the dialysis unit and how experienced and reliable the staff are greatly affect the inflow of patients. Political interactions with physicians are key to patient flow in a dialysis unit. Having affiliations with physicians and acute care hospitals are also pivotal in maintaining a profitable patient census.

PROFITABLE PATIENTS

Dialysis units are often selective regarding the patients they accommodate. Patients who are newly diagnosed and have private insurance receive coverage through the private insurer for up to 33 months before Medicare coverage begins. Privatized insurance usually reimburses at a higher rate than does Medicare, making these patients very financially desirable. Due to the new bundled payment system, seeking profitable patients is an even greater incentive considering the two percent decline in the reimbursed bundled payment.

Incentive plans are part of the new bundling payment system and have the potential to contribute to the screening of profitable patients. Patients are desirable based on their medical status. Those with fewer co-morbidities require less attention and care. Sicker patients require more staff to attend to their needs and consume more costly supplies. Those who are healthy may require less medication than those who have chronic co-morbid illness, yet the unit will be reimbursed at the same standard rate. Those patients who are compliant with the treatment regimen and are in congruence with the federally appointed standards of care are desirable for the clinic since reimbursement relies on quality indicators. For example, many clinics will not accept patients who have catheters as the form of vascular access without the plan of acquiring a fistula or graft. Catheters are known to have increased infection rates and lower the score on quality indicators. Although infection is costly, a low quality indicator score yields a decreased reimbursement rate. While case mix adjusters monitor the screening and selection of patients, profitable patients will always be desirable among nursing staff and administrators.

Home dialysis, home hemodialysis and home peritoneal dialysis are rising trends (Hirth, 2007). Home dialysis is a more cost effective option for individuals who are capable of performing the dialysis treatment in the comfort of their own home, with a family member available to assist. Many units are setting up training stations in the chronic care unit and are encouraging their patients to seek information regarding the home modality. The biggest financial incentive for home dialysis is the elimination of staff overseeing each treatment. These patients perform the treatment on their own but have the option of contacting a medical professional for emergencies. Patients on home dialysis are also better managed because they perform the dialysis treatment at more frequent intervals, leading to better clinical outcomes.

WORKFORCE ISSUES

Due to the increasing number of ESRD patients, the amount of staff required to care for the patients must also be increased. A shortage of both nephrologists (Kohan and Rosenberg, 2009; Lane and Brown,

2009; Parker et al., 2011) and nephrology nurses (Fatma, 2013; Ulrich, 2003) trained to monitor and treat those with kidney disease has been projected for some time. Statistics demonstrate an increase of 5.8% of the ESRD population, while the number of nephrologists only increases by 3% (Rettig et al., 2011). This leads to an issue of overworked and understaffed nephrologists and nephrology nurses contributing to a heavier physician load and a lack of time in dealing with their existing patients. These shortages of nephrologists and nephrology nurses are expected to continue (Branson, 2007; Desai et al., 2012).

To offset this issue, many nephrology groups are looking to advanced nurse practitioners to assist with the very heavy workload (Washam, 2008). Nurse practitioners are excellent substitutes and are very well liked by patients because they have more time to devote to each individual patient and develop an interpersonal relationship. Physician extenders decrease the demand on the physician and are becoming more common, facilitating treatment of the increasing ESRD population.

RECOMMENDATIONS

Medicare initiated the prospective payment plan to encourage providers to become more cost-effective. Many policies and procedures have been adjusted according to the new payment plan in efforts to minimize costs and improve the quality of care each patient receives. Current cost effective methods must be more widely adopted by providers in order to survive and prosper with the new reimbursement methodology.

As prevention is pivotal in reducing the incidences of kidney disease, efforts to increase the public's knowledge of kidney disease must be expanded. The incidence of ESRD is increasing and is associated with the growing portion of the population diagnosed with obesity, diabetes mellitus, and hypertension. Screening to determine those susceptible to kidney disease will decrease the decline of CKD to ESRD. In addition, "improving the screening and management of chronic conditions that predispose patients to end-stage renal disease may be a particularly successful strategy in stemming the growth of costs" (Swaminathan, et al., 2012, p. 2056).

It is also necessary to educate current patients, both those with CKD and those on dialysis, on the importance of following their prescribed treatment regimen. Without education, patients are largely unaware of how their disease state may progress. Because of patients' frequent lack of symptomatology and/or adverse events, many do not understand the importance of fluid restriction and a strict diet. Also vitally important is the vaccination of these immunosuppressed patients to prevent diseases such as influenza, pneumonia, and hepatitis B.

Prevention should also be focused toward decreasing the incidence of adverse events. Medicare's quality incentive program to increase the number of ESRD patients with arteriovenous (AV) access is a step in this direction. Another prevention program is the Fistula First campaign (for details, see <http://www.fistulafirst.org/AboutAVFistulaFirst/History.aspx>), in which those affected by kidney disease are educated on how acquiring a fistula prior to the initiation of dialysis will offset the number of patients that must begin dialysis with a central venous catheter. Central venous catheters have substantial infection rates, function poorly, and lead to many adverse complications such as myocardial infarction and stenosis. Through the Fistula First campaign, fewer patients require an emergency temporary catheter, potentially protecting the vasculature of the limb.

Vascular access monitoring is another quality incentive that should lead to a lower number of thrombosed AV fistulas and grafts (Kumbar, Karim and Besarab, 2011). Through regular non-invasive access flow monitoring, technology can decipher troubles with recirculation, low blood flow rate, and the likelihood of thrombosis. Patients with less than favorable results can receive follow up care prior to thrombosis of the access, ultimately leading to a decrease in unnecessary hospitalizations, insertion of

temporary catheters, waste of coordination among surgeons and ancillary staff, operating room time, and on-call hours.

CONCLUSIONS

It has been a long road since the first dialysis treatment. Many lives have been saved due to the increased understanding of ESRD and new, better, and more complex dialysis treatments. The federally funded Medicare ESRD program for virtually all ESRD patients regardless of age has led to the creation of an entire dialysis treatment industry.

With the current reform, Medicare has changed its method of reimbursement. The prospective payment system bundling plan was developed to decrease unnecessary spending, by not allowing incentives for separately billable drugs and preserving funds for all generations of the ESRD population. This new bundling system that began in 2011 has also contributed to significant uncertainty for dialysis providers who remain “squeezed” by the continuing failure of Congress to adjust dialysis reimbursement to inflation. Ultimately, Medicare has strong hopes about its reform program.

One policy approach that is gaining attention among healthcare administrators is the accountable care organization (ACO), in which providers and physicians are responsible for the coordination of both the cost and the quality of delivered care. While dialysis-based ACOs are not permitted under the 2011 ACO regulations (CMS, 2012), a broad movement toward capitated payment is likely on the horizon. As some authors believe, “...policy complexity and the need for deep incorporation into the system will likely limit the speed with which...capitated payments are embraced. In the meantime, episode-based bundled payment policies may provide a more manageable step toward a value based health care system” (Chambers et al., 2013, p. 170).

In July of 2013, CMS released a proposed rule that contains changes to the calendar year (CY) 2014 ESRD prospective payment system (PPS) and the ESRD QIP. CMS will implement final changes to the ESRD payment system January 1, 2014, and proposed requirements for the ESRD QIP that would affect the 2016 payment year. Under the proposed rule, payments to all ESRD facilities would decrease by 9.4 percent. This decrease reflects an inflationary update of 2.9 percent, minus a 0.4 percent multifactor productivity adjustment required by the health reform law, and a reduction required by the American Taxpayer Relief Act (ATRA) of 2012. Section 632(a) of the ATRA requires the secretary to make reductions to the ESRD PPS base rate to reflect the secretary’s estimate of the change in the utilization of ESRD-related drugs and biologicals by comparing per patient utilization data from 2007 with data from 2012. Applying these adjustments results in a proposed base payment of \$216.95 per dialysis session, down from \$240.36 in CY 2013. CMS will solicit comments on the potential for a transition or phase-in period of the reduction amount over more than one year because of concerns about beneficiary access to care. In addition, this proposed rule also represents the final year of a four-year phase-in to the ESRD PPS (Mihilach-Levin and Wetzel, 2013).

In addition to reform and the reduction of unnecessary spending, there must be ways to slow the rate of those acquiring kidney diseases. Prevention programs and screening opportunities for chronic kidney disease should be developed and ESRD risk factors identified through better and more timely referrals to nephrology specialists. Although early prevention and diagnosis will not eliminate the disease process, it will certainly slow the process and allow for more appropriate and earlier referral. Through widespread education of the general population and primary care providers, the burden of ESRD could decline substantially. Since the ESRD population consumes significant Medicare costs, preventative efforts to decrease the incidence of new cases is pivotal in the economics surrounding the disease. Furthermore, as the ESRD population steadily increases and the number of nephrologists available to care for this population increasingly fails to meet the growing demand, prevention is paramount.

Due to the vulnerability of this population and their dependence on Medicare to fund costly dialysis treatments, reform is necessary to ensure enough funds are available to care for future ESRD patients appropriately. The new prospective payment plan puts strain on dialysis providers who are concerned about decreased profits. Dialysis providers have concerns regarding their ability to continue to provide services while remaining financially viable in a competitive and concentrated market. Efforts and research to deliver quality and cost-effective ESRD care should continue and should be expanded.

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HUMAN RESOURCE AND ORGANIZATIONAL DEVELOPMENT ACTIVITIES OF THE AFFORDABLE CARE ACT

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ABSTRACT

Governmental interventions in the workplace have long necessitated organizational managers to alter practices. These governmental interventions typically take the role of influencing the periphery of an organizations activity. The Affordable Care Act, (ObamaCare) may have a direct influence on 1/6 of the American economy. Many of the changes that will occur will include, but not limited to; increase in patient base, limited options for patients and practitioners, changing reimbursements. Of significant note is the application of patient satisfaction rates to hospital and physician remunerations. This paper will look to examine how many of these changes may alter the human resource management and organizational behavior dynamics in the modern healthcare organization.

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THE VETERANS EQUITABLE RESOURCE ALLOCATION MODEL AND THE DISTRIBUTION OF FUNDING FOR HEALTHCARE THROUGHOUT THE VA HEALTH SYSTEM

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THE VETERANS EQUITABLE RESOURCE ALLOCATION MODEL AND THE DISTRIBUTION OF FUNDING FOR HEALTHCARE THROUGHOUT THE VA HEALTH SYSTEM

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ABSTRACT

This paper defines and explains the methodology and allocation system used by the Department of Veterans Affairs to annually budget for each of the Veteran Integrated Service Networks. Topics covered throughout the paper provide an understanding of how tax dollars for veteran health care are allocated. The system utilized by the Veterans Affairs provides a method to demonstrate how healthcare financial distribution plays a vital role in healthcare delivery.

INTRODUCTION

In April 1997 the Department of Veterans Affairs (DVA) implemented a system of allocating the congressionally appropriated medical care budget to 21 regional Veterans Integrated Service Networks (VISNs) throughout the country (USGAO, 1997). The Veterans Equitable Resource Allocation (VERA) system reflects the Veterans Health Administration's (VHA) effort to provide health care to the veteran population by allocating funds to the areas that need it most. Beginning with 29 special care patient classifications originally utilized in 1997, the allocation methodology has been annually updated to include the 60 different classifications used today, VERA provides a system of allocation for 90 percent of each VISNs medical care budget (VERA Handbook, 2013). This paper will discuss the allocation to the VISNs from the DVA and individual classifications that determine allocation based on complexity of care (ARC VERA Hierarchy & Final Prices).

As an understanding is developed into the minutiae of the allocation of funding through the complexity of individual patient encounters, this paper will examine the ability to provide funding to geographical regions as veteran populations shift areas. Although the VERA model is becoming more complex each year, this

paper will review the history of its development and the process that currently takes place from the reporting at the individual patient encounter, to the distribution of allocated funds to the VISNs from the DVA.

In addition to understanding the allocation, this paper will show the distribution of the nearly \$40 billion dollars allocated to the VHA in 2013. The primary focus will be the breakout of key components within the allocation.

The intended result of this paper is to provide a better understanding of the history and development of the VERA model. Additionally, an enhanced view will be gained of the allocation of funds used for patient care to the 21 VISNs inside the VA health care system.

METHODOLOGY

The VERA allocation model is unique to the DVA and is not used by any other agency. Due to its unique nature, literature and resources were limited, however, several sources of information were found within the Allocation Resource Center (ARC) website that is maintained by the DVA. Utilizing the ARC website, presentations, tutorials, and reports were reviewed to obtain a better understanding of the VERA model and the processes used in allocating funds to the 21 VISNs located throughout the country. With a historic archive that holds presentations and literature dating back to the inception of VERA, the ARC was able to provide the majority of data needed. Some of the information provided made it possible to include numerical data that would have otherwise been absent from this research.

In addition to the ARC, Congressional testimony and other outside resources were considered and used to complement the findings of this research. With limited academic peer reviewed resources available for the purpose of better understanding the process of the VERA model, there were a few sources found to augment this paper resulting in reliance of government reports and websites.

RESULTS

The VERA funds are distributed through six main components: Patient Weighted Work, Labor Index and Adjustment, Education Support, Research Support, Equipment, and Non-Recurring Maintenance. As each component is discussed below, consideration must be made that funding received is based on data accumulated within the organization two fiscal years prior to the allocation taking place. Although the reporting data is perpetually examined by internal audits and reviewed to ensure reporting integrity, there is a period after each year end that allows for correction and adjustment to the reporting data for the several million patient encounters that happen annually. The further scrutiny after each year end allows for accurate and equitable allocation of funds.

In the appendix of this document there are two tables used for illustration in the process of the VERA model. The first table is the VERA 2013 Patient Classification Hierarchy and Final Prices. The patient classification is used to better illustrate the different price groups and how allocation is made based on services performed. The second table is the FY 2013 FINAL Network General Purpose Allocations: VERA Components Allocations. The VERA Component Allocations is a breakdown of the six main components of the funds allocated throughout the VHA through the VERA model. The T21 VISN funding column is funding that is distributed independent of the six components and is used for the implementation of "Transformation 21" funding to bring VA health care into the 21st century and is allocated on a discretionary basis. In light of the nearly \$40 billion distributed, \$350 million is a mere fraction that has minimal effect on equitable distribution.

Patient Weighted Work

Patient Weighted Work is the most significant driver of funding for the 21 VISN's within the VHA. Within the Patient Weighted Work allocation methodology there are four categories for allocation: Basic Care, Complex Care, Long Stay, and High Cost Patient. The key driver to receiving maximum allocation per patient lies within a concept known as "vesting." A patient is considered vested when a minimum level of healthcare services have been provided, indicating in general that the patient has received the equivalent of primary care services at least once every three years. (VERA Handbook, 2013).

The attached VERA 2013 Patient Classification Hierarchy and Final Prices is a guide for the cost allocation of the Basic Non-Reliant care, Basic Vested Care, and Complex Care. The reason High Cost Patient classification is not listed is because it is based on cost incurred above a set annual threshold. In 2013, patient costs are reimbursed dollar for dollar for Standard patients with a cost above \$108,000 and Long Stay patients with a cost above \$218,000 (VERA Handbook, 2013). The attached hierarchy further defines the allocation based upon 8 price groups spread among 60 different classes. In addition, allocation within the 8 price groups is broken out among 2 different sets of priority groups. Priority groups 1-6 are patients that use the VA as a source of medical care, with priority 1 being the highest users. Groups 7-8 rarely use the VA and may not have a service connected disability, but may qualify due to personal financial thresholds. In review of the hierarchy, the costs allocated varied from the lowest level of non-vested service at \$224, to the highest level of \$151,379 for Long Stay patients with a stay of more than 90 days (Appendix A).

Labor Index and Adjustment

The labor index and adjustment is methodology used in the VERA allocation model to allow for price differences in salaries based on geographic locations and is referred to in the table as "FY 2013 FINAL Network General Purpose Allocations: VERA Components Allocations" as Geographic Price Adjustment (Appendix B). This portion of the allocation is broken down into a multi-step process. The first step is establishing a VISN-level labor index and the second is applying the index to compute the VISN-level labor adjustment (ARC Creating the VERA Labor Index and Adjustment).

The calculation of the Labor Index uses the combined salary of all employees within a VISN divided by the Full Time Employee Equivalents (FTEE) multiplied by the National Average Salary. The National Average Salary is calculated by the total of all salaries within the Veterans Health Administration and dividing it by the total of all associated FTEE. An FTEE is based upon 2,080 hours of work, vacation and sick time combined. The National Average Salary is based on the average of all salaries paid throughout the VHA. The formula is calculated below:

$$\text{VISN-labor Index} = \frac{\text{Actual VISN Salary}}{\text{FTEE} \times \text{National Average Salary}}$$

The second part of the two step process is the VISN-level labor adjustment. The first part of the calculation of the adjustment is the VISN Workload, this is the total of the combined patients in the four categories described above in Patient Weighted Work. The VISN Workload is then multiplied by the National Average Price (NAP). The NAP is the total amount of labor dollars spent for the individual patients in the VHA divided by the Total Workload for the VHA. In 2013 the National Average Price was \$6,932. The total of individual patients for 2013 was 6,235,514 (ARC FY 2013 Final VERA Allocation Tables). The formula is calculated below:

$$\begin{array}{ccccc} \text{VISN} & & \text{National} & & \text{Labor Dollars} \\ \text{Workload} & \times & \text{Average} & = & \text{Budgeted on} \\ & & \text{Price} & & \text{Workload} \end{array}$$

To complete the second step, the Labor Dollars Budgeted on Workload is multiplied by a Scaling Factor used equally throughout the VHA to calculate the Personal Services Dollars Indexed and Scaled (PSDIS). The Scaling Factor is used to cover the actual cost of salaries expended. In 1998 the factor of 1.002 was used as an example of a common Scaling Factor (ARC Creating the VERA Labor Index and Adjustment). The Labor Dollars Budgeted on Workload is then subtracted from the PSDIS to reach the Labor Adjustment. The formula is calculated below:

$$\text{Labor Dollars Budgeted} \times \text{Scaling Factor} = \text{PSDIS}$$

The VISN-labor index is then multiplied by the Labor Dollars Budgeted on Workload to reach the Personal Service Dollar Indexed (PSDI). The PSDI is then subtracted from the PSDIS to reach the upward or downward Labor Adjustment.

Education Support

Education support funds are used for administrative support and salaries of VHA instructors in the graduate medical education and associated health professions training programs for residents and trainees. To ensure equitable distribution of educational support funds to VISNs, the educational support component was developed separately. Education support that is distributed through the VERA model is typically represented as a VISN-level allocation (ARC VERA Model: Education Support Allocation).

To determine the VISN-level allocation, a prorated two-step process is used. First, the VISN's proportion of the total VHA Residents for an academic year is determined. Secondly, the proportional fraction is multiplied by the total allocated VHA educational support for the year. The total educational support for fiscal year 2013 was \$855,851,000 (Appendix B) spread among 10,392 residents. The support money is used to pay salaries, benefits, training, and associated travel (ARC FY 2013 Final VERA Allocation Tables).

Research Support Allocation

The research support allocation is used to support research for mostly appropriated research. Appropriated research is designated as funding for research to be performed as an earmark in the annual budget. Some research is performed jointly with other governmental organizations such as the Centers for Disease Control and the National Institutes of Health and another significant portion with several colleges and universities throughout the country. The research support allocation component of the VERA model is calculated separately as research activities are not directly related to patient care and need to be computed separately and the actual costs of research support is not consistent across VISNs. Research support is, however, represented by a VISN allocation as noted in the allocation of the \$582,674,000 of research funds allocated in fiscal year 2013. The elements of computing the research support include workload factor and budget for research and support (ARC VERA Model: Research Support Allocation).

As actual grant dollars are the workload factor, the amounts are weighted on the following criteria:

100% -	VA Administered
75% -	Non-VA funded, non-VA administered, peer-reviewed research
25% -	Non-VA funded or administered and non-peer reviewed.

The total of the weighted values is used in the VERA model and is referred to as the discounted research

grant dollars.

The calculation of research support dollars for a VISN is a two-step process. The first step is to determine the VISN's ratio of the total VHA discounted grant dollars for the year and second is to multiply the VISN's ratio by the total amount allocated to the VHA. In 2013 the total amount allocated was \$1,066,867,885 (Appendix B).

The first step in calculating the VISN Ratio is to divide the VISN discounted grant dollars by the total VHA discounted grant dollars. The following step in calculating the VISN allocation would be to multiply the VISN ratio by the total research support. The calculation results in the VISN allocation of research support.

Equipment Support

Equipment support is allocated to the VISNs on the basis of workload. The basis of workload is the sum of Basic and Complex Prorated Patients (PRPs). The sum is then prorated across the total for the VHA and the total amount of equipment money is allocated proportionately (ARC VERA Model: Equipment & Non-Recurring Maintenance). The total equipment funds distributed in 2013 was \$786,600,000 (Appendix B).

To further clarify a PRP, it is the percentage of a patient's care offered in a geographic area. Some patients receive care in various VISNs as they travel throughout the country or are sent to specialists in different hospitals. An example is the use of the Murfreesboro, Tennessee Medical Center by several hospitals throughout the country seeking the performance of organ transplants. As the total of care adds up on PRP per patient, the allocation allows for recognition of costs incurred on behalf of a patient across multiple VISNs.

Nonrecurring Maintenance

Nonrecurring Maintenance funds were originally allocated based on the same criteria as the equipment support described above (ARC VERA Model: Equipment & Non-Recurring Maintenance). Recently it was discovered that this source of funding does not fund older hospitals' needs to maintain and modernize facilities (Witness Testimony of Mr. Raymond C. Kelley, Director, National Legislative Service, Veterans of Foreign Wars of the United States). Today's allocation uses PRPs as a baseline to ensure that money is used where there is demand, however, facility conditional assessments are used to judgmentally allocate additional portions of funding. Facility conditional assessments are held every three years and include a listing of needed repairs and updates to maintain the stringent building and safety codes required in today's health care environment.

DISCUSSION

In review of the allocation method, it appears to fairly allocate funds throughout the several VISNs and promote efficiency through limitation of each VISNs allocation based on the services provided. However, as the VISNs use this model to allocate funds even further to the hospital level, several factors arise in the equity of the model.

As smaller hospitals offer limited services, they also are faced with certain inefficiencies based on

their limited size. The size limitation affects the allocation of funds through the labor index and adjustment. Small, rural hospitals lack the volume of patients and services to absorb the overhead costs of the facility as efficiently as a larger hospital. An economy of scale could be better experienced with a larger more complex facility, it can absorb administrative overhead much more efficiently. Therefore, the larger facility will be rewarded for these efficiencies based on the allocation model.

Smaller, rural hospitals are generally not located in the vicinity of educational institutions, or other large government organizations which results in limitation of the research support. As larger hospitals are likely to be located near an educational institution or other large governmental research organizations, they receive the most support for research and education. The education and research support to larger hospitals allows for better absorption of overhead costs as the larger facilities are more efficient. The efficiency gained allows for the allocation to subsidize fixed operating costs that smaller facilities must absorb through cutting other costs.

Under the equipment allocation, the funds allocated once again favor the larger hospitals as the allocation is based on patient workload. The lack of this source of funding prohibits smaller hospitals from growth of services and also creates a limits the continuation of some services. Without the ability to replace or purchase adequate equipment, the smaller hospitals are faced with drastic cuts that affect how veterans receive care.

Although there appears to better allocation of the funds for Non-Recurring Maintenance that identifies need, it overlooks a key factor. With the exception of a few, larger hospitals have a significant amount of older buildings on their grounds. Paired with the larger demand by patients, the majority of funds go to the larger facilities for projects that improve or grow their hospitals. The smaller hospitals who have lower demand still receive reduced allocations in light of the facility conditional assessments. These allocations to smaller hospitals are reduced to maintaining a hospital and complying with the ever changing building and safety codes. The result is that smaller, rural hospitals are hindered on growth and forced to turn away veterans to receive care elsewhere at additional cost due to capacity limitation.

CONCLUSION

Even with the discrepancies noted with the allocation to smaller hospitals, the VERA allocation model appears to be the most equitable form of allocation of funding and on a national scale provides funds where they are needed. The key breakdown in the model is the use of the allocation model by the VISNs to further distribute the allocations to the individual hospitals resulting in inequity due to size.

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APPENDIX A					
VERA 2013 Patient Classification Hierarchy and Final Prices					
	Class Number	Price Group	Patient Class	Abbrev. Class Criteria	Price Group List (#)
Basic Non-Reliant	1	1	Employee/Collaterals*	VA employee, collateral	Non-reliant Care (1) Priority 1-6 \$284 Priority 7&8 \$224
	2		Pharmacy*	No care, exclusively pharmaceuticals	
	3		Compensation and Pension (C&P) Exam	POV = "01" & non-vested care	
	4		Non-Vested Patient	Only OP care, no Vesting CPT for 3yrs	
BASIC VESTED CARE	5	2	Other Acute Diseases	Dx	Basic Medical/Ht. Lung. GI (2) Priority 1-6 \$2,664 Priority 7&8 \$1,591
	6		Ear, Nose and Throat	Dx	
	7		Endo Nutr Metab Disorders	Dx	
	8		Musculoskeletal Disorder	Dx	
	9		Central Nervous System	Dx	
	10		Cardiovascular Disease	Dx	
	11		Gastroenterology	Dx	
	12		Pulmonary Disease	Dx	
	13	3	Acute Mental Disease	Dx	Mental Health (3) Priority 1-6 \$3,506 Priority 7&8 \$2,390
	14		Addictive Disorders	Dx	
	15	4	HIV+ w/out Anti Retro-Viral Therapy	Clinical Case Registry (CCR)	Oncology/ Inf. Dis./ Blind (4) Priority 1-6 \$4,803 Priority 7&8 \$3,160
	16		Legally Blind	Dx	
	17		Hepatitis C w/out Anti-Viral Therapy	CCR	
	18		Oncology	Dx	
	19		Epilepsy	Primary IP or OP Dx	
	20	5	Multiple Sclerosis	Dx	Multiple Problem (5) Priority 1-6 \$11,958 Priority 7&8 \$9,657
	21		Medical/Psych+Substance	Dx plus significant workload	
	22		CCHT - Chronic Care Management	CCHT CCM assessment & 3 CCHT visits	
	23		Multiple Sclerosis w/Rx	DX plus specific MS drugs	
	24		Psych+Substance Abuse	Dx plus significant workload	
	25		Homeless Multiple Medical	Homeless DX plus significant OP workload	
	26		Multiple Medical	Dx plus significant workload	
	27		History of Transplant	History of transplant	
	28	6	PTSD - Acute	Dx (IP only)	Significant Diagnoses (6) Priority 1-6 \$21,306 Priority 7&8 \$17,629
	29		Acute MI	Specific Dx & inpatient	
	30		Metastatic Cancer	Specific primary or sec. dx.	
	31		Respiratory Failure	Specific Dx w/admission	
	32		High Cost Pneumonia	Specific Dx w/admission	
COMPLEX CARE	33	7	High Cost Conditions	Specific Dx w/admission	Specialized Care (7) Priority 1-6 \$15,562 Priority 7&8 \$11,083
	34		Hepatitis C with Anti-Viral Therapy	Clinical Case Registry (CCR)	
	35		AIDS or HIV+ w/ Anti RV Therapy	CCR: AIDS or HIV+w/ARV	
	36		Stroke	Inpatient Dx coding in first year	
	37		Chronic PTSD	Primary dx 309.8X w/41 BDOC/ Ret. crit	
	38		CCHT-Noninstitutional Care	CCHT NIC assessment & 3 CCHT visits	
	39		Traumatic Brain Injury (TBI)/PT	Inpatient Dx code/former Polytrauma	
	40	8	Home-Based Primary Care (HBPC)	10 qualified visits per year	Supportive Care (8) Priority 1-6 \$28,316 Priority 7&8 \$21,811
	41		Blind Rehabilitation Service	3 BDOC in BR service (TS= 21)	
	42		Residential Rehab. (Domiciliary)	91 BDOC in Dom or RRT	
	43		Community Nursing Home	31 PTF BDOC/41 Fee BDOC	
	44		Legacy LTC/Intermediate	31 PTF BDOC in Intermediate bed	
	45		Skilled Nursing w/Rehab & High Rehab	7-27 CLC BDOC & Rehab. RUG III/High Rehab	
	46		SCI Para-old Injury	Primary or Secondary dx	
	47	9	SCI Quad-old Injury	Primary or Secondary dx	Chronic Mental Illness (9) Priority 1-6 \$29,345 Priority 7&8 \$29,345
	48		Substance Abuse	Primary dx w/180 BDOC	
	49		Homeless-CMI	Homeless dx w/41 Individual CMI visits	
	50		Other Psychosis	Primary dx w/41 BDOC/Retention crit.	
	51		Schizophrenia & Dementia	Primary dx w/41 BDOC/Retention crit.	
	52	10	Mental Health Inten. Case Mgt (MHICM)	41 visits to cs 552/ CMI Retent. criteria	Critically Ill (10) Priority 1-6 \$63,928 Priority 7&8 \$61,327
	53		Short Stay CLC	28 to 90 CLC BDOC and RUG	
	54		End Stage Renal Disease	Dialysis Procedure Codes	
	55		Polytrauma (PT)	Inpat.PT unit (Sharing & Tricare funded)	
	56		Transplant	Procedure code(s)	
	57		SCI Para-New Injury/ SCI Instit.	Pri. or Sec. dx or 28 BDOC in TS 22 or CLC	
	58		SCI Quad-New Injury/ SCI Instit.	Pri. or Sec. dx or 28 BDOC in TS 22 or CLC	
	59	10A	Ventilator Dependent	Code 96.72 & 31 BDOC	Long Stay (10A) Priority 1-8 \$151,379
	60		Long Stay CLC	>90 CLC BDOC and RUG	

VERA-funded patients include: All Polytrauma patients, Complex Care patients (except for Sharing and Tricare patients) and Basic Care veterans in Priority Groups 1-8 and non-veterans presenting for C&P exams during FY 2009-2011. *Basic Care non-veterans (with the exception of C&P exams) as well as patients classified as exclusively Employee/Collateral or Pharmacy (only) in the 3-yr timeframe are not VERA-funded. For VERA 2013, Epilepsy class (#19) is new and CARF Rehab has been added to class (45).

Appendix B

FY2013 FINAL Network General Purpose Allocations: VERA Components Allocations

	Basic Care (in 6 groups)	Complex Care (in 4 price)	Long Stay Allocation	High Cost Patient Allocations	Geographic Price Adjustment	Research Support	Education Support	Equipment	Non-Recurring Maintenance	T21 VISN Funding	Total GP with no Floor
(Network)											
01 Boston	\$933,130,220	\$411,244,230	\$86,777,115	\$140,894,039	\$83,725,019	\$64,303,326	\$46,897,401	\$32,927,607	\$56,492,882	\$19,376,117	\$1,881,768,015
02 Albany	\$519,670,384	\$220,206,244	\$70,455,224	\$49,638,592	~~(\$33,437,957)~~	\$4,336,060	\$21,108,484	\$17,955,128	\$24,376,122	\$9,807,502	\$898,115,781
03 Bronx	\$689,327,828	\$396,191,144	\$116,829,847	\$223,170,130	\$114,041,350	\$15,841,409	\$51,482,298	\$24,767,448	\$47,057,690	\$16,035,731	\$1,613,717,675
04 Pittsburgh	\$1,143,739,255	\$404,243,434	\$139,973,458	\$142,916,195	~~(\$25,043,333)~~	\$23,197,850	\$26,247,654	\$42,185,937	\$35,484,184	\$21,816,105	\$1,954,400,719
05 Baltimore	\$26,624,735	\$218,113,621	\$85,082,844	\$93,407,645	\$1,874,895	\$22,110,169	\$22,307,408	\$18,400,435	\$23,402,681	\$8,428,755	\$1,089,653,188
06 Durham	\$1,315,377,166	\$462,382,142	\$95,878,389	\$127,883,470	~~(\$36,491,998)~~	\$20,424,286	\$40,741,954	\$43,595,765	\$37,500,729	\$17,504,788	\$2,122,309,890
07 Atlanta	\$1,488,197,074	\$545,841,479	\$101,976,440	\$139,484,004	~~(\$85,930,810)~~	\$22,301,756	\$43,680,478	\$50,276,882	\$34,272,504	\$19,064,686	\$2,869,264,944
08 Bay Pines	\$2,241,727,249	\$723,663,925	\$135,311,314	\$220,099,887	~~(\$123,000,148)~~	\$20,980,783	\$61,554,743	\$71,779,997	\$43,099,218	\$29,775,953	\$3,424,913,222
09 Nashville	\$1,201,539,392	\$385,297,830	\$55,911,525	\$92,130,848	~~(\$63,605,116)~~	\$23,993,892	\$47,114,827	\$38,130,024	\$28,526,947	\$15,369,993	\$1,824,410,744
10 Cincinnati	\$875,582,925	\$443,116,773	\$90,027,614	\$74,537,612	~~(\$29,438,472)~~	\$19,760,989	\$27,796,817	\$29,489,116	\$22,655,236	\$11,151,473	\$1,564,681,983
11 Am Arbor	\$1,061,004,124	\$341,104,957	\$82,273,256	\$69,402,702	~~(\$27,672,719)~~	\$24,023,587	\$31,481,537	\$36,320,882	\$29,380,406	\$15,105,625	\$1,662,524,357
12 Chicago	\$953,710,158	\$454,659,881	\$92,085,280	\$173,216,873	\$26,666,387	\$30,010,145	\$57,623,772	\$33,142,216	\$49,824,348	\$15,231,539	\$1,888,170,609
15 Kansas City	\$988,578,345	\$404,319,808	\$46,608,058	\$76,045,320	~~(\$52,917,194)~~	\$6,365,676	\$29,854,956	\$32,240,230	\$34,437,589	\$15,788,762	\$1,561,521,551
16 Jackson	\$2,000,799,617	\$639,116,619	\$82,551,174	\$138,314,016	~~(\$44,308,875)~~	\$20,854,794	\$72,836,622	\$65,387,942	\$40,936,223	\$26,481,925	\$3,048,433,056
17 Dallas	\$1,141,211,837	\$468,189,827	\$67,183,458	\$117,386,411	~~(\$7,326,680)~~	\$16,125,030	\$30,440,662	\$38,276,160	\$23,053,624	\$13,502,423	\$1,927,052,743
18 Phoenix	\$1,023,003,039	\$397,127,165	\$59,354,716	\$73,418,250	~~(\$63,029,980)~~	\$13,177,655	\$30,757,605	\$33,979,655	\$19,419,418	\$15,780,161	\$1,603,287,683
19 Denver	\$745,930,283	\$255,838,286	\$34,132,851	\$39,921,788	~~(\$25,441,353)~~	\$13,576,604	\$22,995,546	\$24,825,117	\$18,447,093	\$13,627,239	\$1,147,883,514
20 Portland	\$1,106,794,815	\$392,046,086	\$41,268,142	\$93,967,059	\$5,026,017	\$40,931,308	\$30,398,633	\$35,311,321	\$30,621,118	\$15,738,732	\$1,812,275,252
21 San Francisco	\$1,071,517,466	\$374,014,839	\$111,446,810	\$184,698,986	\$20,954,728	\$76,403,208	\$44,057,680	\$34,431,350	\$39,150,652	\$15,586,827	\$2,182,268,486
22 Long Beach	\$1,276,817,959	\$448,508,671	\$60,798,350	\$98,714,778	\$124,561,089	\$53,426,687	\$71,236,593	\$40,956,445	\$39,538,559	\$15,592,127	\$2,330,451,238
23 Minneapolis	\$1,157,480,487	\$537,682,606	\$98,319,150	\$89,671,676	~~(\$39,178,828)~~	\$36,250,786	\$35,992,312	\$42,120,341	\$22,772,775	\$19,233,485	\$2,010,344,799

1. FY13 Education, Research, Equipment & NRM funding are final based on the FY12 President's Budget Level. High Cost threshold is \$108,000 and Long Stay CLC threshold is \$218,000.

2. All workload and costs are based on FY 2011 data for FY 2013 projections. Updated PRPs and Costs are as of July 13, 2012. Research Data FY 2011 EOY as of June 25, 2012.

3. Residents updated as of August 1, 2012. Labor Index is based on July 18, 2012 run for PP 1, 2, 3, and 4.

4. Adjustment made to VISN 10 (Cleveland VAMC) for \$12.6M for high cost patients. Adjustment to the appropriation split was not made thru the VERA model, but as requested by the VISN CFO.

THE EFFECT OF THE AFFORDABLE CARE ACT ON THE FINANCIAL PERFORMANCE OF HEALTHCARE INSTITUTIONS

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THE EFFECT OF THE AFFORDABLE CARE ACT ON THE FINANCIAL PERFORMANCE OF HEALTHCARE INSTITUTIONS

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ABSTRACT

The Patient Protection and Affordable Care Act (PPACA) and the Health Care and Education Reconciliation Act (Reconciliation Act), collectively referred to as “healthcare reform” will implement numerous changes that will directly impact physician providers. Several of these provisions affect primary care physician and specialists separately, while other provisions will impact all physician providers with an increased focus on the coordination of patient care. One of the primary goals of healthcare reform is to improve quality of care and increase patient access to care while controlling healthcare costs. However, third-party payment arrangements already compromise the independence and integrity of the medical profession. Within healthcare reform, physicians will be subject to more government regulation and oversight, and will be increasingly dependent on irregular reimbursement for medical services.

INTRODUCTION

In March 2010, President Barack Obama signed the Patient Protection and Affordable Care Act (PPACA) into law. This law, formally known as H.R. 3590 and commonly referred to as the Healthcare Reform and Obama Care, was enacted with the goals of providing healthcare coverage to millions of

uninsured persons and reducing the cost of care over time. Under H.R. 3590 total expenditures as a percentage of GDP are expected to be 0.5% lower by the year 2030 than if this law had not passed. In addition, it is estimated by the Congressional Budget Office that there will be a reduction of \$100 billion to the federal deficit within the first ten years of enactment with that number increasing to \$1 trillion during the second decade of enactment. Further, the Commonwealth Fund has released estimates that overall expenditures on healthcare will be reduced by approximately \$600 billion (Orszag & Emanuel, 2010). This is all to be done while simultaneously providing healthcare coverage to an additional 32 million Americans. The question then becomes who will care for the influx of patients and what will this cost the doctors that do?

The Patient Protection and Affordable Care Act contains certain cost control elements such as the promise to eliminate unnecessary costs including instituting measures against Medicaid and Medicare fraud and abuse and the reduction of unnecessary paperwork by streamlining administrative processes and implementing electronic standards and operating rules that Medicaid, Medicare and private insurers must use. Measures to reduce fraud are anticipated to save US \$7 billion dollars over a ten year period and the simplification of administrative processes are said to save an estimated \$20 billion over ten years (Orszag & Emanuel, 2010). Therefore theoretically we have “saved” \$27 billion in ten years just from these two actions but what is being neglected is the consideration of how much it will cost to implement these new measures and the future value of the money used for implementation. An example of measures to reduce fraud means having more internal controls and processes in place for physicians which implies a cost that they are not currently incurring. It could also mean more legal fees and the possible loss of income due to inability to participate in government funded programs.

There is a cost to streamlining administrative processes which undoubtedly involves a switch to using electronic medical records (EMR). The costs for doing this include not only the purchase of new software but also the retraining of staff, redesign of workflow and the implementation of new policies and procedures. One clinic, the Belleville Family Medical Clinic in Wisconsin implemented EMRs at their clinic as early as 2003 and estimate that they spent between \$220,800 and \$260, 800 on this process (Smith, 2003). We should also consider the annual technology assistance fees that clinics will most likely pay to maintain their systems. To help cover these costs the Recovery Act contains \$26 billion dollars to assist with the implementation through its investment in Health technology (Orszag & Emanuel, 2010) but not all physicians will qualify for this money. These measures are aimed at reducing costs and while there may in fact be long term cost savings someone still must bear the upfront costs.

Another major component of Healthcare reform is a new excise tax on insurance plans that will charge more than \$27, 500 annually for families and \$10, 200 for individuals (excluding vision and dental). This 40% tax on the portion of insurance that exceeds these amounts is set to begin in 2018. These costs may affect physician reimbursement in addition to causing a reduction in employee wages as it is suggested that employees will pay more for coverage as employees pass on the cost of more expensive insurance (Orszag & Emanuel, 2010). Theoretically, if employees have less discretionary income, especially with health insurance coverage, they may not be willing to pay their portion of a visit to the doctor unless they fear something is seriously wrong. This may result in patients being seen at later and more expensive stages of their disease and a decrease in the volume of patient visits. Both of which could impact physician revenue. Physicians may not experience any financial impact from the latter if they are being paid under a capitation plan in which case fewer visits will actually result in more money for the practice. After the year 2020 this tax should cap out at the overall rate of inflation based on the Consumer Price Index and create incentives for employers and insurers to develop more cost effective plans with lower premiums. How? By increasing a premium threshold that will increase with inflation rather than with the cost of providing care (Orszag & Emanuel, 2010). This seems a bit illogical since insurers are for-profit corporations and to make a profit the actual costs of providing care have to be factored into the equation. If costs are increasing at a rate higher than inflation, as has historically been the case in healthcare, then firms have no incentive to be in business. This could potentially be a long-term unintended consequence that will impact the number of

revenue streams available to physicians.

A potential benefit to physicians that might help streamline care and improve efficiency within their individual practice is the creation of the Patient-Centered Outcomes Research Institute (PCORI) that promises to empower doctors and their patients with new information on the effectiveness of multiple medical technologies and interventions. “The integration of the PCORI research findings with decision supports, guidelines, and other aspects of electronic health records should greatly enhance the information that physicians and patients can use in choosing the right tests and treatments for a particular situation,” (Orszag & Emanuel, 2010). PCORI is expected to bring in many new methods that will enhance quality care. Having streamlined and more efficient systems in place could save money for physicians or simply create a headache as they struggle to meet new standards. That, like everything else with this new legislation, remains to be seen.

The Patient Protection and Affordable Care Act also have provisions to reduce hospital readmission rates for Medicare recipients. Data shows that more than half of those readmitted within thirty (30) days of being discharged had not been seen by their primary care physician during the period between discharge and readmission. This law allocates \$500 million over a five year period to manage the care of these patients during that thirty (30) day period (Orszag & Emanuel, 2010). This could provide additional money to the physicians caring for patients in their practices. It is unclear if this \$500,000 is in addition to what they would normally have been reimbursed to care for these patients if they had visited their primary care physician upon discharge as instructed. Furthermore, hospitals with high risk-adjusted readmission rates will incur penalties (Orszag & Emanuel, 2010). These penalties could cut into the hospital bottom line and eventually impact salaries of physicians that are functioning as a part of the hospital’s staff.

The PPACA offers several new ways for physicians to be reimbursed such as gain sharing in which the organization is allowed to keep the savings that they have generated and expanded bundling in which a single payment is received for an entire event and any subsequent care for a specified amount of time (Goodson, 2010). These bundled payments will be offered to doctors and hospitals that provide coordinated care to the chronically ill. Providing coordinated care reduces hospitalizations and the overall cost of care for these individuals. The bundled payments could provide a financial benefit to doctors who effectively manage their patients (Orszag & Emanuel, 2010). What the creators of the bundled payment system neglected to consider is that there are times when doctors do all they can and patient conditions simply don’t improve whether it be from non-compliance on the part of the patient, because the patient’s condition went untreated for so long that it’s beyond the point where any significant improvements should be expected or any number of other scientific reasons that improvements simply might occur. In such cases these bundled payments based on patient improvement might be more punitive than beneficial. However, by increasing partnerships and professional relationships to provide coordinated care physicians will experience an increase in market power that might enable them to demand higher prices for their services (Ginsburg, 2011).

The PPACA also stipulates that DHHS will identify and make adjustments in payment for any undervalued services and provides primary care physicians with a 10% increase in payment over the next five years and will provide reimbursement for Medicaid patients at the Medicare rate in 2013 and 2014. This will allow physicians to temporarily receive higher payments for Medicaid patients than they have in the past. These adjustments will be accompanied by the requirement that primary care physicians show better outcomes to justify this increase in payment (Goodson, 2010). Perhaps the most significant to physicians is that Healthcare Reform will establish an Independent Payment Advisory Board (IPAB) in charge of changing the Medicare payment system. Effective in January 2014, IPAB must develop policies for addressing any inflation in Medicare as measured reviewing per capita costs to the program as measured against a predetermined threshold (Orszag & Emanuel, 2010).

One typical company that can be looked at to see the potential effect is Tenet Healthcare Corporation and all of the financials of this company will be negatively impacted because of increased cost. This increased cost will affect the performance of the company.

Profitability	
Profit Margin (ttm):	-0.64%
Operating Margin (ttm):	7.92%
Management Effectiveness	
Return on Assets (ttm):	5.31%
Return on Equity (ttm):	-2.10%
Income Statement	
Revenue (ttm):	9.55B
Revenue Per Share (ttm):	92.26
Qtrly Revenue Growth (yoy):	8.40%
Gross Profit (ttm):	7.57B
EBITDA (ttm) ⁶ :	1.23B
Net Income Avl to Common (ttm):	-50.00M
Diluted EPS (ttm):	-0.59
Qtrly Earnings Growth (yoy):	-31.70%
Balance Sheet	
Total Cash (mrq):	82.00M
Total Cash Per Share (mrq):	0.83
Total Debt (mrq):	5.82B
Total Debt/Equity (mrq):	580.56
Current Ratio (mrq):	1.45
Book Value Per Share (mrq):	8.32
Cash Flow Statement	
Operating Cash Flow (ttm):	590.00M
Levered Free Cash Flow (ttm):	364.88M

The table above summarizes some of the financials of one company (Tenet Healthcare) as an example of a company in the healthcare industry that will be affected by the Affordable Care act. This company will be affected by having a reduced profit as well as all of the financial measures will be negatively impacted.

These companies maybe making a profit but typically when there is a reduction in profits then the stock price is reduced as an effect of this reduction. The final effect on physicians is that there less money to be spent on innovation, technology and additional physicians and in some cases these will be reduced due to the increased cost of the Act. Clinical improvements as well as research will be reduced and this will parentally affect the level and quality of research that is done.

The additional costs and expenditures cannot easily absorbed by these companies and investors in the market will typically reduce the price of the shares and this will that they are willing to pay for the stock because of this reduction in profitability.

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TRACK

STUDENT LED

ACCOUNTABILITY: A NECESSARY VALUE

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ACCOUNTABILITY: A NECESSARY VALUE

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INTRODUCTION

Accountability is featured as a key concept in many circles from the federal government, to corporate America, to non-profit organizations of all sizes. Doyle (2005) points out that nonprofits, such as the Red Cross and their handling of funds after 9/11/01 as well as corporate giants such as Enron have brought the issue of accountability to the forefront. Dubnick (2005) cites several resources promoting accountability “as a solution to a wide range of problems” (p. 376) as well as leading to improvements in the quality of services offered.

In addition to mission and vision, increased attention is being given to the alignment of values such as accountability and organizational performance. Johnson and Jackson (2009) pointed out that “value congruence is particularly significant because values are relatively stable over time and guide people’s attitudes, judgments, and behaviors” (p. 916). In their study of organizational values and organizational performance outcomes, Fitzgerald and Desjardins (2004) began with the statement that “organizational values that are shared by employees lead to improved performance outcomes in for-profit organizations” (p. 121).

One of the challenges is sorting through the various definitions and uses of the concept of accountability. Kim (2005) stated “accountability is an ill-structured and underdeveloped concept in public and nonprofit administration” (p. 146). Kim (2005) also suggested a definition for accountability as “the state of being answerable to a higher authority for one’s actions or behaviors” (p. 147). Kim (2005) noted that others (e.g., Fry, 1995; Lawry, 1995; Mason, 1992) defined it as “a type of ethical self-discipline that implies the willingness of an agency to accept responsibility for its decisions and their consequences to organizational constituencies within its organizational structure” (p. 147). Others, like Dubnick (2005), do not define accountability but provide examples or lists of synonyms such as “responsibility,” “answerability,” or “responsiveness” (p. 380).

Likewise, there are many definitions of organizational values. Fitzgerald and Desjardins (2004) cited a meta-analysis done on over 200 articles, each with different definitions of values (p. 123). While the definition selected for their study is lengthy, Fitzgerald and Desjardins (2004) noted that “organizational values have come to mean values that organizations espouse, or more accurately, are espoused on the organization’s behalf by senior managers” (p. 123).

Notably, trade and academic literature link accountability to both value creation and

organizational performance. Kim (2005) discussed the linkage between accountability and organizational performance in non-profit human services agencies, while Dubnick (2005) notes the linkage within public administration (Dubnick). Several others (e.g., Benjamin, 2010; Carman, 2011; Doyle, 2005) have noted this also in the non-profit sector. Each stressed organizational performance measurement as a tool to ensure accountability, but very few brought in the additional component of common organizational values or value creation.

Deficiencies in Past Studies

The majority of the studies reviewed to date have discussed accountability, value creation, and links to organizational performance from a leadership perspective. While the phrase “the buck stops here” generally does mean that values, including accountability, need to start at the top, the need for accountability, values, and their role in organizational performance exists at all levels. Few studies made all of these connections, especially in a small healthcare setting.

Significance of the Study

Enhanced knowledge of the connection of accountability, values, and their role in organizational performance is called for. The knowledge generated can assist leadership teams in small healthcare facilities or organizations of similar size and complexity. Further, exploration would enable the identification of the gaps in the alignment of accountability, values, and organizational citizenship behavior at various levels within the organizations. Human resources staff and education coordinators may also be assisted in the development of management and staff training initiatives in the areas of organizational values and their alignment with organizational performance.

Purpose Statement

Due to these gaps in understanding, the purpose of this study is to examine accountability and its relationship to organizational citizenship behavior in small rural healthcare organizations. Characteristics of each concept will be identified and individuals within healthcare organizations will be surveyed in an attempt to answer these questions: (1) Are there characteristics related to organizational citizenship behavior that influence or predict a higher level of accountability of an individual staff member? (2) Does organizational tenure positively affect either organizational citizenship behavior or accountability?

Literature Review

De Cremer et al. (2001) conducted two studies to investigate the importance of self-monitoring and accountability in the contributions made in an organization. The overarching hypothesis centered on the belief that when trust and accountability were high, behavior was positively affected. The first study involved seventy-eight university employees who were asked to rate a number of questions and statements on attitudes, behavior, and self-monitoring. This was followed by participation in a give-some game. The second study involved one hundred and sixty-nine students, who completed questionnaires, who were then separated into groups and given scenarios. In both studies, there was a significant correlation between trust, accountability, and willingness to contribute. In both studies, the addition of accountability to those individuals who indicated low trust yielded contributions at the same level as those who indicated high trust. As such, the study revealed accountability mediates the relationship between trust and willingness to contribute (De Cremer et al., 2001).

Dubnick (2005) utilized a social mechanism approach in his investigation of the relationship between accountability and performance. He sought to test what he termed “the unchallenged rhetoric of ‘greater accountability will mean improved performance’” (p. 378). He focused on account giving,

different types of reporting, and the use of reporting as control. On the performance side of the equation, he described four different types of performance: competence, productivity, production, and results. The study found that while there is no logical, proven link between accountability and performance, there are motivating forces such as expectations and trust that do start to link the two more closely, which Dubnick (2005) referred to as “M factors” (p. 394).

Carman (2011) used semi-structured interviews to collect data on 31 nonprofit organizations. The interviews were designed to determine why program evaluations were done, how the results were used within the organization, and which practices most closely correlated with one of five organizational theories. The five theories were rational choice theory, agency theory, institutional theory, stewardship theory, and resource dependence. The organizations with program evaluations categorized as belonging to agency theory or stewardship theory listed accountability as one of the main reasons for the evaluation. This study delineated the small number and types of organizations contacted to be a limitation.

Kim (2005) examined accountability and performance improvement in a nonprofit human services organization, outlining the challenges of competing interests. Kim (2005) adopted a framework for analysis based on that devised by Johnston and Romzek (1999) to help sort out multiple competing accountability relationships when identified. The study concluded that maintaining a proper balance of the four competing interests would always be challenging.

In a healthcare oriented study, McDonagh (2006) examined the relationship between the accountability of hospital governing boards and organizational performance. A tested tool for evaluation of nonprofit organizations, the Board Self-Assessment Questionnaire (BSAQ) was completed by hospital board members. McDonagh (2006) measured hospital organizational performance by analyzing hospital ranking in a nationally recognized program for hospital performance. Study findings supported the hypothesis that better boards, those scoring higher on the BSAQ, do have better performing hospitals. It was also noted that there were some limitations and challenges in obtaining individual board member participation in the study, with some CEO’s reluctant to allow board members to participate.

Johnson and Jackson (2009) stated that “values serve as guides that communicate expectations and shape people’s attitudes and behaviors” (p. 915). Clearly stated core values give each employee, regardless of their role, the same set of obligations which can improve employee morale and affect organizational performance (Bhattacharya, Devinney, & Pilluta, 1998).

Joyce (2009) noted the importance of values of nurse leaders to key performance indicators. Utilizing a case study methodology, data was collected in the context of an educational setting with parallels drawn to a health care setting. Interviews with a principal, two teachers, two students, and a parent were performed to establish a connection between the values of the principal to various aspects of school or student performance. Joyce (2009) used a weighting framework from the European foundation for quality management to analyze the results, and then established the linkage with similar roles in the health care setting. The framework indicated that leadership, weighted at 20%, is a key enabler in achieving key performance indicators.

Law and Aquilina (2013) also used a case study approach in their study of leadership attributes of nursing leadership and organizational performance in a single organization. The study’s purpose was to determine whether coaching for values had a significant impact on meeting both personal and organizational performance goals. While this was one of the study’s outcomes, the authors did note several limitations to the study including a difficulty controlling all stages of the study, despite attempts at addressing bias during the interview process.

In their study, Mehboob and Bhutto (2012) explored the relationship between job satisfaction and organizational citizenship behavior in three business institutes. Two instruments were used to measure job

satisfaction and organizational citizenship behavior through distribution of self-administered questionnaires. Though their results showed that job satisfaction was a weak predictor of organizational citizenship behavior, the study instruments and methodology could be adapted.

METHODS

The proposed study will follow a quantitative research approach, involving the use of a two-part structured survey as the primary data collection method. The first section of the survey will use the retained items from a multi-factorial survey as used in the 1991 study by Van Dyne (1994). The second section of the survey consists of statements related to accountability, and the perception of employees regarding their level, their boss's level, and the organizational attitudes towards being accountable

Sample

Participants in the study will include staff who are 18 years of age and older at several 25-bed rural healthcare facilities located in the upper Midwest. Permission will be sought from the executive team of the regional Health Cooperative to make their email directory available for recruitment purposes. The sample participants will be pre-notified by email, and a link to the survey and embedded consent will be provided.

DATA COLLECTION

Data will be gathered via electronic survey of contacts drawn at random from the email contact lists maintained by the Health Cooperative. The request for participation will be embedded into the introduction to the survey as will the informed consent. Demographic information such as age, gender, and years of employment in the facility will be collected along with the survey responses. It is anticipated that each survey will take about fifteen to twenty minutes to complete.

Data Analysis

Statistical software will be used to analyze the data. Utilizing the Van Dyne (1994) study as a model, the Organizational Citizenship Behavior categories of loyalty, obedience, and participation will be used to stratify the results of the first section of the survey (Van Dyne, 1994). Comparison will be made with the data from the second section covering concepts related to accountability.

CONCLUSION

If accountability is truly a "solution to a wide range of problems" (Dubnick, 2005), it is a value that should be expected of all staff in all businesses large and small. With the current business climate within healthcare, especially in smaller healthcare facilities that do not have the deep pockets of the larger networks, it will be extremely important to do better with fewer resources. This study seeks to bring some clarity to the concept of accountability through the lens of organizational citizenship behavior, giving facilities a more concrete basis on which to select, train, and measure accountability within their organization.

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THE EFFECT OF BANKRUPTCY ON CONSUMER CREDIT

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ABSTRACT

Few words put more fear into the hearts of those in the banking industry than bankruptcy, however, what should cause more fear are all of the opportunities being missed by lenders that will not lend to those that have filed bankruptcy. As bankruptcy laws have come to reward those that file and walk away from their debts, lenders are becoming increasingly wary of lending to individuals that have filed bankruptcy (Athreya, 2005; Wiener et al., 2007). Causing even more fear are studies indicating that people that file once are destined to return to financial hardship (Han & Li, 2011; Thorne, 2007). The fears have led many financial institutions to create policies that prohibit lending to previous bankruptcy filers. However, there are multiple studies that show the benefits of, and need for, post-bankruptcy lending (Cover, 1938; Lown, 2008; Stavins, 2000). These studies, combined with the fact that lenders can charge a higher interest rate to borrowers after a bankruptcy, due to their low credit scores, gives good reasoning to take a closer look at the benefits of post-bankruptcy lending.

INTRODUCTION

Background

Many of the previous studies can be placed into three categories: antecedents of bankruptcy, filer demographics, and recovery from bankruptcy. The studies that focus on the causes of bankruptcy have found the leading reason for filing is a life event, which can be job or income loss, medical expenses, or divorce (Cover, 1938; Livshits et al., 2007; Lown, 2008). Studies focused on the demographics of filers have discovered that filers are more likely to be self-employed and have some (but a lower amount) of college education than the population average (Athreya 2005; Cover, 1938; Livshits et al., 2007; Lown, 2008). Finally, studies analyzing the recovery from bankruptcy find that people have difficulty borrowing after bankruptcy, which results from a combination of many lenders turning them away and being forced to result to payday loan companies, which are finance companies that charge extremely high rates (Han & Li, 2011; Thorne, 2007). Studies in this area also discuss the importance in financial counseling and how it can help prevent people from ending up back in financial troubles (Cover, 1938; Lown, 2008; Wiener et al., 2007).

While the causes of bankruptcy and the filer demographics have been studied in great detail, one area that has not been explored is if allowing post-bankruptcy lending is beneficial to financial institutions. In addition, existing studies have also not explored if different life events lead to differences in the successfulness of recovery. This study will fulfill these needs by looking at individuals that have previously filed bankruptcy, through the lens of those that have worked with people recovering from bankruptcy. Specifically, this study will explore perceived risk, leading causes of bankruptcy, and if the cause has had an impact on the ability to rebuild credit.

Significance of Study

Studying whether or not post-bankruptcy lending is a smart business decision will be important to any financial institution for a variety of reasons. First, for many financial institutions, it is the interest income from loans that pay the bills. In a highly competitive environment that has led to extremely low interest rates, it is necessary to make loans to people with lower credit scores in order to increase yield. If a financial institution is only lending to high credit borrowers, the thin margin that they earn will not be enough to cover their costs. Secondly, this has the potential to increase membership levels. For those institutions that will not lend to those that have filed bankruptcy, this presents an opportunity to revisit those policies and allow for a new membership segment that was previously ignored. Finally, this study can help create more loyal members. By giving these individuals a second chance and the opportunity to rebuild their credit, they are much more likely to continue coming back to that same financial for their future lending needs.

The purpose of this study will be to understand the causes of bankruptcy and discover whether or not there is a benefit to lending to individuals that have previously filed for bankruptcy. This study will be completed by conducting interviews with those that work with people that have previously filed bankruptcy, which will include: Credit Services Representatives, Financial Services Representatives, Loan Officers, and Credit Counselors.

LITERATURE REVIEW

The concept of bankruptcy was developed in order to give consumers a fresh start in the event they are faced with overwhelming financial difficulty (Han & Li, 2007; Livshits et al., 2007). While bankruptcy has the potential, in theory, to allow consumers to recover from these obstacles, there are

conflicting reports as to the actual long-term benefit of filing (Cover, 1938; Livshits et al., 2007; Stavins, 2000; Thorne, 2007). This review will begin by examining the types of life events that lead people to file for bankruptcy, some of which include: divorce, loss of income, and medical debt. Then, attention will be turned to the demographics of bankruptcy filers, where attempts have been made to find trends among those who file versus those that do not. Finally, the review will conclude with a look at consumers' attempts at recovering from bankruptcy, as well as various obstacles that may stand in the way of financial recovery.

Antecedents of Bankruptcy

Multiple studies (e.g., Athreya, 2005; Ellman, 2009; Thorne, 2007) have been conducted to support the idea of the purpose of bankruptcy is to help those that have been affected by financial distress. Athreya (2005) states that bankruptcy acts like an insurance policy for those hit by bad luck. The causes of this bad luck vary, but the leading causes tend to be job loss or income loss, an abundance of medical debt, and divorce (Athreya, 2004; Cover, 1938; Himmelstein et al., 2005; Livshits et al., 2007; Lown, 2005; Lown, 2008). It can certainly be argued that due to the number of people affected by the aforementioned obstacles, giving people the chance to obtain a fresh start is a necessity (Athreya, 2004; Ellman, 2009; Livshits et al., 2007; Lown, 2005; Lown, 2008; Thorne, 2007). However, while these financial stressors all appear to be valid, others (Athreya, 2005; Thorne, 2007; Wiener et al., 2007) argue that giving consumers the option of bankruptcy may encourage them to live beyond their means, knowing that they can walk away from their debts at any time. Athreya (2005) continues this argument with the proposal that "to the extent that households learn the bankruptcy process from each other and decide that it is easier than they believed, currently high filing rates may lead to even higher filing rates" (p. 92). These ideas, unfortunately, are probably much more accurate than desired by the proponents of bankruptcy (Athreya 2005; Thorne, 2007; Wiener et al., 2007).

The arguments presented by the opponents of bankruptcy, as well as the damage done on credit reports, have given lenders cause to be hesitant to lend money due to the potential of people to walk away from their debts (Athreya, 2005). The hesitancy is only expected to increase towards prospective borrowers that have had their debts discharged in the past. However, it is possible that educating people on the consequences of bankruptcy will deter those without valid reasons from filing, thus avoiding the potential difficulties of borrowing (Lown, 2005; Lown, 2008; Wiener et al., 2005). For example, many borrowers are unaware that filing bankruptcy does more damage to your credit report, and stays on the credit report longer, than any other financial mistake (Thorne, 2007). Previous research shows that if the reason a consumer files bankruptcy can be attained, it is possible to better predict the risk of a given borrower (Cover, 1938; Thorne, 2007). In the event that a consumer is affected by a life event that was subsequently resolved by their filing for bankruptcy, there is reason for a lender to see them as less of a credit risk than consumers that filed due to overextending themselves (Stavins, 2000; Thorne, 2007).

Filer Demographics

Although knowing the reason that a prospective borrower has filed may not be enough to predict future default on its own, it is beneficial when combined with other information (Athreya 2005; Han & Li, 2011; Livshits et al., 2007; Lown, 2008). Several studies (Athreya, 2005; Cover, 1938; Han & Li, 2011; Livshits et al., 2007; Lown, 2008) have been conducted to determine trends among those that file for bankruptcy. One such trend that has been widely recognized is the disproportionate amount of filers that are self-employed small business owners (Athreya, 2005; Cover, 1938; Livshits et al., 2007; Lown, 2008). Lown (2008) discovered from various samples that while almost 20% of filings are made by small business owners, only 7% of the general population owns a small business. She goes on to note that there was an extensive mix of personal and business debt reporting at the time of filing. Considering the high failure rate of new businesses, her findings should not be surprising.

Another discovery was the relationship between education and bankruptcy filing (Athreya, 2005; Lown, 2005; Lown, 2008; Wiener et al., 2005). Although a large proportion of filers noted at least “some college”, the amount of people who had attained their college degree was much lower. Athreya (2005) takes this a step further by noting there are differences in filing levels by the type of degree received. According to Athreya (2005), people that receive degrees with a lower return of income in comparison to cost are much more likely to file. This finding supports several other studies (Athreya, 2004; Cover, 1938; Livshits et al., 2007; Lown, 2008) that show a lower income leading to an increased rate in bankruptcy filing. Lastly, research has shown that the typical age of filers ranges from 25-44 with a median of 38-41 (Lown, 2008). One conclusion that may be drawn from these trends is that people that attend college, but do not necessarily graduate, find it difficult to find a job in their field and have to settle for a lower paying job; this combined with a high level of student loans could be what puts them into default. In addition, those that choose to use, and potentially overuse, credit cards may delay their filing for a time, but increase the likelihood that even a small life event could force them into filing in the future, which would support the higher median age of late 30’s into early 40’s.

Recovering from Bankruptcy

As mentioned previously, the purpose of allowing someone to file bankruptcy is to give them a fresh start and the opportunity to overcome the life events or financial obstacles that have overwhelmed them. In actuality, bankruptcy tends to simply replace the obstacles with new ones, which can often result in even greater hardship than prior to filing (Athreya, 2004; Cover, 1938; Han & Li, 2011; Thorne, 2007). This hardship can be seen in a variety of ways, including having problems getting a job (Thorne, 2007) and a mortgage (Athreya, 2004; Han & Li, 2011). The lenders cannot be fully blamed for this; several studies (Athreya, 2004; Cover, 1938; Han & Li, 2011; Stavins, 2000; Thorne, 2007) indicate that people that file bankruptcy once are much more likely to head back down the path of delinquency, default, and bankruptcy again. Cover (1938) and Thorne (2007) have both come to the conclusion that borrowers are destined to return to indebtedness. One of the reasons for this are predatory lenders who get filers approved for credit cards, then use their previous problems to lure them to borrow more and overuse their cards (Albin & Harris, 2006; Stavins, 2000; Thorne, 2007).

Bankruptcy alone may not provide long-run improvement (Han & Li, 2011); however, if consumers combine bankruptcy with financial education does show positive results (Cover, 1938; Lown, 2005; Lown, 2008; Wiener et al., 2005). Lown (2008) documents that not only does financial education need to take place, but it needs to start at an early age. By waiting until the financial troubles begin, oftentimes it is too late. If lenders take the time to educate their customers, the customers will handle their credit cards better and not overuse them (Wiener et al., 2007). In turn, if customers become educated and handle their cards better, the lender can see excellent profitability due to the increased rates charged to those with poor credit (Stavins, 2000). However, if education is not made a priority when marketing the credit card, a rapid accumulation of debt can be expected (Albin & Harris, 2006), and as Cover (1938) and Thorne (2007) warned, the debtor will return down the path of indebtedness. The aforementioned research would suggest that it is important for a bankruptcy filer to reestablish credit, as bankruptcy alone will not give them the fresh start that was implied (Cover, 1938; Lown, 2008; Wiener et al., 2007). In order for this to happen, good lenders (not predatory lenders) must be willing to not only grant credit to recent filers, but also take the time to educate them and help keep them from over-accumulating debt (Cover, 1938; Lown, 2008).

As outlined previously, there are several things that can lead to someone filing bankruptcy. Though there are some detractors, the overall consensus is that bankruptcy is an important part of helping consumers overcome financial difficulties. Based on several of these studies, it can be seen that in many cases, it is a major life event (job loss, medical debt, or divorce) that leads to bankruptcy, and not purely irresponsibility as others would indicate. By effectively determining what leads to the initial bankruptcy, it

can be proposed that lenders can effectively market to the consumers who are least likely to fall back into delinquency and default. Understanding the demographics of filers is also an important step in the decision to lend money to prospective borrowers. Most importantly though, it can be seen that a lack of widespread knowledge on this subject is leading to many lenders making it difficult for filers to reestablish credit after their bankruptcy is discharged. If more lenders can take this information and educate their customers, there should be a decrease in the number of repeat filers and delinquent borrowers.

METHODS

The aim of the current study will be to determine whether or not lending to people that have previously filed for bankruptcy is a smart business decision for financial institutions. This study will be conducted by non-probability sampling; more specifically expert sampling. Participants will be a combination of credit services representatives, financial services representatives, loan officers, and credit counselors.

The study will be conducted using in-depth interviewing in a semi-structured format, following a qualitative, grounded theory approach. The grounded theory approach was chosen because the study is concerned with understanding the subjective experiences of those working with bankruptcy filers, instead of looking at why people file for bankruptcy (Creswell, 2009). The reason for using this method is two-fold; the sensitive nature of the subject and the need for unbiased data. Bankruptcy is a very sensitive subject for many that have experienced it and rich data is still readily available from people that have helped previous filers through the process. In addition, there is a concern that some filers may give answers that they perceive to be the right answer instead of giving the true answer. By interviewing an unbiased third party, this risk will be minimized.

Data Collection

The sample group will be generated by accessing organizational employee lists, and potential participants will be contacted through professional networks. Data will be collected via in-depth, semi-structured interviews. The interviews will be scheduled once invitations are accepted, and will take place at a time and place convenient to the participant. Prior to the interview, the participants will also be asked to sign an informed consent form. An interview protocol will be used in an attempt to keep interview discussions fairly consistent among the different participants. Audio data will be digitally recorded with pertinent notes also taken. The notes will not be predetermined, but instead will be based on the interviewer's judgment of importance, and used as a precaution to prevent any statements being taken out of context during transcription. Interviewees will not be named during the interview or anywhere on the notes. Instead, they will be identified by a letter (ex: A) assigned by the interviewer to protect their privacy and grant anonymity

Data Analysis

Following the interviews, the digital recordings and notes will be transcribed in preparation for coding. Transcription will be completed by the researcher with assistance from a professional transcriptionist as needed. As mentioned previously, identifiers, and any information given that may compromise anonymity, will be removed prior to transcription by assigning each participant a letter to represent them. All interviews will be coded, then be grouped and analyzed to come up with the main themes. By using a loosely structured interview format, researcher influence should be reduced, if not eliminated, which will take care of internal validity issues.

Ethical Considerations

Anonymity and confidentiality will be taken very seriously in this study. Participants will only be identified by a letter (ex: A) to prevent any connection from a specific individual to their comments.

Participation is completely voluntary and an informed consent form will be signed by each participant before their interview. The digital recording device, as well as any notes taken during the interviews, will be locked up to ensure the protection of data. Once data has been transcribed, the recordings will be erased. After the study is completed, data will continue to be locked up for three years, and then will be destroyed.

CONCLUSION

Bankruptcy is a very sensitive subject for those that are directly involved. For that reason, among others, this study will be completed by interviewing individuals that have worked with those that have previously filed bankruptcy. This will allow for unbiased data, while still accomplishing the purpose of the study, which is determining whether or not there is a benefit to lending to people that have previously filed. This study will be helpful to any financial institution, as well as those individuals struggling to recover from bankruptcy and reestablish credit. For financials that do not currently lend to those that have filed, this study may give them the justification needed to change that policy. For those that already lend to previous filers, this still will help them determine what to look for when deciding if the loan should be approved. Finally, for individuals trying to recover from bankruptcy, this study may be able to help them reestablish credit by showing that drifting back to delinquency is the exception and not the rule.

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INFLUENCE OF PARENTS AND FRIENDS ON OVERSPENDING IN AMERICA

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INTRODUCTION

Credit cards are an extremely popular medium for payment in the United States and one group of people who have embraced this payment method is college-aged Americans (Xiao, Tang, Serido, & Shim 2011, p. 239). A 2009 survey by Sallie Mae found that 84% of college students have a credit card (Xiao et al, 2011, p. 239). Possessing a credit card is not an inherently bad action, but college students have been

found to overuse this form of borrowing more than other groups in the United States (Xiao et al, 2011, p. 239). Financial institutions have long viewed college students as targets for marketing because young consumers represent revenue and can be made into lifelong customers (Borden, Lee, Serido, & Collins, 2008, p. 24). Students in the United States generally view making purchases on credit as a part of modern consumerism (Roberts & Jones, 2001, p. 214). This consumerism mindset promotes instant gratification, contributes to use of credit and debt in the United States, and can affect the financial behaviors of individuals (Borden et al., 2008, p. 25).

Research has shown that access to credit cards encourages compulsive buying and those with a tendency to engage in compulsive buying are more likely to do so if they have access to credit cards (Roberts & Jones, 2001, p. 221). Of particular interest is the work of Sotiropoulos and D'astous (2012) who searched for reasons why college students have a disproportionately high number of bankruptcy cases when compared to other segments of the United States population. Other research has been recommended to find the causes for the overspending of young people using credit cards (Rutherford & Devaney, 2009, p. 59). Education among the youth in the U.S. to date has not successfully addressed the true causes of overspending and credit card debt (Borden et al., 2008, p. 24).

These dynamics, inadequate fiscal education and a consumerism mindset, has created a financial pressure that has an effect on society as a whole. For instance, students who practice high risk credit behavior, such as carrying a balance on their credit card, are generally more likely to engage in other risky behaviors as well (Adams & Moore, 2007, p. 106). Adams and Moore (2007) discovered that risky behaviors such as drinking and driving, low levels of physical activity, drug use, and a high BMI were all significant predictors of whether a person was likely to also practice high-risk credit behavior (p. 107). Increased levels of stress and decreased psychological wellness are associated with high debt, and young people may not be prepared to cope with these changes (Borden et al., 2008, p. 24).

Research has been done to help identify the groups of college-aged people who are most likely to have credit card debt (Sotiropoulos, & D'astous, 2012, p. 461). Sotiropoulos, and D'astous (2012) define credit card debt as carrying a balance over \$1000, missing payments, reaching the limit of the credit card, or failing to pay the balance in full (p. 461). As a result of overspending by college age students, The Credit Card Accountability Responsibility and Disclosure Act of 2009 was implemented to curb the access to credit cards for 18-21 year olds. This legislation intends to promote financial literacy and limit access to credit cards for college-aged Americans in effort to limit high amounts of credit card debit (Sotiropoulos, & D'astous, 2012, p. 461).

Study Purpose

To date, while there have been some determining factors identified with overspending, it is not known which specific group if any, most strongly influences overspending among college-aged Americans (Xiao et al, 2011, p. 239). Therefore, this study seeks to determine if there is a correlation between the credit card overspending of an individual and the credit related behaviors and attitudes of their parents and peers. Financial education programs have been suggested as a means to preventing the overuse of credit cards and inform young people on ways to live in a financially responsible manner (Borden et al., 2008, p. 24). The results of this study may be used by educators to develop an effective curriculum to inform young people of the factors that lead to credit card overspending and the consequences of misuse of credit. A study found that students who have received formal education on financial literacy are more likely to make proper financial decisions (Borden et al., 2008, p. 25).

Literature Review

Credit and debt are terms which refer to the transfer of money with the promise of repayment, often with interest. Residents of the U.S., referred to here as “Americans”, are generally aware of this concept as the average household has nine credit cards (Lundham & Smith, 2010). Many Americans have accepted debt as a way of life and some believe that without access to credit it is not possible to live in the modern world (Peñaloza & Barnhart, 2011, p. 743). The attitudes of Americans have changed over the

years and the availability of consumer credit has changed with it (Roberts & Jones, 2001, p. 214). One of the most popular forms of consumer credit is the credit card the popularity has grown rapidly since the 1970's (Durkin & Price, 2000). To provide an overview, this literature review will discuss the history of consumer debt in the United States, changes in the availability of credit, and illustrate the changes in the attitudes of American consumers.

History of Debt and Consumer Credit

Beginning shortly after World War II, there was a shift in the American culture where household incomes increased as did the demands for goods and services (Ryan, Trumbull, & Tufano, 2011, p. 461). Along with products, there were demands for new forms of financing (Ryan et al., 2011, p. 462). Home sales increased as mortgages became more readily available to people and Americans began saving their money in different ways and even borrowing against their savings (Ryan et al., 2011 p. 462). Car and home ownership has risen dramatically since 1949, when both were at 51% (Ryan et al., 2011). By 2007, car ownership was at 87% and home ownership was at 69%; the availability of credit is attributed with making the change possible (Ryan et al., 2011, p. 470). Another major shift has been in the availability and use of credit cards both as a form of payment and a means of financing. Credit card usage began in the 1950s in the form of restaurant and department store credit. In today's dollars, the amount of outstanding consumer credit was \$119 billion at the end of 1968 compared to \$1,456 billion in June 2000, excluding mortgages (Durken & Price, 2000, p. 623). By 2006, the ratio of debt to disposable income had reached 125% (Dickerson, 2008, p. 137). In the 1970s and 1980s, surveys revealed that people were more often using credit cards than cash (Peñaloza & Barnhart, 2011, p. 744). Americans born since 1970 would have grown up in a world where credit cards and consumer credit are widely used for everyday purchases (Roberts & Jones, 2001, p. 214). The mindset of the savers who endured the Great Depression has seemingly slipped away with the passage of time (Ryan et al., 2011, p. 469).

Availability of Credit in America

Credit was once held for those who could prove that they were able to repay the debt that the amassed (Ryan et al., 2011, p. 469). The demand for goods and services has driven the expansion of alternate forms of credit (Ryan et al., 2011, p. 469). Marketing by manufacturers and retailers is blamed by some for advertising their products as necessary element of the American dream (Ryan et al., 2011, p. 469). By using credit as a means to purchase materials that were previously unattainable, consumerism expanded rapidly (Ryan et al., 2011, p. 469). A different view suggests that consumerism is driven by a need to compare one's goods to that of their neighbor (Ryan et al., 2011, p. 470). In either view, the result is an expansion of financial services in America. Deregulation of the financial industry in the 1980s has spurred massive growth in the availability of credit to individuals (Ryan et al., 2011, p. 467). By 2006, the number of people in America who reported having at least one credit card exceeded 170 million (Majid, 2010, p. 169). A 2008 study found the income requirements and proof of ability to repay had been eliminated by lenders (Lundham & Smith, 2010, p. 73). A new market, college students, was opened by the change and due to aggressive marketing campaigns, more than 80% of college students reported having at least one credit card in 2008 (Lundham & Smith, 2010, p. 73). While legislation enacted in 2009 prohibited those under the age of 21 from acquiring a credit card without a co-signing adult, the demand had remained consistent (Sotiropoulos & D'Astous, 2012, p.458). One survey found that 25% of college students were graduating with more than \$5,000 in credit card debt (Lundham & Smith, 2010, p. 73). By 2009, the average number of credit cards for a college student was 4.6 (Sotiropoulos & D'Astous, 2012, p. 457). Other forms of personal finance have also boomed in recent years. Between 2000 and 2003, a record number of homes were refinanced in order to reduce monthly payments and cash out equity (McConnell, Peach, & Al-Haschimi, 2003, p. 1). The practice of borrowing against the equity in a home was not thought to be a problem at the time because home values were rapidly expanding (McConnell et al., 2003, p. 2). Americans have demanded more ways to borrow money and the markets have responded by offering new forms of credit. Economic events in recent years have been blamed on loose lending standards and subsequent rules have been put in place to restrict the lenders from issuing credit to those who cannot repay

(Sotiropoulos, & D'astous, 2012, p. 461).

American Attitudes towards Borrowing

One reason cited for the increase in credit card spending is a result of the attitudes of many American consumers. Many Americans do not consider credit cards as a form of borrowing (Dickerson, 2008, p. 138). There are two forms of credit card users, the first are those who pay their balance in full at the end of each period and the second are those who carry their balances over and accrue interest (Rutherford & DeVaney, 2009, p. 48). Rutherford and DeVaney (2009) define the first category as “convenience users” and the latter as “revolvers”. In both cases, there has been a correlation drawn between access to credit cards and impulse buying (p. 48). Attitudes vary by the social class of the consumer. Low income spenders see credit cards as the only way to obtain goods and services that are out of their immediate reach, while middle and upper class Americans tend to view them as a convenience with interest rates that are too high to allow them to become revolvers (Majid, 2010, p. 167). Personality traits such as optimism can lead to overspending, as optimists can forget to factor unexpected expenses when considering a purchase (Majid, 2010, p. 169). Those who have a pessimistic attitude towards credit and borrowing are more likely to be convenience users of credit cards (Rutherford & DeVaney, 2009, p. 50). The user’s outlook on whether they felt they have control on the events that surround them also come into play. Those who believe that they have little control over the events in their lives have a much higher tendency to over-spend or abuse credit (Watson, 2009). Often users of credit cards underestimate the frequency in which they use the card to make purchases. This leads to far more purchases being made than a consumer may realize (Majid, 2010, p. 169). The problem of financial illiteracy is particularly bad among college students. Of the students who were surveyed by Lundham and Smith (2010), 68% used their cards frequently; with only 35% of all students paying their balances in full each month (p. 75). The interest rate on these students’ credit card was only reported to be known 30% of the time (Lundham & Smith, 2010, p. 75). Another factor that leads to spending is the consumer’s perception of social pressures. Not only do many consumers use their purchases to mark social status, they often measure their social standing by the amount of credit that a financial institution is willing to offer them (Peñaloza & Barnhart, 2011, p. 758). These consumers view a high available line of credit as a validation and view a low line a credit as a negative and some of the participants in Peñaloza and Barnhart’s (2011) study related American consumerism with patriotism (p. 744). The availability of credit to the middle class, along with the consumerism that has grown out of it, is a key attribute that sets the U.S. apart from other nations (Peñaloza & Barnhart, 2011, p. 744). Many Americans view the purchasing of goods as a responsibility to the U.S. economy and often feel a pressure to buy items like new cars and the latest electronics (Peñaloza & Barnhart, 2011, p. 758). The prevailing attitude is that each American is entitled to borrow money to contribute to the growth of the economy (Peñaloza & Barnhart, 2011, p. 758).

Social norms are “the rules and standards that are understood by a group and that guide and/or constrain social behavior without the force of laws” (Sotiropoulos, & D'astous, 2012, p. 458). There are two types of norms, explicit and implicit. The first is based on the expectations that a person is aware of and the second is based on the expectations that one is not aware of but that make up what a person considers acceptable behavior (Sotiropoulos, & D'astous, 2012, p. 462).

Most Americans have access to credit cards and many of them are using them to overspend and carry credit card debt. The lack of financial experience and education make college-age Americans a prized demographic for the marketing of financial institutions. Young people who engage in risky credit behavior are also more likely to engage in unhealthy social behavior. Financial illiteracy can cause stress and harm to the psychological wellness of young people who may not be ready to deal with the challenges of financial hardship. Well-tailored education is the key to preparing young people for the challenges and temptations that they will face when they become eligible to get their own credit cards. By determining the causes of overspending, educators will be able to make more effective financial courses for young people.

METHODS

Study Sample

The participants of this study will be adults living in the United States. A sample of convenience will be gathered using social media and a snow ball effect. The targets are persons between the ages of 18 and older.

Data Collection

The subjects will be recruited via Facebook and email invitation to complete a questionnaire for a chance to win a \$50 Wal-Mart gift card. The survey will include several demographic questions related to age, location, income range, and the highest education level which the participant has completed. The questionnaire will utilize instruments developed by Sotiropoulos and D'astous (2012) and by Roberts and Jones (2001). Money attitudes scale, Credit card use scale, Credit-related Norms, Compulsive buying scale, and strength of ties. The instruments consist of 60 items, used to collect information on the following variables: credit related norms, experiential norms, compulsive buying habits, money attitudes, and credit card use. The participants will agree or disagree with the items by rating their responses on a Likert scale. The statements will determine the subject's spending habits and the habits of their parents and friends.

Prior to accessing the on-line questionnaire, each participant will be provided an overview of why the study is being conducted, how their answers will be used, and how their identity will be protected. The questionnaire will be given in compliance with the code of ethics and practices established by the American Association for Public Opinion Research (2010).

Data Analysis

For the purpose of this study, the variables that will be tested include perceived spending habits of parents and peers as compared to the spending habits of the participants. The dependent variable will be perception of overspending of the participant. The independent variables include perceived spending habits of family and peers. To analyze the data collected, we will use SPSS software. To answer the research question do the spending habits of an individual's parents and friends influence them to overspend the following hypotheses will be tested:

H₀₁: There is no relationship between an individual's overspending and the spending habits of their parents.

H_{A1}: There is a relationship between an individual's overspending and the spending habits of their parents.

H₀₂: There is no relationship between an individual's overspending and the spending habits of their parents.

H_{A2}: There is a relationship between an individual's overspending and the spending habits of their friends.

CONCLUSION

Debt has become an accepted part of life for most Americans. What started as a means of buying for a few has expanded into the mainstream purchasing known as consumerism. People who find themselves able to make purchases without borrowing often use the availability of credit to obtain goods or services because of convenience. While the individual outlook on borrowing may vary, debt is perceived by many to be a necessary part of consuming in the U.S. The need to own fashionable materials or stay current on technology drives some individuals to borrow money in order to buy the items that they feel gives them worth. For others, social pressure to support the American economy drives them to spend beyond what their income can support. All too many people find themselves buried under a mountain of debt which could result in bankruptcy or a lifetime of interest payment. A question that remains is what affect parents

and friends have on the spending habits?

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THE EXPERIENCES OF POST-COMBAT DEPLOYED FATHERS ABSENT DURING THE BIRTH OF THEIR CHILD

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ABSTRACT

Background: The frequency of deployment combined with the length of deployment have led to excessive amounts of time separated from families as a result of the prolonged engagement in OIF and OEF. Given that there are over two million children with a parent in the military and that more than 90,000 babies born to military families each year, the likelihood that a military member will experience the birth of a child and potentially disrupted paternal attachment while deployed to a combat zone is significant. This places the military member and family members at increased risk of adverse outcomes related to mental health, disrupted paternal attachment, impaired maternal acceptance of pregnancy, and role confusion. This first year of a child's life is a critical timeframe for secure attachment crucial to a child's healthy development. Many soldiers are absent for several months in the first year of their child's development, potentially leading to insecure attachment between father and child, and future adverse outcomes associated with insecure attachment.

Objective: The purpose of this study is to understand the experiences of fathers who are deployed to combat during the birth of their child in order to understand more about the father-newborn attachment process of soldiers and identify possible barriers to attachment.

Method: A qualitative, phenomenological design was used. Father-soldiers with the experience of being absent for their child's birth during a combat-deployment participated in semi-structured interviews. Constant comparative analysis was used to code line-by-line, collapse the codes into categories, and identify prominent themes.

Preliminary Results: Fathers seem to feel conflicted about their need to focus on issues critical for combat while wanting to fulfill their role as new father. Technology is important to stay connected with family members. Family support during deployments was also important, however, soldiers felt torn between military obligations and duty to family. These fathers expressed they felt the need to make-up for lost time once they returned home and had to stockpile time spent with their child in case of future deployments. Attachment did seem to occur once they were united with their newborn, even if that occurred several months later.

Discussion: Potential facilitators to attachment are proposed in this study. Research on this topic, including this study, does not address the perception of attachment, the effects of separation on attachment (delayed or interrupted), or if paternal-child attachment is affected positively or negatively. Future research on this and the role of technology and mental health on the attachment process will assist healthcare providers with interventions to facilitate attachment in this population.

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PERCEPTIONS OF ELDERLY WOMEN IN ACUTE PAIN

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ABSTRACT

Background: *Unmanaged pain is associated with longer hospital stays, poor patient satisfaction scores, increased healthcare costs, and physical and psychological complications. The number one reason that people seek health care is pain, affecting millions of people every year. Increasing age is associated with higher pain intensity scores. Elderly are at high risk because they are living with increasing numbers of chronic conditions that cause pain such as arthritis. Elderly women are particularly vulnerable because research suggests that they do not receive adequate pain management.*

Objective: *The purpose of this study is to understand the acute pain experience from an elderly woman's perspective when they seek health care in an emergency room after breaking a hip. This study seeks to understand issues about how elderly women report or not report their acute pain and develop strategies for healthcare providers and administrators to address these issues. The research questions for this study are: 1) How does an elderly woman voice or express her acute pain intensity to their clinician in the emergency room? 2) What are the feelings and thoughts of an elderly woman when she is in acute pain and is being treated in the emergency room? 3) What does the elderly woman patient expect and want from their health care provider in the emergency room when managing their pain? 4) What pain interventions does an elderly woman in acute pain perceive to be effective? 5) What other factors are associated with reporting or not reporting acute pain?*

Method: *A qualitative method was chosen for this study with a phenomenological approach based on hermeneutics. Phenomenology is uniquely suited to reveal the experiences of elderly women not reporting pain or taking pain medications after they have broken their hip. A purposive sample of women over the age of 65 years who have experienced a fractured hip, acute pain, and emergency room care are being recruited for in-depth semi-structured interviews. Multiple levels of analysis are being used to interpret the transcribed interviews.*

Preliminary Results: Preliminary results suggest that the meanings of pain medications for elderly women are far more complex than simple pain relief. For older women, reporting and taking pain medications may be associated with the threat of losing their independence. Family members may misinterpret the side effects of narcotic analgesics to mean that the elder woman is not capable of self-care. These findings have important implications for family involvement in care.

Discussion: If we can understand the experience of the elderly woman in acute pain, then we can identify barriers and misconceptions that impede adequate pain management and proper assessment. The identification of barriers can assist healthcare providers to better care for this patient population resulting in better outcomes for these patients. Implications for family involvement and education are huge. Adequate family education may assist in providing advocacy and support for the patient to address an elderly woman's fears associated with pain medication. It is important for healthcare administrators and healthcare providers to understand the experience of pain in the elderly woman to better care for this population, to avoid potential adverse outcomes, and to provide quality care.

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UNDERSTANDING EATING AND SNACKING EXPERIENCES IN AFRICAN AMERICAN WOMEN

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ABSTRACT

Background: Obesity is a major growing cause of concern for Americans. Between 2009 and 2010, the Centers for Disease Control (CDC) reported that more than one third of adults are affected by obesity; associated medical costs for this condition is estimated at 147 billion dollars. Because the greatest obesity incidence is experienced by African American women, they are at significant risk for health problems associated with obesity.

Objective: The purpose of this phenomenological study is to explore the perceptions of food intake (snacking) and to understand the meaning of snacking and eating for African American women. Understanding these meanings will help nurses develop effective interventions in the form of strategies and facilitators to lessen the burden of obesity for African American women.

Method: Phenomenology, the study of the lived experience, is the methodology that was chosen to frame this qualitative study. This philosophy will allow the researcher to gain a deeper understanding of the phenomena being studied by identifying the meaning of the participant's experience. A constant comparative analysis is being used to code line by line which will facilitate with the emergence of themes.

Preliminary Results: The preliminary results from this study suggest that the meaning of eating is often associated with feelings. Women are describing how they sometimes eat when they feel that certain areas of their lives are out of control. In addition, several participants suggested that they seek out food when they feel a need for comfort and they associate eating with happiness.

Discussion: Findings from this study are adding to the body of literature by providing evidence for interventions that may assist African American women with weight loss and management strategies.

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EXPERIENCES WITH WOMEN AND PAIN IN AN EMERGENCY DEPARTMENT

ABSTRACT

Background: Heart disease is the number one killer of women in the United States. Chest pain is the hallmark symptom of heart disease usually resulting in treatment seeking in an emergency department. Research has shown that women may delay seeking care for chest pain due to difficulty interpreting their symptoms and knowing that emergent care is needed. Data has shown that some women feel their chest pain is “not taken seriously” by healthcare providers. Delay seeking behaviors of women with chest pain have been investigated from the perspective of women with cardiovascular disease, but very little effort has been aimed at understanding the experience of women’s interactions with healthcare providers in the emergency department and how those may influence seeking treatment for chest pain. Understanding the interactions between women and healthcare providers, within the context of the emergency department, will shed light on how women make the decision to seek treatment with subsequent episodes of chest pain. If we know more about the interactions between women and ED providers, then we may be able to develop effective interventions encouraging women to seek immediate treatment for cardiac symptoms rather than delaying.

Objective: The purpose of this study was to understand how the interaction between women and healthcare providers might be associated with seeking or not seeking care for chest pain.

Methods: A qualitative, phenomenological design is being used. To date, six adult women who experienced chest pain and sought treatment in an emergency department participated in semi-structured interviews. The digitally recorded interviews are being transcribed verbatim. A circular pattern of analysis is being used to code the data, collapse codes into categories and to identify prominent themes.

Preliminary Results: Participants seem to feel that healthcare providers are unable to establish a relationship with them. They seem to feel unable to communicate how vulnerable and helpless they feel to their healthcare providers. In contrast healthcare provider behaviors perceived as compassionate and caring were frequent checks and taking the time to talk and answer questions.

Discussion: Findings from this study are providing valuable information about Healthcare provider interactions with patients. These interactions are the foundation of how care is perceived during the visit and can encourage or discourage seeking future care.

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MENTORING AND CAREER SUCCESS IN WOMEN AND LOWER SOCIOECONOMIC STATUS INDIVIDUALS

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MENTORING AND CAREER SUCCESS IN WOMEN AND LOWER SOCIOECONOMIC STATUS INDIVIDUALS

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INTRODUCTION

As the United States economy continues to recover from the recent recession, the need to find established, yet innovative factors to ensure career success continues to expand the need for research. Career success has been defined as “the accomplishment of desirable work-related outcomes at any point in a person’s work experiences over time” (Arthur, Khapova & Wilderom, 2005, p. 179). In order to safeguard the potential for career success, many individuals and organizations have discovered the benefits of mentorship in relations to career success. Mentoring provides guidance, support, career planning, and knowledge. Furthermore, mentoring benefits numerous underrepresented groups (i.e. women, minorities, and lower-socioeconomic status individuals), by exposing and teaching norms and behaviors within an organization (McDonald & Westphal, 2013). The organization that provides mentoring opportunities to women and minorities lead to an increase of positive firm reputation and corporate social performance (McDonald & Westphal, 2013). As there is limited understanding regarding these dynamics, the purpose of the study is to examine the effects of gender, socioeconomic status and mentoring in regards to career success. Overall, the continual study of the relationship between career success and mentoring will benefit all individuals and organizations that want to further the opportunities for sustainable success.

Career success

Career Success has been the focus of study for not only researchers, but also for organizations and individuals trying to uncover the predicting factors for future career success (Helsin, 2005; Wayne, Liden, Kraimer & Graf, 1999; Dries, Pepermans, Hofmans & Rypens, 2009). The need and potential economic gain from individuals and organizations to find the predicting factors of career success continue to drive research. Moreover, the complexity of the idea of career success perpetuates the dispute about the necessary variables to measure.

Career success literature is typically broken down into two factors: subjective career success (i.e. job satisfaction, work-life balance, sense of meaning) and objective career success (i.e. salary, promotions, salary growth) (Helsin, 2005; Wayne, Liden, Kraimer & Graf, 1999; Dries, Pepermans, Hofmans & Rypens, 2009; Allen, Lentz & Day, 2006). Objective career success is available and measureable without the need for direct interaction. Subjective career success, however, is a measurement of the individual's reaction of them and their view of a situation in comparison to others (Helsin, 2005). Each factor provides a narrow objective or perspective of the complex composition of elements for career success. In order to gain a holistic view of career success, the objective and subjective career success criteria must be included.

Another framework for studying career success is the two systems of career mobility: contest-mobility norms and sponsored-mobility norms (Wayne, Liden, Kraimer & Graf, 1999). Contest-mobility norms examine variables such as motivation, human capital, and education (Wayne, Liden, Kraimer & Graf, 1999). Motivation is defined by an individual performing a task where they believe they will benefit or be rewarded for their effort (Wayne, Liden, Kraimer & Graff, 1999). In regards to contest-mobility norms, motivation is measured by number of hours worked, career planning, and ambition for upward mobility (Wayne, Liden, Kraimer & Graff, 1999).

Furthermore, human capital measures the rational choices of employees regarding investments in their own personal capital (i.e. education, salary increase, organizational tenure) (Wayne, Liden, Kraimer & Graff, 1999). Together, the contest-mobility norms provide a further explanation of why employees put forth effort in regards to career success.

Sponsored-mobility norms focus on mentoring and supervisor-sponsorship (Wayne, Liden, Kraimer & Graf, 1999). The mentoring influences career success one senior employee providing career planning and psycho-social support to a junior employee (Wayne, Liden, Kraimer & Graff, 1999; Ayinde, 2011). The other form of sponsored-mobility, supervisor-sponsorship, describes the either high or low exchange from supervisors in a positive or negative exchange (Wayne, Liden, Kraimer & Graff, 1999). Both mentoring and supervisor-sponsorship have been found to have a positive relationship with promotability and career satisfaction in regards to career success (Wayne, Liden, Kraimer & Graff, 1999).

MENTORING

Mentoring has been described as an arrangement between a senior employee and a junior employee to provide guidance, support, and knowledge (Ayinde, 2011). Mentoring provides an opportunity to transmit knowledge, create a competent workforce, and career support for the mentor and protégé (Allen, Lentz & Day, 2006; Whitely, Dougherty & Dreher, 1991). Furthermore, mentoring encourages growth and benefits of all participants: mentor, protégé, and the organization (Ilesanmi, 2011). Overall, the goal of mentoring is to provide knowledge and support to ensure the protégé can reach their full potential (Ilesanmi, 2011).

Mentoring is generally described as formal or informal (Allen, Lentz & Day, 2006; Ayinde, 2011). Informal mentoring is based on a relationship where the mentor demonstrates and explains specific objectives (Ayinde, 2011). The informal mentoring process typically develops on its own without organizational input (Ayinde, 2011); whereas, formal mentoring tends to be driven by an organization. The

formal mentoring programs typically focus on career development, teaching organizational norms, and career training (Ayinde, 2011; Allen, Lentz & Day, 2006). Furthermore, formal mentoring programs may provide rewards or be tied to the evaluation process of the participants (Allen, Lentz & Day, 2006).

The benefits of mentoring have been examined by researchers to provide reasoning and a basis for amount of time and energy required by a productive mentoring relationship. For instance, Ilesanmi (2011) found that mentoring provides the opportunity to groom junior employees for future leadership roles, offers quality on the job training, creates connects between employees, and provides an environment for team growth within the organization. The benefits Ayinde (2011) outlined are the increased retention of employees, increased productivity, and an opportunity for mentors to be a role model (i.e. sense of meaning/purpose) and be challenged by protégés. Additionally, Wayne, Liden, Kraimer, and Graf (1999) found that the relationship with leaders significantly relates to salary and career advancement. Finally, Allen, Lentz, and Day (2006) determined that individuals the mentored others “reported greater salary, greater promotions rates, and stronger subjective career success” than those who do not mentor (p. 272).

Overall, the mentoring program benefits all involved: mentor, mentee, and the organization (Ayinde, 2011). However, the program must be developed and supported by all those who benefit. The participants must be willing, set realistic expectations, communicate, and have the time to dedicate to the mentor/protégé relationship in order to succeed (Ilesanmi, 2011; Ayinde, 2011). Additionally, the researchers describe the direct link between mentoring and career success (i.e. higher salary, promotion rate, sense of meaning) (Ayinde, 2011; Wayne, Liden, Kraimer & Graf, 1999; Allen, Lentz & Day, 2006). Furthermore, research has also been conducted to determine the benefits of mentoring for underrepresented populations in regards to career success.

Socioeconomic status

Socioeconomic status is defined by three visible markers – income, occupational prestige, and educational attainment (Sanders & Mahalingam, 2012); whereas, class veils itself in behaviors and privileges. The access to income, occupational prestige, and educational attainment are determined by the socioeconomic status of individuals (Sanders & Mahalingam, 2012). These markers influence the behaviors of individuals not only in personal development, but also in professional development.

Payne and Krabill (2002) conducted research to provide guidance in understanding the different values, behaviors, and motivations of people from different socioeconomic status. Payne and Krabill (2002) describe the hidden rules of connections based on socioeconomic class. The most crucial reason for connections is the ability to get promoted. Furthermore, the connections allow a person to locate the expertise needed to make decisions (Payne & Krabill, 2002). Finally, economic class influences the understanding of the hidden connection rules within the organization and may need to be learned in order to be promoted. Throughout their book, Payne and Krabill (2002) discuss the need and rational for mentoring when interpreting how to apply the findings of their study.

Whitely, Dougherty and Dreher (1991) also researched the relationship of career mentoring, socioeconomic status, and career progress (i.e. promotion rate). The authors found that mentoring can benefit the lower socioeconomic individuals by creating a mock socialization process (i.e. exposer to role models, psycho-social support, and encouragement) that they may not have received from their education or families (Whitely, Dougherty & Dreher, 1991). Furthermore, lower socioeconomic individuals may also gain access to skills, attitudes and norms of the elite groups through mentoring (Whitely, Dougherty & Dreher, 1991). Even though Whitely, Dougherty and Dreher (1991) were able to show a relationship between mentoring and career progress for individuals from lower socioeconomic, the relationship for the

highest socioeconomic status had a higher rate of promotion when mentored. The causality in the relationship for highest socioeconomic status was determined to be the access to more influential mentors and prior social skills obtained from their families and education (Whitely, Dougherty & Dreher, 1991).

Gender

Even though women have become an “integrated” aspect of the American working environment, they continue to struggle to earn equal wages earned by men. Monetarily successful managers still tend to be white and male (Dries, Pepermans, Hofmans & Rypens, 2009). Women and men who work the same position, at the same organizational level, entering at the same time, are still experience statistically significant salary differences (Dries, Pepermans, Hofmans & Rypens, 2009). Research has been conducted to explain the gaps and the reasoning behind the relationship of career success and mentoring of women in the workforce.

To examine this phenomenon, McDonald and Westphal (2013) conducted a study to explain why women and minority, first-time directors, were receiving lower levels of mentoring and fewer appointments to other boards. The research explained that while women and minorities are obtaining initial board appointments, they are not gaining access to multiple board seats (McDonald & Westphal, 2013). The corporate elite, or inner circle of corporate leaders, tend to hold multiple board seats, in turn, have access to more power and influence (McDonald & Westphal, 2013). McDonald and Westphal (2013) concluded that women and minorities “receive comparatively less mentoring about prevailing norms regarding proper ways of participating in board proceedings and consequently follow prevailing norms less consistently” (p. 1171); therefore, failing to gain further appointments due to the negative association of not obeying the norms. The need for mentoring for women first-time board member is essential for ensuring future career success to gain access to norms, behaviors, and organizational behaviors in the corporate elite category.

Ragins and Scandura (1994) conducted a study focusing on the likelihood of women executives becoming mentors. The study discovered that executive women were as likely to be mentors as executive men (Ragins & Scandura, 1994). Prior findings of gender differences in mentoring, stated that women were reluctant to become mentors and unwilling to share their knowledge and experiences with others, due to idea of competitive feelings toward other women (Ragins & Scandura, 1994). This study dilutes the stereotype of the women needing to be the “queen bee” and provides evidence that women want to role model to other women the factors that lead to their success (Ragins & Scandura, 1994).

Research has also focused on the influence of senior-male mentors in regards to the career success of women. Ramaswami, Dreher, Bretz, and Wiethoff (2010) determined that where, why, and for whom access senior-male mentors are related to career success, especially for women in male-gendered industries. The researchers integrated the organizational context due to impact of gender operates in traditionally male dominated industries (Ramaswami, Dreher, Bretz & Wiethoff, 2010).

METHODS

The purpose of the study is to examine the effects of gender, socioeconomic status and mentoring in regards to career success. A descriptive quantitative study will be used to assess the relationship between gender, socioeconomic status and mentoring through a cross sectional design. Creswell (2009) suggests that a cross-sectional design collects all participants’ information at one time.

Career Success

Greenhaus, Parasuraman, and Wormley (1990), developed a five-item, five-point scale from

strongly disagree to strongly agree to measure career success (e.g., “I am satisfied with the progress I have made toward meeting my overall career goals”). Greenhaus, Parasuraman, and Wormley (1990) developed this tool for their study to measure the respondent’s individual view of their career progress and success. Ramaswami, Dreher, Bretz and Wiethoff (2010) summed respondent’s annual salary, commission income, and any other form of supplemental cash compensation then completed a log compensation to account for frequency distribution. Whitely, Dougherty, and Dreher (1991) measured the total number of promotions of each respondents since graduation.

Mentoring

Whitely, Dougherty, and Dreher (1991) created the career mentoring scale, a five-point scale to measure the relationship between managers or others who provided the respondent mentoring (e.g., “There is a more senior manager who I do not directly work for who has coached me, or provided me with challenging assignments, or provided me with visibility/exposure to other managers in the company or pushed and advised me on my career”).

Socioeconomic Status

The definition and measure of socioeconomic status is derived from Whitely, Dougherty, and Dreher (1991). Respondents will self-identify their current and previous social class using modified Whitely, Dougherty, and Dreher (1991) and Payne and Krabill (2002) categories:

1. Generational poverty (\$0 - \$23,000 per year) is defined as at least two generations in welfare poverty or having living standards below poverty line and family members with no regular employment and low levels of schooling.
2. The working class (\$23,000 - \$32,000 per year) was defined as families with living standards below mainstream levels and family members might be low-paid service workers, with some high school.
3. Middle class members (\$32,000 - \$100,000) have mid-level white-collar or top-level blue collar jobs, education past high school, and income somewhat above national average.
4. Upper class (\$150,000 - \$250,000 per year) members have professional, upper-level management positions, college educations, and incomes nearly twice the national average of the middle class.
5. Members of social elite (above \$250,000 per year), with incomes primarily from earned or inherited assets and family members have upper-level degrees.

Population

In order to ensure respondents have at least 15 years of post-undergraduate-degree experience (Ramaswami, Dreher, Bretz & Wiethoff, 2010), the proposed population will focus on all 1993-1998

graduates of a small Midwestern private university.

For the purpose of this study, the following hypotheses will be tested:

Hypothesis 1a: There is a relationship between mentoring and career success for female protégés.

Hypothesis 1b: There is no relationship between mentoring and career success for female protégés.

Hypothesis 2a: There is a relationship between mentoring and socioeconomic status.

Hypothesis 2b: There is no relationship between mentoring and socioeconomic status.

LIMITATIONS

Possible limitations of this study are the ability to locate the graduates and their willingness to participate. Due to the 15 years given to ensure post-undergraduate experience, the current locations of graduates may be limited; therefore, the population may have to be increased to other similar universities. In addition, this study's conclusion and findings may not be generalizable to the general public.

CONCLUSION

As the need for understanding the predictors of career success continues to grow, due to the lack of economic stability in America, the need for developing and researching the effects and benefits of mentoring remains to be essential. Mentoring provides knowledge, access to career planning, and opportunities for personal and professional growth. Furthermore, research has shown that mentoring enhances career success through the relationships built creating better access to promotions and increased salaries. In order to ensure that the predictors for career success are inclusive, the research focuses on objective and subjective factors encompassing mentoring and other influential programs. Nevertheless, inclusive research must continue to expand on the relationship and predictors for career success for underrepresented populations.

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A PEDIATRIC WELLNESS MODEL USING AN INTEGRATED MEDICAL TEAM

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ABSTRACT

A pediatric wellness model using an integrated medical team provides pediatric care to infants and adults up to 21 years of age. It covers healthcare in a larger geographic area. The facility is committed to helping families through office and hospital based care, as well as coordinating social care in the community. The model provides an extensive range of pediatric care like growth and development, anticipatory guidance, full spectrum of illness, mental health, dental health, attention deficit disorder, learning problems and child abuse. In the pediatric integrated team/model, the pediatrician supervises and synchronizes the delivery of care, and when it is required, assign patient care responsibilities to nonclinical members of the team. In this form of practice continuity of care is essential, and those non-physicians within the wellness center will also provide care. The team-based model of pediatric care uses a medical home approach that promotes quality of care in a cost-effective manner, uses coordinated care in timely manner, and to provide high-quality, cost-effective care by minimizing duplication of clinical effort and promoting the appropriate and timely use of allied health care providers on the team. This presentation discusses the model and quality outcome metrics to improve pediatric care.

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PHARMACEUTICAL HEALTHCARE ISSUES

THE BUSINESS CASE FOR HOSPITAL TELEPHARMACY IN NORTH DAKOTA AND NORTHWESTERN MINNESOTA

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THE BUSINESS CASE FOR HOSPITAL TELEPHARMACY IN NORTH DAKOTA AND NORTHWESTERN MINNESOTA

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ABSTRACT

In many rural communities, the sole access point to (inpatient) medical care is a critical access hospital (CAH). One or two full-time pharmacists (along with a small number of pharmacy technicians) are typically responsible for providing pharmacy services in a typical CAH, and the local community pharmacist often serves in a consultant pharmacist capacity, filling in as needed. CAHs require pharmacy services 24 hours per day, 7 days per week. Even with flexible schedules, there are large periods of time (usually nights and weekends) during which a pharmacist is not physically present at the CAH. Moreover, when a pharmacist is not present, the traditional protocols involved in the pharmaceutical care process must be altered, which may lead to an increase in adverse drug events (ADEs) which compromise patient safety. Hospital based telepharmacy services, especially those systems that adhere to the North Dakota Telepharmacy Project (NDTP) delivery model of telepharmacy, provide an alternative to traditional pharmacy services, especially during times when pharmacists are unavailable. The purpose of this analysis is to examine the financial sustainability of providing hospital telepharmacy services under the NDTP delivery model. The analysis suggests that the NDTP model is financially viable. However, the existence of economies of scale and scope are crucial; at least 15-20 CAHs must commit to the project to allow it to be revenue neutral. A greater number of CAHs (or a higher price list) is also necessary if the venture intends to generate positive net revenues.

INTRODUCTION

Pharmacy services represent a crucial component of health care provision in North Dakota and northwestern Minnesota. In many rural communities (those with populations under 1,000 residents), the local community pharmacy represents the only source of health care access (McCarty et al 2013; Traynor 2007). Slightly larger communities (those with populations under 15,000 residents) often host a local critical access hospital (CAH), which is staffed by a small number of physicians, mid-level providers (physician assistants and family nurse practitioners) and registered nurses. In these larger facilities, one or two full-time pharmacists are on staff (along with a small number of pharmacy technicians), and the local community pharmacist often serves in a consultant pharmacist capacity, filling in as needed (Flex Monitoring Team 2004; Mosocovie and Wakfiled n.d.) In smaller communities, CAHs have more difficulty hiring and retaining pharmacists, either because they cannot recruit them or because the hospital cannot afford to hire multiple staff pharmacists (Flex Monitoring Team (a) 2004). Thus, smaller CAHs are even more reliant on local community pharmacist consultant services.

These issues present several barriers for CAHs (Flex Monitoring Team (a); Mosocovie and Wakfiled n.d.; Flex Monitoring Team (b)). First, CAHs require pharmacy services 24 hours per day, seven days per week. Even with flexible schedules, there are large periods of time (usually nights and weekends) during which a pharmacist is not physically present at the hospital. Specific filling and distributive tasks, as well as all medication therapy consultations must be completed ahead of time, delayed until next pharmacist shift, or delayed until an on-call pharmacist can be contacted. Second, when a pharmacist is not present in the pharmacy, the traditional protocols involved in the pharmaceutical care process must be altered. This may lead to an increase in adverse drug events (ADEs) which compromise patient safety. Clearly, an initiative which provided continuous pharmacy services in a cost-effective manner would be mutually beneficial to CAHs, their staff members, and the patients they serve.

North Dakota has a rich history of providing quality health care services to its residents (and those of surrounding states) using extremely limited resources (McCarty et al 2013). In a rural, medically underserved state such as North Dakota, the primary focus is on maintaining (and restoring) access to traditional sources of health care. A secondary focus is the leveraging of existing resources to develop new methods of health care delivery, which increase the breadth of services offered, or improve (through efficiency, safety or quality gains) current services.

In 2001, the North Dakota Century Code was amended to allow hospital and community pharmacies to use (real-time) traditional tele-health technology to provide consultations and other pharmacy services. In 2002, the North Dakota Board of Pharmacy, the North Dakota Pharmacists Association and the North Dakota State University (NDSU) College of Pharmacy, Nursing and Allied Sciences formally initiated a telepharmacy program as a means of maintaining and restoring community pharmacy services to rural North Dakota communities (Peterson (a) and Anderson 2004; Peterson (b) et al 2007). Called the North Dakota Telepharmacy Project (NDTP), it used real-time audio-visual equipment to allow pharmacists at a “central site” (usually a community pharmacy in a community of 1,500 or more people) to supervise technicians and counsel patients at a “remote site” which is usually located in a smaller community (with less than 1,000 residents) between 15 and 90 miles from the central site. Peer reviewed studies of the NDTP suggest that the project has high levels of customer satisfaction (Friesner (a) 2009), and medication error rates (Friesner (a) et al 2001; Friesner (b) et al) which are consistent with traditional community pharmacies in North Dakota and nationally. Moreover, community pharmacies that implemented the telepharmacy technology generally recouped their investments and established consistently profitably remote site practices within 3-5 years (Kahn et al 2008). As a result, in 2011 over 50 community telepharmacy sites (including both remote and central sites) are currently operating in the state (North Dakota State University College of Pharmacy (a) n.d.) Between 2002 and 2008, a small number of hospitals also adopted the telepharmacy technology for consultative and staffing purposes, and to provide pharmacy coverage during traditional hours when pharmacists at one hospital were on vacation or otherwise away from the pharmacy (North Dakota State University College of Pharmacy (b) n.d.).

Given the success of the NDTP in a community setting, the NDTP stakeholders created an initiative to expand the use of telepharmacy in hospital settings. To do so, current North Dakota pharmacy rules and regulations were reviewed (and if necessary, adapted) to ensure that the “hospital NDTP” was conducted legally and in a safe and effective manner (North Dakota Century Code n.d.) The Minnesota Board of Pharmacy was also consulted, to allow participation from hospitals in northwestern Minnesota. In such cases, hospitals needed to apply to the Minnesota Board of Pharmacy for a specific variance from current legal rules and regulations, which would facilitate the use of the telepharmacy technology. In 2008, funding (on a four year basis) was obtained from the U.S. Health Resources and Services Administration (HRSA) to establish a hospital telepharmacy network (Peterson (c) et al 2010). Catholic Health Initiatives (CHI) was included as a key stakeholder in the project, since CHI owns and operates more than one dozen hospitals in North Dakota and Minnesota. Non-CHI CAHs in the area were also approached and encouraged to participate in the project.

HRSA funding allowed CHI to equip the central site pharmacy at one of their existing buildings in Fargo, ND. More specifically, unfinished space at this building was used to construct offices and working areas for the central site pharmacists, which was subsequently leased back to the hospital NDTP. This building is entirely administrative in nature; hence the central site does not hold a drug inventory. HRSA funds were also available to purchase and install the telepharmacy equipment at 15 CAHs, which

effectively function as remote sites. The telepharmacy equipment at the central site is stationary, and consists of 5 stations, at which pharmacists can work with the remote sites in an independent and HIPPA-compliant manner. The remote site telepharmacy technology can be stationary or mounted on a moveable cart, which allows the technician (who is usually a registered or licensed practical nurse) to potentially move the technology to different locations, depending on the needs of the remote site CAH. The central site pharmacists can provide a number of services, including traditional dispensing and remote order entry functions, clinical consultations with providers (and possibly patients) and medication reviews. This comprehensive set of real-time services, using both audio and visual communication links, makes the telepharmacy model employed in the hospital NDTP project unique compared to hospital telepharmacy services offered elsewhere, which focus more on remote order entry and other specific components of pharmacy services.^{16,17} This also provides the remote site CAHs with substantial flexibility to determine when and how they utilize the central site's services. In most cases, the remote sites choose to use the full set of services during times when pharmacist coverage is unavailable, usually during nights, on weekends and when staff pharmacists take vacation time. During periods when pharmacists are on staff at the remote site CAHs, the central site pharmacists are available for specific consultations on dosing and medication reconciliation issues. More details of the NDTP's hospital telepharmacy initiative can be found elsewhere in the literature (Peterson (b) et al 2007; North Dakota State University College of Pharmacy (b) n.d.; Peterson (c) et al 2010; Casey (a) et al 2010).

STUDY OBJECTIVES

The HRSA funding was intended to serve as seed capital to cover initial fixed and variable costs. At the end of the four year grant cycle, the expectation was that the network should have established a system which is financially sustainable going forward. The purpose of this manuscript is to use available data to examine the business case for providing rural hospital telepharmacy services under the NDTP delivery model, and by extension to both examine its economic sustainability and its cost-effectiveness. In doing so, we assume that the hospital NDTP project provides medically appropriate services. An empirical analysis of how the hospital NDTP affects prescribing, transcribing, distribution and medication safety practices can be found in other manuscripts and reports (Scott (a) et al 2012).

Two caveats to the research objective should be noted. First, this analysis uses a combination of publicly available data as well as data provided by the corporate partners. The information is not comprehensive. As such, the objective will be examined using very basic financial and economic analyses and will evaluate sustainability in a very general sense (i.e., earning non-negative net revenue), rather than presenting a very detailed set of projected financial statements. Since the data used in this study are incomplete, and cannot convincingly be argued that they are reflective of a larger, underlying population, the analysis will minimize the use of hypothesis tests and other statistical analyses. Instead, it will rely on basic spreadsheet models and calculations (Scott (a) 2012; McCue and Palsbo 2006; Rumberger and Dansky 2006). Since all numbers should be interpreted as rough approximations, they will be rounded where necessary to make the discussion more intuitive. Future studies with access to greater depth and breadth of data will be necessary to update, clarify and expand on the results contained in the current manuscript.

Second, the objective will evaluate the financial sustainability of the hospital NDTP during a specific period of time (2011-2012) in which the grant funding for the project was ending and the formation of a business plan was required to ensure sustained future operations. It should also be noted that a

business plan evolves as the business environment changes; in this case, as new CAHs are recruited as partners. The business plan described here represents a composite, or moving average, picture of the business plan that was developed by the hospital NDTP partners, and which was used to attract new CAH partners. It may or may not reflect specific variations of the plan that were actually implemented at specific points of time in the evaluation (2011-2012) period. The general trends in this composite plan may serve as a useful benchmark for other organizations seeking to establish hospital telepharmacy networks in other communities.

Creating a Business Case for the Hospital NDTP

To examine the business case for hospital telepharmacy services, the analysis proceeds in several steps (Khan et al 2008; McCue and Palsbo 2006; Rumberger and Dansky 2006). First, it examines the supply of (central site) hospital telepharmacy services offered in the market, and details the financial considerations necessary for CHI to offer these services. Next, it examines the staffing and workloads characteristics of North Dakota hospital pharmacies (both those using and not using the telepharmacy technology), to determine whether the hospital pharmacies would benefit from utilizing telepharmacy services as remote sites. It then examines the general financial state of rural CAHs in North Dakota - a major target market for the NDTP - to determine whether CAHs have the financial and operational resources to justify participation in the project. Lastly, a brief and informal cost-effectiveness analysis is conducted to include clinical (and to a lesser extent, humanistic) considerations into the adoption decision. In the discussion that follows, all costs should be considered as cross-sectional in nature and measured in 2010 dollars. Adjustments for inflation and costs of living can be made by interested parties to adapt the current case to different geographic areas and time periods.

The CHI Central Site Business Case

As its name implies, CHI is a not-for-profit institution which adheres to a mission and vision consistent with the teachings of the Catholic Church. As such, an effective business case for the central site does not center on high profit margins or a high return on investment. Rather, its goal is to provide high quality, compassionate patient care in a manner that is net revenue neutral. In other words, CHI is interested in establishing a market and pricing structure which allow it to cover its costs and maximize CAH adoption of the service. However, it is straightforward to extend CHI's central site business case to one which guarantees a profitable net revenue stream by scaling up the recommended pricing structure to generate returns over and above costs. The basic premise of the HRSA grant was to provide seed capital for the central site to cover its initial startup costs, on the grounds that the program would become sustainable. Hence, the onus placed on CHI, and in particular the central site, was to establish its (variable) cost structure and subsequently identify a sufficient number of remote sites that would be available and willing to purchase the central site's services. Pricing would be structured to maximize remote site participation while allowing the central site to cover its operating costs.

Based on an evaluation of the HRSA grant application and several discussions with interested CAHs, CHI realized that economies of scale and scope would be crucial elements of long-run sustainability. More specifically, it would need to provide services to at least 15 CAHs. The CAHs were most interested in using the telepharmacy model to provide pharmacist coverage during nights and weekends, when traditional pharmacist coverage was lacking or (with on-call coverage) minimal.

Depending on the number of pharmacists currently on staff, hours estimates ranged between approximately 300 and 600 hours per month (which equates to 75-150 hours per week or 10-20 hours per day). Because hospital pharmacy schedules and staffing patterns were expected to differ substantially across hospitals, and because CHI anticipated some need for daytime coverage (primarily for consultations), a commitment was made to provide pharmacy services on a continuous (24 hours a day, seven days a week) basis, although most of the central site staff would be scheduled for non-standard work hours. This provided a minimum scope of coverage, in terms of both the quantity and hours of service, upon which to base a pricing structure and an expected budget. Cumulatively, this implied that remote site CAHs will need, on average, approximately 16 hours of coverage per day.

There were two major fixed costs involved in a telepharmacy: those for the telepharmacy equipment (and its installation and maintenance) and the construction of the actual telepharmacy space in the CHI administrative building. As mentioned earlier, CHI had approximately 1,200 square feet of unfinished space, which they agreed to finish in a manner consistent with the needs of the central site and lease the space to the central site (at standard Fargo market rates) at \$1,200 per month. This number included routine cleaning services by the building's staff. The cost of other fixed outlays (including furniture and the telepharmacy equipment) was covered at the outset by the HRSA grant. Hence, it is necessary to account for depreciation and amortization of those fixed outlays, which CHI accountants estimated at \$3,500 per month. Utilities, including heat, water and electricity were estimated at \$1,200 per month.

The largest and most obvious variable expense was that of labor. At the end of 2011, in the Fargo, ND metropolitan area, clinical pharmacists typically earned annual salaries of approximately \$100,000 (Murphy (a) et al 2011). Consequently, CHI budgeted \$100,000 annually for each staff pharmacist, and \$120,000 annually for the central site's Pharmacy Director. Benefits were projected to be 30% of salary expenses. The central site needed to be prepared to offer pharmacy services on a continual basis, with the expectation that most of its services will be provided in the evenings (which vary slightly by remote site) and weekends. Thus, the central site expected to hire sufficient pharmacists to cover the 110-120 hours of main hours of coverage per week (24 hours per day on the weekends and 10-20 hours each weekday), plus minimal staffing coverage during the weekdays and prn staffing as needed. It was determined that, in addition to the Director, 7.5 full time equivalent (FTE) pharmacist staff would be required to ensure that multiple pharmacists would be available to staff the central site during peak hours of use. Other administrative support (accounting and shared secretarial services, etc.) was contracted through CHI's central services at \$400 per month. Lastly, expenses for other items, including supplies, continuing education, licensing fees, etc., were budgeted at a total of \$1,500 per month. Table 1 contains a more detailed descriptions of the costs associated with each of these categories. Cumulatively, the monthly accounting costs of the program are approximately \$102,000 per month, or \$1.23 million annually.

Having estimated central site expenses, it was possible to establish a reasonable pricing structure. Since CHI is a not-for-profit entity (and since the parameters of the HRSA grant provides a target number of remote sites), there are effectively two methods of establishing a baseline pricing structure. The first is to use the accounting costs identified above, and adjust those costs for implicit (i.e., opportunity) costs, inflation and other time-related costs and other unexpected costs accruing to CHI, which gives a baseline estimate of the firm's true economic costs. As an example, suppose that the CHI central site estimates its

economic costs at \$150,000 per month (i.e., \$30,000 to cover inflation-related expenses, implicit costs and other, minor unexpected costs). If, consistent with the HRSA grant, there are 15 remote CAHs, a baseline price can be set at \$10,000 per month per remote site (or about \$21 per hour per remote site), which would allow the central site to break even. This price point naturally represents an average, which can be adapted depending on the needs of the organization. Increases (decreases) in the number of participating remote sites would facilitate lower (higher) mean price points if the firm is not-for profit, or (holding the price point constant) would lead to higher (lower) profit levels if the central site is proprietary. As a more realistic example, if the central site uses its actual cost structure (\$102,000 per month) plus minimal adjustments for other components of economic costs (\$3,000 per month) and maintains the average level of coverage at 16 hours per day, one arrives at a monthly price of \$7,000 (or about \$14.50 per hour of coverage) for each of the 15 remote sites. Table 1 contains a number of different pricing structure scenarios.

Table 1. Sample business plan budget for the central site in 2010

Category	Baseline Scenario in 2010		Baseline Scenario in 2010 with 17 Remote Sites		Actual Scenario as of 2010		Scenario as of 2010 with 2 Added Remote Sites	
	Monthly	Annual	Monthly	Annual	Monthly	Annual	Monthly	Annual
Revenues								
<i>Baseline Scenario</i>								
All Remote Sites (\$15 per Hour X 16 Hours per Day X 15 Sites)	\$108,000	\$1,296,000						
<i>Baseline Scenario with 17 Remote Sites</i>								
All Remote Sites (\$15 per Hour X 16 Hours per Day X 17 Sites)			\$122,400	\$1,468,800				
<i>Actual Scenario</i>								
Non-CHI Remote Sites -Early Commitment (\$9 per Hour X 16 Hours per Day X 3 Sites)					\$12,960	\$155,520	\$12,960	\$155,520
CHI Remote Sites (\$12 per Hour X 16 Hours per Day X 12 Sites)					\$69,120	\$829,440	\$69,120	\$829,440
Non-CHI Remote Sites -Late Commitment (\$15 per Hour X 16 Hours per Day X 2 Sites)					\$14,400	\$172,800		
<i>Actual Scenario with 2 Additional Remote Sites</i>								
Non-CHI Remote Sites -Late Commitment (\$15 per Hour X 16 Hours per Day X 4 Sites)							\$28,800	\$345,600
Total Revenues	\$108,000	\$1,296,000	\$122,400	\$1,468,800	\$96,480	\$1,157,760	\$110,880	\$1,330,560
Expenses								
<i>Labor</i>								
Central Site Director (1 FTE)	\$10,000	\$120,000	\$10,000	\$120,000	\$10,000	\$120,000	\$10,000	\$120,000
Director Benefits (30% of Salary)	\$3,000	\$36,000	\$3,000	\$36,000	\$3,000	\$36,000	\$3,000	\$36,000
Staff Pharmacists (7.5 FTE @ \$100,000 Annual Salary)	\$62,500	\$750,000	\$62,500	\$750,000	\$62,500	\$750,000	\$62,500	\$750,000
Benefits (30% of Salary Expense)	\$18,750	\$225,000	\$18,750	\$225,000	\$18,750	\$225,000	\$18,750	\$225,000
<i>Purchased Services</i>								
Controller and Other Clerical Services	\$400	\$4,800	\$400	\$4,800	\$400	\$4,800	\$400	\$4,800
Advertising and Printing	\$100	\$1,200	\$100	\$1,200	\$100	\$1,200	\$100	\$1,200
Supplies	\$200	\$2,400	\$200	\$2,400	\$200	\$2,400	\$200	\$2,400
Rental and Leases	\$1,200	\$14,400	\$1,200	\$14,400	\$1,200	\$14,400	\$1,200	\$14,400
Utilities	\$1,200	\$14,400	\$1,200	\$14,400	\$1,200	\$14,400	\$1,200	\$14,400
Depreciation & Amortization	\$3,500	\$42,000	\$3,500	\$42,000	\$3,500	\$42,000	\$3,500	\$42,000
Education	\$100	\$1,200	\$100	\$1,200	\$100	\$1,200	\$100	\$1,200
Travel Expenses	\$500	\$6,000	\$500	\$6,000	\$500	\$6,000	\$500	\$6,000
Meetings and Conferences	\$200	\$2,400	\$200	\$2,400	\$200	\$2,400	\$200	\$2,400
Other Expenses	\$400	\$4,800	\$400	\$4,800	\$400	\$4,800	\$400	\$4,800
Total Expenses	\$102,050	\$1,224,600	\$102,050	\$1,224,600	\$102,050	\$1,224,600	\$102,050	\$1,224,600
Total Net Revenue	\$5,950	\$71,400	\$20,350	\$244,200	-\$5,570	-\$66,840	\$8,830	\$105,960

Alternatively, the central site could use the price point as a baseline and charge differential pricing to specific types of remote sites. As an example, the CHI central site chose to provide a discount to any non-CHI affiliated CAHs which committed to the project at its outset, while non-CHI affiliated CAHs which purchased services after the program was initiated were charged higher than the mean rate. CHI-affiliated CAHs were charged a rate which is roughly equivalent to the baseline.

The residual approach assumes that 15 or more CAHs are *willing and able* to pay up to \$10,000 per month for clinical pharmacy services. Let us assume for the moment that the CAHs are *able* to pay this amount, and instead consider whether they are *willing* to do so. The CHI central site's management assumed that most central sites would be interested in pursuing the telepharmacy model because it was

either too difficult to attract clinical pharmacists to rural areas and/or because the hospital simply could not justify the expense of an added staff pharmacist. That is, the opportunity costs of hiring a staff pharmacist for evening and weekend coverage exceeded those of simply not having pharmacist coverage or having a pharmacist on-call. As noted above, evening and weekend coverage typically consists of approximately 110-120 hours per week; 48 hours on the weekends and as many as 60-80 hours on the weekdays. And as noted earlier, a typical clinical pharmacist in North Dakota (and particularly in Fargo, ND) earns approximately \$100,000 plus benefits (usually 30% of salary) and is expected to work 40-50 hours per week. This implies that any CAH hiring a clinical pharmacist at (Fargo, ND) market wages incurs \$10,833 per month in labor expenses. Based on these calculations, one can conclude that the pricing point of \$10,000 per month is roughly equal to the market value of a *single* clinical pharmacist's time. If the central site has lower non-accounting costs and sets the price point below \$10,000 (in our second example above, \$7,000), it would actually be priced below the market value of a single clinical pharmacist's time. Thus, CAHs who are willing to pay market value in Fargo, ND for a *single* clinical pharmacist are likely to also be willing to purchase services from the central site, as would those who are willing to pay nearly this amount. Those who are unwilling to pay a value which is substantially below Fargo's market value will not be willing to purchase telepharmacy services.

It is interesting (but not surprising) to note that the price point discussed above is highly consistent with the economic theory of local labor markets (Murphy (b) et al 2011). Urban areas generally have more efficient labor markets because they have a larger number of employers, and larger numbers of workers, who can exercise labor market mobility. Workers who are underpaid relative to their market value can seek other opportunities at wages that are closer to the market average. In rural areas, it is often the case that there are only a small number of employers (usually one; a CAH) in fixed locations, and a small number of eligible works (licensed pharmacists) who have some (usually limited) degree of labor market mobility. This implies that there is a high degree of both monopoly (the workers who supplies their labor and receive wages as compensation) and monopsony (the employers who demand labor at a wage) power. If the power of a monopsonist exceeds that of a monopolist, the wage rate in that rural area will be below the market price seen in the corresponding urban areas. The opposite is true in the case where the worker/monopolist holds relatively more power.

Within the context of rural markets for pharmacy labor, CAHs that often find it difficult to recruit and retain pharmacists must (among other incentives) offer higher wages to attract new pharmacists to work in the area; the pharmacist holds relatively more monopoly power than the employer/monopsonist. In such cases, those wage offers will exceed the market wage for pharmacists in Fargo, ND, where the central site is located. And in those cases (and holding all else constant), the CAH can save money (i.e., capture consumer surplus in the labor market) by contracting with the CHI central site to supply pharmacist coverage via telepharmacy. Concomitantly, CAHs who hold relatively more monopsony power in their local market for pharmacists will choose not to participate in the hospital NDTP.

What is particularly interesting about this approach is that it is highly conservative, because the economies of scale and scope built into the central site's services allow the services to provide pharmacist coverage that is inherently more flexible than hiring a single pharmacist. The scenario posited above is for a CAH that hires a *single* pharmacist. The new employee would work an average of 40-50 hours per week, ostensibly in 8 or 12 hour shifts. The central site, on the other hand, provides effectively the same service

24 hours a day, 7 days a week by scheduling its 7.5 staff pharmacist FTEs over all available times and across all participating remote site CAHs. This allows the costs per hour to be averaged out and expressed as an hourly rate (between \$10-\$20 per hour, depending on the number of participating remote sites and the magnitude of the non-accounting costs). It also allows the remote site CAHs and the central site to contract on an *hourly basis* at a rate substantially below that typically paid to a pharmacist. Additionally CAHs who are willing and able to hire more than one pharmacist would likely find the \$10-20 hourly rate (which would replace the need to hire *at least* one of these pharmacists) to be an exceptional value as long as the quality and scope of services offered are comparable to traditional pharmacist staffing (which we assume is the case). As such, the central site's ability to capture economies of scale and scope enables it to reduce its average costs and pass on those cost savings to the remote sites.

The prior discussion highlights the basic components of a sustainable business plan in theory. It is also important to consider the actual pricing structure, utilization and sustainability of the hospital NDTP. In November 2011, 17 CAHs were subscribed to the service: 12 CHI-affiliated remote sites (7 in North Dakota and 5 in northwestern Minnesota), 3 non-CHI affiliated CAHs (all of which are located in North Dakota and committed to the hospital NDTP at the outset) and 2 non-CHI affiliated hospitals in Minnesota which committed to the program after the initiation of the project. These remote sites estimated a mean monthly number of service hours of 476 (a little more than 105 hours per week or 16 hours per day) with a standard deviation of 106 hours per month. The CHI central site charged an hourly rate of approximately \$12 per hour to CHI-affiliated remote sites, \$9 per hour to non-CHI affiliated CAHs which committed to the project at its outset, and \$15 per hour to non-CHI affiliated CAHs which purchased services after the program was initiated. At these levels the revenue streams produced fall slightly short of the \$102,000 monthly expenses (approximately \$6,000 per month per remote site) accruing to the program. This was mostly due to the large discount provided to the second group of CAHs. The central site felt comfortable making this discount because it was in the process of recruiting several additional CAHs which will fall into the \$15 per hour rate category, which would (and did) bring the project back into the range of sustainability. As such, the plan was financially sustainable. However, contributing CAHs de-commit from the project and cancel their contracts for services, CHI would be forced to revisit its pricing structure (and increase rates to one or more groups slightly) to ensure that the program breaks even.

Local CAH Considerations

There are several factors which collectively determine whether employers or pharmacists hold more power in local labor markets, and by extension whether CAHs will be willing to pay the price point set by the central site. One consideration is how substitutable pharmacists, especially those covering night and evening hours, are with other hospital staff, and pharmacy staff working during traditional hours. In many rural CAHs, the patient census and their medication needs may be known with a high degree of certainty. This allows the pharmacy staff working during traditional business hours to fill prescriptions in advance of use. The medications are made available to the nursing staff (via established protocols), who administer them at the appropriate time. As such, the need for evening and weekend pharmacist staffing would be reduced (or possibly eliminated), as would the CAHs willingness to hire additional pharmacists (at \$60 per hour) or purchase telepharmacy coverage (at \$15 per hour).

A second consideration is the amount of time in which pharmacy services are not available. For example, a CAH with a single staff pharmacist typically only has 40-50 hours of “live” coverage available per week, leaving 110-120 hours to be uncovered or covered by on-call personnel. The larger the amount of uncovered time, the greater the chances that an event will occur which requires pharmacist attention or consultation. This may include urgently needed medications and/or dose adjustments, as well as adverse drug events accruing due to medication delivery and administration. The greater the likelihood of an unexpected or adverse event (which is positively related to uncovered pharmacy time) the greater the need for additional pharmacy services to address those issues.

A third consideration is the degree to which local CAHs and their staff value the unique features of the hospital NDTP delivery model versus other established telepharmacy alternatives, most of whom provided remote order entry and verifications services. At the time this study was conducted, the hospital NDTP was unique in that it provided real-time audio-visual communication between the telepharmacist and the CAH staff. The value of being able to consult with staff and visually inspect medication prior to being dispensed provided an added element of risk management and a reduction in the likelihood of an adverse drug event. CAHs that value this added element of patient safety are more likely to be willing to pay for the hospital NDTP services than those that do not value this service as highly.

A final consideration is the technology and other startup costs to become a remote site. Many (but not all) of the remote site CAHs in this project used HRSA grant funds to pay for these activities. Going forward, however, new CAHs would not have this luxury. While these costs are not extremely large (\$25,000), they are also not insubstantial.¹⁵ For CAHs with very limited financial resources, this extra expenditure may be enough to prevent it from using the service.

One way to empirically assess the potential willingness of CAHs to participate in the hospital NDTP is to estimate the workloads and staffing patterns of CAHs in the region. To that end, the faculty in the NDSU College of Pharmacy, Nursing, and Allied Sciences conducted a survey of all CAHs in North Dakota. Minnesota CAHs were not surveyed initially because there was uncertainty about the target market in that state (how much of the state’s area will be covered) and because the researchers did not anticipate a high response rate from those hospitals who had no connection to North Dakota and were not interested in the project. The survey was identical to that used by the American Society of Health System Pharmacists (ASHP) on a national level. It was administered to hospital pharmacy directors twice, once at the beginning of the hospital NDTP (in 2008) and at the conclusion of the HRSA grant cycle (in 2012). The North Dakota State University Institutional Review Board approved both iterations of the survey. Details of the survey (including expected and actual response rates) can be found elsewhere in the literature (Ryle et al n.d; Pederson (a) et al 2007; Murphy (b) 2011) This analysis focused on several key metrics, including the number of inpatient pharmacists that are included in the pharmacy’s budget, the number of vacant inpatient pharmacist positions, the number of inpatient pharmacist resignations over the past year, the number of inpatient pharmacy technicians that are included in the pharmacy’s budget, the number of vacant inpatient pharmacy technician positions, the number of inpatient pharmacy technician resignations over the past year, the number of hours per day the inpatient pharmacy is open during the week, the number of hours it is open on Saturday, and the number of hours the inpatient pharmacy is open on Sunday. As noted above, greater numbers of vacant positions, and greater number of uncovered hours, would signal a greater likelihood that the hospital would be willing to participate in the hospital NDTP. Because the data

collection process for the 2012 survey administration is still in progress, we focus primarily on the 2008 data.

Table 2 compares the staffing and coverage hours of the inpatient pharmacies *prior* to the 2008 hospital NDTP expansion. For simplicity, we also disaggregate the data based on whether the hospital utilized the telepharmacy technology (including those who agreed to participate in the 2008 hospital NDTP and those who already used the technology for traditional hours of pharmacy coverage). Note that hospitals which chose to utilize the telepharmacy had larger pharmacy staff, more unfilled positions and greater traditional hours of pharmacy coverage. These results suggest that hospitals which used the telepharmacy technology made greater use of pharmacy services, viewed pharmacists and pharmacy technicians as less substitutable with other health care workers, and had more difficulty replacing and retaining these workers. As such, they would be more inclined to participate in a telepharmacy program. The CHI central site would be best served by identifying rural hospitals whose pharmacy staffing patterns match those identified in Table 2 and directing their marketing efforts towards those hospitals. As the data from the 2012 survey are analyzed and published, more specific refinements in the target market can be made and more specifically identify CAHs who would benefit from these telepharmacy services.

Table 2. Descriptive statistics for the 2008 ASHP survey of North Dakota hospitals

<u>Variable</u>	<i>Hospital/Telepharmacy</i>			<i>Hospitals / No Telepharmacy</i>		
	N	Mean	SD	N	Mean	SD
<i>Inpatient Pharmacist Staffing</i>						
Budgeted Inpatient Pharmacist FTE Positions	8	1.944	1.801	15	0.533	0.604
Vacant Inpatient Pharmacist FTE Positions	7	0.343	0.907	10	0.1	0.316
Inpatient Pharmacist FTE Resignations over the Past 12 Months	8	0.25	0.707	13	0.077	0.277
<i>Inpatient Pharmacy Technician Staffing</i>						
Budgeted Inpatient Pharmacy Technician FTE Positions	9	1.822	1.041	15	0.58	0.63
Vacant Inpatient Pharmacy Technician FTE Positions	8	0	0	12	0	0
Inpatient Pharmacy Technician FTE Resignations the Past 12 Months	9	0.111	0.333	14	0	0
<i>Hours of Inpatient Pharmacy Coverage/Potential Workload</i>						
Hours the Inpatient Pharmacy is Open Monday - Friday	9	11.556	4.971	14	6.571	6.572
Hours the Inpatient Pharmacy is Open on Saturday	9	5.611	8.115	13	3	6.831
Hours the Inpatient Pharmacy is Open on Sunday	9	5.611	8.115	13	2.615	6.801

CAH Hospital Characteristics

A final consideration is whether CAHs in an absolute sense have the financial resources to purchase telepharmacy services. As with the hospital pharmacies, data obtained from the North Dakota Hospital Association (or the NDHA, which covers some, but not all of the target market) can be informative. The NDHA data were obtained from all member institutions during the 2009-2010 fiscal year, which represents a period close to the midpoint of the four-year grant window. The data included variables on patient volume (outpatient visits and inpatient days), employment levels (FTEs by provider type), total charges and collections (and the percentages of charges reimbursed by major payers), expenses and net revenues (total net revenues and net revenues per dollar of billed charges). The NDHA removed all hospital-specific identifiers, but did provide an identifier which distinguished those hospitals that participated in the 2008-2012 hospital NDTP and those that were not funded by the project. There were 38 hospitals in the state, which led to an effective response rate of 87 percent.

Table 3 contains some basic descriptive statistics for each of these variables. Note several things. First, none of the hospitals had extremely high levels of profitability, especially when measured on a per unit basis. Many of these hospitals, particularly many of the non-NDTP-affiliated hospitals failed to earn any net revenue. Given that most of these hospitals were non-proprietary, this should not be surprising. However, the fact that there were mean differences in net revenue across the two groups does suggest (but in no way proves) that the NDTP-affiliated hospitals were in better financial shape than the non-affiliated hospitals, and thus were presumably in a better financial position. Second, the hospitals participating in the hospital NDTP tended to be larger in workforces and patient served than those that did not participate. NDTP participating hospitals tended to bill more to third party payers, but the percentage actually reimbursed to these payers (per dollar charged) was less than non-NDTP hospitals. Results from other sources, which compare North Dakota and Minnesota hospitals to those nationally suggest (but in no way prove) that hospitals outside of North Dakota are in similar financial positions (Flex Monitoring Team (a) n.d.; Flex Monitoring Team (b) n.d.; Pederson (b) 2011). Cumulatively, the lack of profitability suggests that the decision to invest in telepharmacy services becomes a matter of management's priorities; where pharmacy services ranks relative to other hospital needs.

Table 3. Descriptive statistics for the 2009-2010 NDHA survey of North Dakota hospitals

<u>Variable</u>	<u>N</u>	<u>Hospitals in NDTP Mean</u>	<u>Std. Dev.</u>
<i>CAH Charges and Discounts to Charges</i>			
Gross Billings/List Charges	10	\$29,315,323.00	\$24,676,830.25
Discounts to Charges	10	\$11,082,917.70	\$9,688,628.26
Net Charges Reimbursed to the CAH	10	\$17,992,578.20	\$14,743,390.89
Percent of Total Billed Charges Reimbursed to the CAH	10	0.639	0.066
Percent of Medicare Billed Charges Reimbursed to the CAH	10	0.603	0.117
Percent of Total Medicaid Charges	10	0.333	0.241

Reimbursed to the CAH			
Percent of Total Blue-Cross/Blue Shield Charges Reimbursed to the CAH	10	0.628	0.079
Percent of Workforce Safety and Insurance Billed Charges Reimbursed to the CAH	9	0.588	0.111
Percent of Other Billed Charges Reimbursed to the CAH	10	0.848	0.061
Dollar Value of Charity Care	10	\$586,537.30	\$735,194.09
Dollar Value of Bad Debt	10	\$1,014,806.10	\$1,070,621.34
CAH Cost Information			
Total CAH Expenses	10	\$17,451,839.20	\$13,824,384.20
Estimated % of Total Expenditures Retained in ND	10	0.732	0.106
Profitability			
CAH Net Revenue	10	\$540,739.00	\$1,339,314.60
CAH Operating Characteristics			
Total Inpatient Admissions	10	842.3	654.264
Total Outpatient Visits	10	17,220.00	14,990.00
Total Emergency Room Visits	10	5,040.50	4,794.02
Total Clinic Visits	8	16,505.88	21,075.07
Total Full-Time Employees	10	136	95.402
Full time Employees - Primary Care Physicians	10	1.3	1.703
Full time Employees - Mid-level Practitioners	10	2.1	1.912
Full time Employees – Specialty/Other Physicians	9	1.556	2.128
Total Part-Time Employees	10	57.9	29.857
Total FTEs	10	155.207	103

Table 3. Descriptive statistics for the 2009-2010 NDHA survey of North Dakota hospitals

<u>Variable</u>	<u>N</u>	<u>Hospitals not in NDTP Mean</u>	<u>Std. Dev.</u>

CAH Charges and Discounts to Charges

Gross Billings/List Charges	23	\$8,075,223.69	\$6,336,862.43
Discounts to Charges	23	\$2,110,633.84	\$2,350,136.17
Net Charges Reimbursed to the CAH	23	\$6,015,715.89	\$4,137,385.90
Percent of Total Billed Charges Reimbursed to the CAH	23	0.783	0.096
Percent of Medicare Billed Charges Reimbursed to the CAH	21	0.766	0.139
Percent of Total Medicaid Charges Reimbursed to the CAH	20	0.546	0.221
Percent of Total Blue-Cross/Blue Shield Charges Reimbursed to the CAH	20	0.704	0.121
Percent of Workforce Safety and Insurance Billed Charges Reimbursed to the CAH	17	0.584	0.614
Percent of Other Billed Charges Reimbursed to the CAH	20	0.864	0.209
Dollar Value of Charity Care	23	\$50,996.70	\$60,824.26
Dollar Value of Bad Debt	23	\$216,753.78	\$202,847.49

CAH Cost Information

Total CAH Expenses	23	\$6,348,288.19	\$4,174,707.56
Estimated % of Total Expenditures Retained in ND	22	0.804	0.134

Profitability

CAH Net Revenue	23	(\$332,572.29)	\$469,348.79

CAH Operating Characteristics

Total Inpatient Admissions	23	258.261	190.737
Total Outpatient Visits	23	15,266.43	15,346.85
Total Emergency Room Visits	23	1,435.22	1,256.14
Total Clinic Visits	17	9,720.24	10,268.54
Total Full-Time Employees	22	63.864	47.033
Full time Employees - Primary Care Physicians	23	1.761	3.111
Full time Employees - Mid-level Practitioners	22	1.568	1.312
Full time Employees – Specialty/Other Physicians	17	0.088	0.264

Total Part-Time Employees	21	41.619	30.322
Total FTEs	23	72.877	37.654

A Brief Comment on the Cost Effectiveness of the NDTP

The plan and its pricing were set up to be (approximately) financially sustainable for a non-proprietary firm. Thus, it was approximately cost-effective for the CHI central site. The question of interest is whether the program was cost-effective from the perspective of society as a whole. Clearly, a formal, thorough examination of this issue requires more information than is available in the current analysis. Nonetheless a prima fascia analysis can be conducted. To do so, one must note that the program was cost-effective from a societal view if the costs of the telepharmacy program, per unit of effectiveness, were lower than the alternative. In this case, the alternative was the status quo (on-call coverage and/or no after-hours coverage). Assuming that the remote site hospitals were reasonably good agents for their patients, in that they wanted to provide as high quality care per unit of cost as possible to their patients, we can examine (as a rough proxy) those considerations that lead to cost-effective implementation for the remote site hospitals. If the remote site hospitals found the program to be cost-effective, then it was likely cost effective for society as a whole (since the non-profit central site broke even and the remote site hospitals provided quality care for their patients).

The benefits and costs of the program for the remote site hospitals were also straightforward. In a relative sense, the incremental (or additional) costs of the program were the expenses incurred to implement it, which were approximately \$1.23 million per year. Subscribing to the hospital NDTP allowed the remote sites to do two things: provide more pharmacy services to patients (for which they could bill for services); and provide the same set of services more effectively. As before, we focus on the second of these, since the ability to provide and bill for pharmacy services provides a revenue stream which would have only made the program more cost effective. In the provision of pharmacy services, providing the same services with greater quality is largely (but not entirely) comprised of efforts to minimize medication errors which reach the patient, and could potentially cause the patient harm (Moscovice and Wakefield n.d.; Peterson (b) 2007; Peterson (c) 2010).

A recent manuscript (Scott (b) et al 2013) studied the number of types of medication errors associated with the hospital NDTP between April 2010 and August 2011. During this 17 month window, the remote site telepharmacies collectively processed 263,214 orders, of which 28,290 were verified by the central site. There were 5,518 interventions, of which 80 were registered nurse pick errors, 40 were pharmacist transcription errors, 88 were major drug information errors, 11 were major adverse drug events prevented, 182 were renal dosing consultations and 268 were kinetic or other pharmaceutical consultations. The typical threshold for a cost-effective intervention is approximately \$50,000 to \$100,000 per quality adjusted life year, depending on the nature of the study's assumptions (Casey (b) et al 2006; Pizzi and Lofland 2006; Basskin 1998) Over a 17 month period, the costs of operating the central site were approximately (17 months / 12 months)*\$1.23 million $\approx$ \$1.75million. This implies that a cost-effective program would need to significantly impact approximately 15-35 (quality adjusted) lives per year for the program to be justified via safety and quality initiatives. The medication error numbers provided above suggest that impacting the lives of 15-35 patients was not unreasonable, as there were several hundred interventions described above which would not be addressed without the central site pharmacists, and

which (if unaddressed) could severely impact patients' health and well-being. As such, it is reasonable to speculate that the program was cost-effective.

DISCUSSION

The most important lesson learned from this analysis is that there appears to be a very general case for the usefulness and sustainability of the hospital NDTP. This superficial analysis suggests that it is viable to pursue, at least as a non-proprietary venture. However, the existence of economies of scale and scope are crucial; at least 15-20 CAHs must commit to the project to allow it to be revenue neutral. The number of CAHs is likely to be greater than this amount if grant money is unavailable to finance capital and technology outlays, as the technology costs run \$25,000 per site. A greater number of CAHs (or a higher price list) is also necessary if the venture intends to generate economic profit.

The second lesson is that the administrative structure of this project was unusually cumbersome. The grant was provided by a Federal agency, a state land-grant university was used to administer the grant monies, and a large, non-profit hospital system was responsible for implementing the grant. Each of these three organizations has its own unique culture and very rigid rules, regulations and ways of conducting business. Very frequently, this created unforeseen obstacles, which were not easily resolved. This is not a condemnation of any of the three parties, and there was no true ill will or lack of commitment on the part of any organizations. However, very frequently institutional specific factors would lead to delays in project implementation, payment or in the collection and transfer of information. Future hospital telepharmacy initiatives of this nature should expect such delays to occur and collaborate at the outset to set policies and procedures which minimize the impact of organizational and administrative barriers.

A third lesson learned is that, among the hospitals that participated in the hospital NDTP, there was no "culture of academic assessment". Even among hospitals that are willing to provide information, hospital staff and administrators did not understand assessment, or the need for it. Even if they want to help, clinicians were not trained to collect, analyze or interpret financial data, nor do they have time to collect and distribute data to the assessors. As a result, much of the information provided for this study, especially in the 2012 hospital survey, was incomplete, unavailable or reported inconsistently. The one area of assessment that was marginally successful was the documentation of medication errors and central site interventions. However, even here, the fact that data was not collected until April 2010 (when half of the grant period had expired) illustrates the difficulty experienced in getting the central site and all 17 CAHs to buy into a single software platform to track adverse events, as well as how to record those events. That these issues persisted in spite of the fact that any CAHs receiving grant money were *contractually obligated* to participate in assessment and provide data (and some remote site CAHs used HRSA funds). If this project was a strictly commercial venture, this lack of assessment would not be of significant concern. However, future iterations of this study that are interested in academic or professional assessment should target their assessment activities towards a sub-set of hospitals that have well-developed electronic medical records and/or hospitals that have demonstrated an ability to collect assessment data on a regular basis.

CONCLUSION

CAHs across the U.S. struggle to maintain 24 hour access to hospital pharmacists and, by extension, to a full range of pharmacy services to providers and patients. Without access to pharmacists on a continuous basis, CAHs may experience higher rates of medication errors and a general reduction in the quality of care provided to patients. Unfortunately, CAH budget constraints, combined with a paucity of pharmacists who practice in rural areas often prevent CAHs from providing continuous pharmacy staffing. Hospital based telepharmacy, especially those systems that adhere to the NDTP delivery model of telepharmacy, provide a less expensive alternative to providing pharmacy services, especially during evening, weekend or other times when relief pharmacists are typically utilized. The purpose of this analysis was to examine the business case for providing rural hospital telepharmacy services under the NDTP delivery model, and by extension to examine its sustainability.

This analysis has numerous limitations, but all of them can be traced to a single source: a lack of available data. The central site's business plan can, in theory, be described in reasonable detail. However, information is severely lacking on the financial positions of the remote sites, as well as the CAHs that house them. Without more detailed financial, clinical and humanistic outcome data, it is impossible to conclusively establish the sustainability of the plan from a financial perspective and its cost effectiveness from a societal perspective. Moreover, even if the plan is generally considered sustainable (which is not a given), it is difficult without additional data on the central and remote sites to fully examine the effects of the hospital NDTP on the operational and financial efficiency of the central site and the remote site CAHs. Overall, the analysis contained herein requires much stronger empirical analyses before the usefulness of the hospital NDTP can be fully established.

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HOW FREQUENTLY DO CHILDREN *REALLY* ABUSE PRESCRIPTION PAIN KILLERS? EVIDENCE FROM MISCLASSIFICATION ANALYSIS

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ABSTRACT

*Prescription drug abuse and misuse, especially opiate abuse, is a growing concern in health care. Traditional interventions designed to curb abuse and misuse of pain medications (including prescription monitoring programs) typically focus on adults who have (or had) a valid prescription for these medications. However, a growing concern is that minors are obtaining these medications and using them for unintended purposes. Perhaps more concerning is the fact that minors may be obtaining these medications through illegal activities, such as through black markets or by stealing them from their parents who have a valid opiate prescription. Currently, the only viable approach to consistently and comprehensively identify abuse or misuse among younger populations is through survey techniques. This is problematic for activities with negative social or legal stigmas because respondents may not provide responses that align with actual behaviors. Such responses are termed "misclassified". Recently, Rosenman, Tennekoon and Hill (*International Journal of Behavioural and Healthcare Research*, 2002, Vol. 2, No. 4, pp. 320-332) and Rosenman and Tennekoon (*Health Economics*, forthcoming) identified an econometric (regression-based) approach that not only quantifies the extent to which misclassification impacts survey results, but also quantified the extent to which certain covariates impact the propensity for responses to be misclassified. This allows the researcher to profile groups to determine which respondents are more likely to misclassify responses; in this case, to report that they do not illegally obtain and abuse/misuse prescription pain killers. We apply this methodology using data from the 2008 Healthy Youth Survey in Washington State. The results suggest that young people are abusing or misusing prescription pain killers, and that many of these individuals failed to report this activity in the survey. We also find that specific covariates are associated with a greater likelihood of mis-reporting their use of these medications.*

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GRAY MARKETING IN PRESCRIPTION DRUGS

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ABSTRACT

Gray marketing, also known as parallel importation, occurs when genuine and legitimately manufactured trademarked products intended for a particular country market are diverted to a different country market through unauthorized distribution channels (Duhan and Sheffet, 1988). The predominant reason for gray markets to exist is manufacturer-maintained price differentials across international markets (Berman, 2004). Distributors in lower-priced markets often divert products to middlemen in higher-priced markets, who subsequently offer these products to their customers at substantial discounts compared to authorized intermediaries in these markets. While gray markets operate across diverse product categories, such as automobiles, perfume, liquor, and consumer electronics (Bucklin, 1991), our focus is on prescription pharmaceutical drugs, which have seen substantial gray marketing activities in recent years. In this paper, we review the state of the gray market for prescription drugs in the United States, including the underlying causes, the trends, and the public policy and industry responses to such gray markets.

The gray market for prescription drugs was worth an estimated \$5 billion a year, or 4.8% of all drugs sold in the United States, as far back as in 2003 (Haddad, 2003). Canada alone supplied U.S. consumers with \$1.1 billion worth of gray market prescription drugs in that year (Lloyd, 2004). A more recent study indicated that 11 percent of Americans reported obtaining less expensive prescription drugs from foreign countries (Kesselheim and Choudhry, 2008).

The primary reason that the gray market for prescription drugs thrives in the U.S. is that prescription drug prices in the U.S. are the highest in the world. This is because of high research and development costs of new drugs, and the presence of price controls on drugs in many other countries (Kyle, 2007). U.S. prescription drug prices were found to be up to 70% higher than their Canadian counterparts (Kaufman, 2003). Many Americans, particularly the elderly, have to pay a substantial share of prescription drug costs, either because they do not have health insurance coverage, or their insurance requires

substantial cost sharing (Kanavos and Vondoros, 2010). The high medication costs encourage a growing number of Americans to buy relatively cheaper prescription drugs from other countries, such as Canada and Mexico (Bhosle and Balkrishnan (2007). There are numerous Internet pharmacies (such as CanadaMeds.com and CanadaDrugs.com) that help American consumers obtain drugs from other countries easily. Many of these drugs may be manufactured in the U.S., but their prices are lower in other countries (such as Canada) than U.S. market prices due to local price controls (Wagner and McCarthy, 2004). The type of gray marketing activity where U.S. made prescription drugs exported for sale to a foreign country are imported back to the U.S. is called drug reimportation (Bhosle and Balkrishnan, 2007).

The pharmaceutical companies have always lobbied to have a complete ban on the sales of gray market drugs enacted and enforced in the U.S. They argue that profits lost due to the sales of lower priced gray market drugs would discourage future investments in the research and development of new drugs (Danzon and Towse, 2003). The safety of imported drugs has also been questioned. The Food and Drug Administration (FDA), which regulates the domestic market for pharmaceuticals, but not foreign markets, has stated that it cannot guarantee the safety of drugs obtained from foreign sources (Meadows, 2002). There is also the possibility that the widespread import of drugs into the U.S. from countries like Canada will result in severe drug shortages in those countries (Graham, 2003).

Under current federal law, it is illegal for anyone other than the original manufacturer to import (or re-import) prescription drugs into the U.S. The efforts to prevent the parallel importation of prescription drugs into the U.S. are opposed by many consumer activist groups, such as the American Association of Retired Persons (McGuire, 2006). The current Obama administration supports drug reimportation in principle (Bush, 2009). American citizens have been able to cross the Canadian border to purchase a limited supply of prescription drugs for personal use. For several years, both the U.S. House of Representatives and the Senate have discussed the possibility of legalization of drug reimportation practices from countries (such as Canada, Japan, and most European countries) where the drugs are perceived to be made under similar safety standards as in the United States (Bhosle and Balkrishnan, 2007). The U.S. Congress has attempted to pass the Pharmaceutical Market Access and Drug Safety Act several times since 2003 to address this issue, but the efforts have not been successful, with the bills dying in the legislative process (Danzon, Johnson, Long and Furukawa, 2011). To complicate matters further, many states are considering legislation to allow its residents access to cheaper prescription drugs from overseas. Maine has recently become the first state to allow direct purchase of mail-order drugs from some foreign pharmacies (Levitz, 2013). In recent years, similar legislation has been considered by other states, such as New Hampshire, Minnesota, Illinois and Wisconsin (Belluck, 2003).

The future of parallel importation of prescription drugs into the United States will depend on trade-offs between several conflicting issues, such as continuing high prices of drugs in the U.S. relative to other countries, impact of drug reimportation on U.S. drug prices in the long term, safety of imported drugs, and legislative response to the issue.

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ELECTRONIC PRESCRIBING AND ITS IMPLEMENTATION IN THE UNITED STATES

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ELECTRONIC PRESCRIBING AND ITS IMPLEMENTATION IN THE UNITED STATES

ABSTRACT

Introduction: *Electronic prescribing (e-prescribing) is an important part of the nation's push to create an electronically accessible national health system. E-prescribing allows providers to send prescriptions electronically to the pharmacy and can be stand-alone systems or part of an integrated electronic health record system.*

Methodology: *The methodology for this study was a literature review. Electronic databases accessed include EBSCOhost, PubMed, and Google Scholar. Additionally, government websites and a semi-structured interview were used. A total of 39 sources were referenced for the review*

Results: *The results of the literature review demonstrated that e-prescribing reduces prescribing errors, increases efficiency, and helps save on healthcare costs. However, there are still significant barriers to implementation.*

Discussion: *The benefits that come with using e-prescribing are numerous. While there are still barriers that prevent many prescribers from implementing e-prescribing systems, incentives and improved patient safety will help increase its utilization.*

Conclusion: *E-prescribing has the potential to increase patient safety and efficiency of care. This supports our hypothesis that e-prescribing has led to improved patient care through meaningful use. More than just a convenient way to send prescriptions, e-prescribing allows prescribers to prescribe safely and cost effectively, and is likely to continue to grow in the future.*

INTRODUCTION

A key issue in the United States (US) government's plan to create an electronically accessible national health information system has been the lack of willingness by medical professionals to fully adopt electronic prescribing (e-prescribing) (Brown-Wilson Group, 2011). E-prescribing has allowed prescribers of medications to electronically send patients' prescription information to pharmacies. This eliminates the need for patients to carry paper copies and for offices to fax copies to pharmacies. By electronically sending and receiving prescriptions, prescribing medications has become more streamlined and reduced common prescribing errors (Smith, 2006). The hypothesis of this research is e-prescribing increases the ability of healthcare providers to effectively improve the quality of patient care.

E-prescribing systems can be incorporated into Electronic Health Records (EHRs) or can be independent systems. EHRs are set up to enable sharing of medical information among stakeholders, which include patients, providers, payers/insurers, employers, and the government (Garets & Davis, 2006). The source of data for EHRs is Electronic Medical Records (EMRs), which are the legal records created in hospitals or ambulatory environments (Garets & Davis, 2006). When e-prescribing is part of an EHR system, providers are able to access all patient information, not just prescription information (Abramson, Barrón, Quaresimo, & Kaushal, 2011). The Health Information Technology for Economic and Clinical Health (HITECH) Act of 2009 proposed that healthcare professionals throughout the U.S. have access to EHRs and use them meaningfully according to standards set by the Centers for Medicare and Medicaid Services (CMS), (CDC, 2012). The purpose of meaningful use is to use technology to coordinate and improve patient care (CMS, 2010). E-prescribing is a way of using EHRs meaningfully because the technology is being used to enhance the quality of patient care (CDC, 2012). Allowing providers access to patient histories, diagnoses, and medication information increases patient safety by reducing medical errors. However, the less expensive and easier to manage option is the stand-alone system for e-prescribing. Medication data that is pertinent for e-prescribing is the only information that is allowed to be stored and

updated in this system by providers (Abramson et al., 2011). Any system allowing providers to store and manage prescription information electronically has the capacity to be safer and more cost efficient than written prescriptions (Grossman, Gerland, Reed, & Fahlman, 2007).

In 2011, the U.S. spent \$263 billion on prescription drugs, which was a 2.9% increase from 2010 (CMS, 2013). With this growth in prescribing of pharmaceutical drugs, e-prescribing is expected to have many benefits to enhance the exchange of patient prescription information among many organizations including physician offices, pharmacies in retail settings, Prescription Benefit Management (PBM) companies, and insurance providers. E-prescribing is expected to increase the safety and quality of prescribing (i.e. appropriate medications at correct doses for the desired outcome), enable patients to have more cost-effective medication choices, and enhance the efficiency of workflow in the ambulatory care setting (Wang et al., 2009). By connecting physician and pharmacy systems, there has been less need for telephoning and/or faxing to clarify prescription details. This is both time and cost saving for all parties involved. Despite the benefits that come with e-prescribing, there still exist many providers and pharmacists who are hesitant of completely adopting an electronic system (Smith, 2006).

Growth in e-prescribing came with the passing of the Medicare Prescription Drug, Improvement, and Modernization Act (MMA) of 2003 (Bell & Friedman, 2005). The MMA included the establishment of prescription drug coverage under Medicare as of January 2006 (Lichtenberg & Sun, 2007). This Part D prescription plan supports e-prescribing as a voluntary program for providers and pharmacists. It has the capability to make prescribing through Medicare more efficient and well-organized by reducing prescribing errors and coordinating patients' treatments (Bell & Friedman, 2005). To encourage the use of e-prescribing by Medicare recipients, Medicare Improvements for Patients and Providers Act (MIPPA) of 2008 was passed (H.R. 6331, 2008). Medicare offered payment incentives to prescribers who met a yearly quota for e-prescribing. Medicare reimbursements for those who do not e-prescribe started to decrease in 2012 starting with one percent, then one and one-half percent in 2013 and two percent in 2014 and later (Friedman, Schueth, & Bell, 2009).

The e-prescribing provisions in Medicare increased its overall use in the U.S., the number of electronically routed prescriptions increased from 570 million in 2011 to 788 million in 2012 (Surescripts, 2012). The EHR Incentive Program will provide Medicare bonus payments to providers demonstrating meaningful use through 2014; and starting in 2015 eligible providers failing to demonstrate meaningful use will receive reduced Medicare reimbursements (HHS, 2010). Many government groups, pharmacies, companies and other stakeholders worked to increase its use through legislation, funding for e-prescribing systems and software, and incentive programs separate from Medicare programs (Friedman et al., 2009). Though these efforts increased the use of e-prescribing from 38% of prescriptions dispensed in 2011 to 44% in 2012, most prescriptions are still sent to pharmacies outside of an electronic system (Surescripts, 2012). Policies and financial rewards are numerous yet fail in providing incentive for all prescribers to adopt e-prescribing. Providers cite issues with the complex technology and lack of complete patient record availability through e-prescribing systems (CHRT, 2011).

The main purpose of this research was to explore the effect that e-prescribing has had on the efficacy and accuracy of prescribing in ambulatory or clinical settings throughout the U.S. in an effort to improve patient quality of care. A secondary purpose was to examine the reasons for its slow growth.

METHODOLOGY

The hypothesis of this research was: e-prescribing increases the ability of healthcare providers to

effectively improve the quality of patient care. Figure 1 shows the conceptual framework of this research, created by the authors.

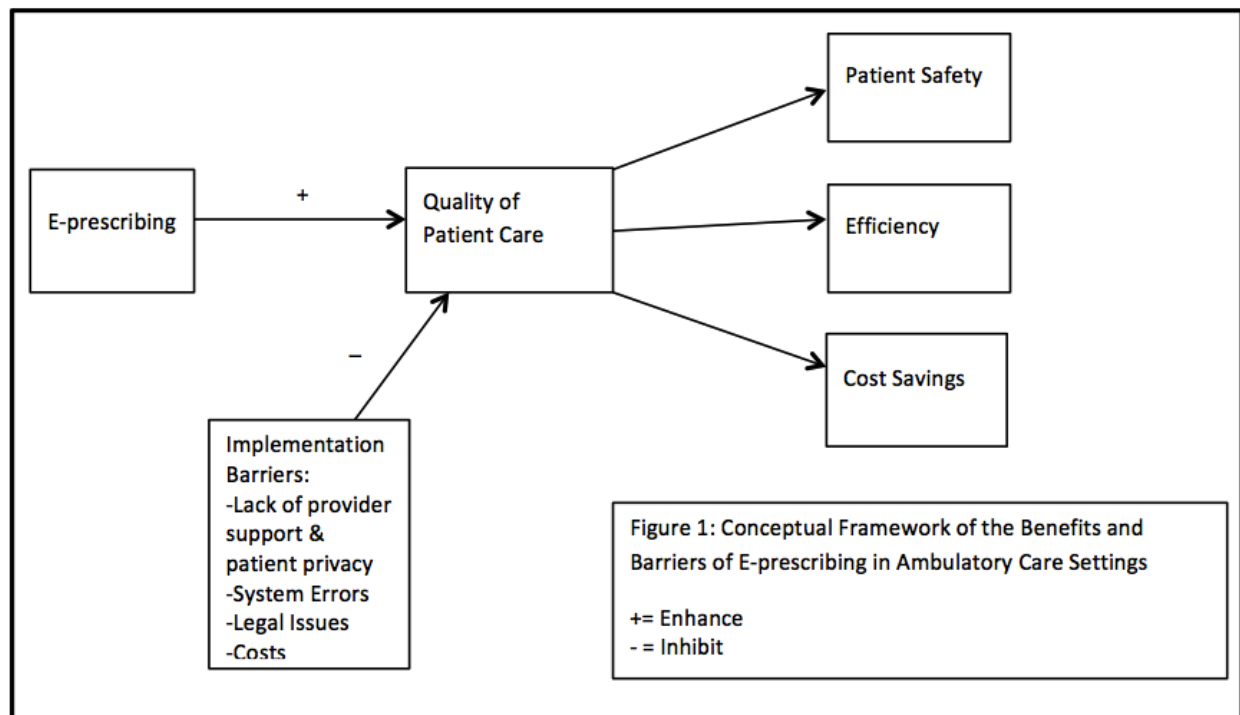


Figure 1

The framework illustrates how e-prescribing in ambulatory care settings affects patient safety, efficiency, and cost effectiveness to enhance the quality of patient care. Barriers to implementation, such as lack of provider support and patient privacy, system errors, legal issues, and costs are likely hindrances to the growth of e-prescribing; resulting in a compromise of patient quality of care.

The methodology for this examination of the benefits of e-prescribing was a literature review. Research was conducted using online scholarly database search. Databases included PubMed, Medline, Academic Search Premier, and Google Scholar. The key phrases ‘electronic prescribing’ or ‘e-prescribing’ were combined with the terms ‘meaningful use’ or ‘ambulatory’ or ‘quality’ as inclusion criteria to search databases for articles. A review of the abstract of the articles determined the relevancy of the data to the study. Information from the government websites of CMS, CDC, and from the non-profit organization of Center for Healthcare Research and Transformation (CHRT) was used for updated statistics and data regarding e-prescribing. Sources were limited to those written in English and published between 2000 and 2013, containing data from the U.S. Primary and secondary data from articles, reports, reviews, and research studies were included in this research. Thirty-nine sources were referenced including a semi-structured interview with a professional.

RESULTS

An important factor in the quality of patient care is whether medical errors are

present (Ammenwerth, Schnell-Inderst, Machan, & Siebert, 2008). In the U.S., there are an estimated 200,000 deaths yearly from preventable medical mistakes and hospital infections (Hearst, 2009). Errors in medication prescribing and filling are some of the more common types of medical errors. Medication errors are preventable incidences created by healthcare professionals, patients, or consumers, resulting in medications being misused by patients or patients being harmed (Pizzi, Suh, Barone, & Nash, 2005). These errors can occur in any part of the medication use process, which includes mistakes from prescribing, to dispensing of the drug, and monitoring of how it is taken (Kaushal, Kern, Barrón, Quaresimo, & Abramson, 2010). An Adverse Drug Event (ADE) can result from preventable or non-preventable medical interventions related to medications. ADEs are considered preventable if they are caused by medication errors and potential ADEs are caused by errors that could result in harm to the patient (Hug et al., 2009).

Patient safety and use of E-prescribing

Patient safety can be improved through e-prescribing by increasing prescription legibility, decreasing the time it takes to prescribe medications and get them to patients, and decreasing medication errors and ADEs (Kannry, 2011). Submitting a prescription through an EHR system allows prescriptions to be checked for interactions with current patient medications, health conditions, and/or allergies (Amirfar et al., 2011). Most e-prescribing systems include Medication Decision Support (MDS), which helps providers avoid errors in prescribing and ADEs. This program checks for drug-drug, drug-allergy, and drug-disease interactions, as well as, drug costs and dosing recommendations. Physicians using an EHR integrated e-prescribing system are more likely to use the MDS program. However, there is little evidence that MDS used in this manner is more beneficial to patient safety and reduction of medication errors than when part of a stand-alone system (Kannry, 2011).

Efficiency of E-prescribing

E-prescribing improves efficiency in the prescribing process. Workflow studies demonstrate computer entry of a prescription takes about 20 seconds longer than writing the prescription. Another study based on family practices determined physicians spend approximately 0.14 hours per day writing prescriptions (Schade, Sullivan, Lusignan, and Madeley 2006). Offsetting this time difference is the time saved by an electronic prescription (eRX) needing to clarify the information on a written prescription. (Devine et al., 2010). Prescribers will spend more time on a computer, but less time on written notes and orders; on average an extra 5.4 minutes an hour for nursing staff (Hollingworth et al., 2007). If implemented correctly there should be minimal disruption in workflow particularly in ambulatory settings (Hollingworth et al., 2007).

At the pharmacy, entering of prescriptions becomes streamlined when the software allows automated processing. An expert stated an increase in efficiency was seen after implementing e-prescribing, mainly due to less paperwork and fewer issues to resolve (Expert in e-prescribing, 2013). Patient and prescriber names are matched up automatically by the system, while other fields are generally auto-populated, but often require manual manipulation; the main fields are drug name, quantity, and patient instructions, also known as a “Sig” (Grossman, Cross, Boukus, & Cohen, 2011).

Providers find less time is spent resolving issues with pharmacies, including prior authorizations and refill requests (Lapane, Rosen, & Dubè, 2011). With a patient’s prescription formulary and eligibility information available prescribers can choose an appropriate medication and reduce the probability of

receiving a call from the pharmacy to change the medication to an alternative (Lapane et al., 2011).

Cost savings associated with E-prescribing

The potential for cost-savings is great with e-prescribing systems. An analysis, by Surescripts in 2010, estimates \$140-240 billion in costs savings and improved health outcomes over 10 years (E-prescribing shown to improve outcomes, 2012). The largest savings occur with the reduction of ADEs, mostly due to reduced visits to primary care offices and emergency rooms. A 2006 study, in Massachusetts, calculated with each hospitalization due to an ADE the average cost was approximately \$9000, each emergency room visit \$427, and each visit to the doctor's office \$111 (Weingart et al., 2009).

Another cost savings measure is the increase in patient medication adherence. Increased adherence to medication therapy can promote better health outcomes and theoretically reduce costs. In 2011, a Surescripts study found patients, on average, picked up 10 percent more prescriptions when those prescriptions were e-prescribed compared to written prescriptions (E-prescribing shown to improve outcomes, 2012).

Substitution of generic medications or less costly formulary alternatives can reduce the cost to patients. E-prescribing systems that employ MDS can help physicians choose a low cost option that may be clinically better for the patient by eliminating prescriber bias. A study by McMullin et al, in 2001-2002, involving 19 clinicians, found a 17.5% decrease in prescriptions for high-cost drugs among the intervention group compared to the control group (McMullin, Lonergan, & Rynearson, 2005). This led to savings of \$109,897 on new prescriptions in 12 months or an average of \$482 per prescriber per month during the follow up study done by McMullin et al in 2002-2003 (McMullin et al., 2005).

Barriers to implementation of E-prescribing

With many benefits to e-prescribing, some providers are still reluctant about implementing their own e-prescribing systems. A major barrier, with >80% of primary care physicians reporting, was the lack of financial support (Anderson, 2007). New technology requires training and IT support for installation and maintenance, both of which are costs a practice must take into account when deciding whether to implement an e-prescribing system or whether to choose a stand-alone system or one that is integrated into an EHR (Anderson, 2007).

Improperly designed e-prescribing systems can cause new types of errors to occur. A major error is lack of alert specificity and overload; when presented with loads of alerts each time they enter a prescription, prescribers tend to stop reading each one and just click quickly through them (Brooks & Sonnenschein, 2010). By ignoring the alerts, a major interaction can be missed, therefore systems need to be able to prioritize alerts into categories related to severity of the interaction (Brooks & Sonnenschein, 2010).

Privacy of patient information can be a concern for providers and patients. Most EMR systems are Web-based and some deliver information wirelessly. There are numerous points where information can be leaked, and if proper firewalls and intrusion prevention systems are not in place, there exists the opportunity for protected patient information to be stolen (Nataraj, 2011). Most information breaches actually occur with internal employees, so continuous training on security is imperative and can incur additional costs (Nataraj, 2011). According to HHS, as of February 7, 2013 there have been 682 breaches of protected health information affecting 500 or more individuals (HHS, 2013).

Legal issues arise when providers want to prescribe controlled substances. The Drug Enforcement Agency (DEA) made a final ruling on e-prescribing controlled substances on March 31, 2010, the ruling took effect June 1, 2010 (AMA, 2010). This particular ruling made it legal to transmit controlled substance prescriptions electronically, though there are many standards that make it cumbersome to implement. These standards included identity proofing, two-factor authentication, digital certificates, monthly logs, third party audits of software, and a requirement to keep two years of records (AMA, 2010). In 2010, the DEA estimated the potential costs of implementing these systems to be between \$43 million and \$1.54 billion for different options (DEA, 2010).

DISCUSSION

The purpose of this research was to explore the effect that e-prescribing may have on the efficacy and accuracy of prescribing in ambulatory or clinical settings throughout the US. A secondary purpose was to examine the reasons for its slow growth and acceptance in the delivery of health care. The results of the literature review have shown that increasing use of e-prescribing results in better patient safety through a reduction in errors. Additionally, e-prescribing has shown the potential for cost savings.

The number of medications being prescribed is continually increasing; this is also creating an increase in the number of potential errors. E-prescribing eliminates some of the possibilities for mistakes, and can potentially help prevent more than 2 million ADEs a year, 130,000 of which are life-threatening (Leavitt, 2007). It takes illegibility out of the equation and helps providers make more informed decisions concerning what medications to prescribe, based on patient histories and allergies, all of which are available in systems that are integrated with EHRs. These systems alert prescribers when there is a detected allergy or interaction with other medications or health conditions. A problem with the alerts is in some cases alerts pop up when there is little risk or when there is not a true complication. Prescribers may be overloaded with the alerts and rather than read each one, ignore them potentially missing an important interaction.

E-prescribing helps make patient care more efficient by streamlining the process of delivering the prescription to the pharmacy, the dispensing of the medication, and obtaining refills. By not supplying the patient a hardcopy of the prescription, the potential for the patient losing the script is eliminated. The instances of pharmacy initiated clarifications are decreased, reducing the amount of time pharmacists and providers spend on the phone, thus reducing the time it takes to fill the prescription and get it to the patient. Increased compliance and monitoring of compliance are results of implementing e-prescribing.

Cost savings estimates for implementing e-prescribing systems is estimated to be \$27 billion a year. in the U.S. (Leavitt, 2007). These cost savings are created through reduction in ADEs, improved efficiency, and provider access to formularies. The amount of time spent clarifying prescriptions is greatly reduced, allowing prescribers to focus on patient care. Cost savings coupled with incentives and improved efficiency will increase the use e-prescribing in the future.

One of the largest barriers to implementing an e-prescribing system is cost. Many smaller practices have difficulty with both the cost of the system and the training of staff (Lander, Klepser, Cochran, Lomelin, & Morien, 2013). Another hindrance is the inability to send controlled substances as eRXs. For some prescribers, these medications represent a large portion of their prescribed medications. New legislation now makes it possible to send controlled prescriptions, but there are many stipulations that are making it difficult. Additionally, an issue arises with the inability of multiple systems to share information effectively and a lack of a standard formatting, which reduces the effectiveness of e-prescribing systems. Physicians are wary of the initial increase in time spent entering orders on the computer. This issue should resolve itself with increased use and familiarity with the system. This literature review was limited by the search strategy utilized. The number of databases searched along with

publication bias may have restricted the articles used in the review. Researcher bias may have been an issue. The research on e-prescribing in ambulatory care settings is limited compared to that of hospital settings. This factor could be due to the fact that less small group physicians' offices have implemented e-prescribing due to the costs involved.

CONCLUSION

This literature review has shown e-prescribing has the potential to increase patient safety and efficiency of care. This supports the stated hypothesis that e-prescribing has led to improved patient care through meaningful use. More than just a convenient way to send prescriptions, e-prescribing allows prescribers to prescribe safely and cost effectively, and is likely to continue to grow in the future.

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TRACK

HEALTHCARE MARKETING

MEDICAL TOURSIM: COMPARING CORONARY BYPASS SURGERY IN THE U.S. AND ABROAD

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MEDICAL TOURSIM: COMPARING CORONARY BYPASS SURGERY IN THE U.S. AND ABROAD

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ABSTRACT

Rising health care costs have employers searching for remedies to the increasing rates they pay for employee health insurance. The development of U.S. health insurance policies, with the option of utilizing medical tourism as a low cost care provider for treatment of cardiac coronary bypass surgery provides a method for receiving treatment. The medical tourism approach to providing treatment for bypass surgery has prompted hospitals in India, Thailand, and Singapore to seek U.S. patients. A comparison of costs for bypass treatment between the U.S. and these countries illustrates some of the issues and concerns that arise when making such comparisons. The overall approach of medical tourism by U.S. employers is one of ‘wait and see.’

INTRODUCTION

Rising health care costs within the U.S. places economic strain on employers, employees, and private insurance paying individuals. An increase in health care expenditures for all parties involved often creates a need for these parties to seek alternative measures and destinations to receive and pay for health care (Woodman, 2010; Alleman, et al. 2011; Underwood and Makadon 2010). In recent years, interest in

“medical tourism” demonstrates an increase, not only in the U.S., but also in other countries, in part due to escalating health care costs and other health related issues, which are country specific. Medical tourism has generated a growth in new U.S. businesses in the form of medical facilitators (Synder, et al. 2011; Medical Tourism Association 2013; Deloitte Center 2008) and some larger U.S hospitals (Deloitte Center 2008; Smerd 2008) and health insurers (Mitchell 2013) are beginning to establish agreements with several larger hospitals abroad. Some of the larger hospitals in India, Thailand, and Singapore directly market services globally allowing medical tourists to negotiate their own medical care with the hospital (Alleman et al 2011; Turner 2010a).

Medical tourism is becoming a source of economic gain for many countries and regions of the world. (Carruth and Carruth 2010; Hill n.d.; Kahn 2010) Medical tourism increases the economic situation (Munro 2012; Pocock and Phua 2011) in a destination country, provides care for many individuals willing to pay out of pocket, and lowers health insurance costs for U.S. employers and health insurers willing to pay for health care abroad. It is difficult to determine, with any accuracy, the number of persons travelling from the U.S alone to a foreign country for health care reasons. Estimates of Americans travelling abroad for treatments place the number of persons traveling to India or Thailand for health care reasons in excess of 750,000 persons for 2005 (Herrick 2007; Kahn 2010). A 2003 estimate placed the total number of persons traveling to India, Thailand, Singapore, and Malaysia at 1.4 million persons (Heung, Kucukusta, and Song 2011). This estimate increased in 2010 to 6 million persons, with an economic gain of > \$4 billion, with half of the revenue going to India (Heung, Kucukusta, and Song 2011; Horowitz, Rosensweig, and Jones 2007; Hill n.d.). As medical tourism develops into a multi-billion dollar industry, with steady annual growth projected, estimates of global economic gains vary between \$40 and \$100 billion for destination countries (Zwelling 2011; Herrick 2007).

While the increase of health care treatments and procedures performed abroad involves many elective procedures (Woodman 2010; Synder, Dharamsi and Crooks 2011, Milstein and Smith 2007), which many U.S. health insurers deny payment, there is a growing interest by U.S. health care insurers to pay for more expensive complex procedures, such as Coronary Arterial Bypass Graft (CABG) surgery. Coronary bypass surgery, one of the most common cardiac surgical procedures performed, serves as a “cash cow” for many U.S. hospitals (Crowley 2010). Because cardiac surgery procedures provide high revenue, smaller local hospitals can market as offering a high-profile program in cardiac care even if the hospital has a low volume of bypass cases, thereby increasing patient volume and revenue (Regenbogen, Gust, Birkmeyer 2012). Focusing on coronary bypass, a review of Medicare data (1992 – 2003) demonstrates a decline in coronary bypass surgical procedures from 1992 to 2003, while the number of hospitals performing these surgeries steadily increased (Wilson, et al. 2007). Using Nationwide Inpatient Sample data (2001 – 2008), a study by Epstein et al (2011) supports Wilson’s et al review, demonstrating a decrease in the number of coronary bypass surgeries per hospital, yet a 12% increase in the number of hospitals during this period. In an effort to lure Americans to seek care abroad, coronary bypass procedures have become one of several expensive health care procedures offered by larger health care facilities in India, Singapore, and Thailand. This paper focuses on examining the growing interest of U.S. individuals, employers, and health insurance providers for having coronary bypass performed in India, Thailand, or Singapore.

Cost comparison of coronary bypass

Costs of coronary bypass surgery is cited by more U.S. individuals and companies providing employee health insurance as being the single most important factor of consideration for seeking coronary bypass surgery abroad. Table 1 illustrates the cost comparison of coronary bypass surgery in the U.S. with India, Thailand, and Singapore; these cost comparison figures are promoted throughout the medical tourism industry. A comparison study of costs for coronary bypass surgery in two large hospitals in India, one in Thailand, and the overall California Insurer average cost payment, demonstrates the costs in India and Thailand did not exceed \$15,000 while the California Insurer average (private insurance) exceeded \$50,000 (Milstein and Smith 2007)

Table 1. Cost Comparison of Coronary Bypass Surgery (U.S. \$)

Procedure	U.S. Insurers Cost	U.S. Retail Cost	India	Thailand	Singapore
Heart Bypass	54,741 – 79,071(94,277)	122,424 – 176,835 (210,842)	10,000	12,000	20,000

Source: Kher., 2006 Outsourcing your heart. *TIME* and Herrick 2007.

Essentially the difference between comparing costs yielding a small or large cost savings result actually reflect the differences in the reference standard used to estimate costs rather than any true difference in the estimated costs of overseas health procedures. Alleman et al (2010) research, based costs comparisons estimates on Medicare data, which demonstrated a smaller than expected cost savings. Milstein and Smith's (2007) research, demonstrated a higher costs saving, which resulted from using data for comparison based on private insurer payments in California.

Making direct comparisons of costs for coronary bypass procedures between the U.S. and overseas health care facilities is in part somewhat unreasonable due to the presence of factors contributing to the lower costs overseas. Various reasons do exist enabling India, Thailand, or Singapore to offer low costs for bypass surgery, some of which include, lower physician's earnings, lower labor costs, virtually nonexistent third party involvement, one stop package pricing, limited collaborations between health care facilities, and low malpractice litigations (Herrick 2007; Gill and Singh 2011; Unti 2009; Gan and Fredrick 2011).

While a direct comparison of costs is somewhat unreasonable, it is reasonable to question how the U.S. health care system and providers can bring the costs of coronary bypass surgery and other costly treatments and procedures more in line with overseas hospital costs. A study of 633 U.S. hospitals, which perform coronary bypass surgery, found the variability in hospital specific costs was one of the major contributors to higher costs for coronary bypass surgeries. Quality of care from different hospitals may be relatively the same, yet the pathway for achieving that care may be quite different from hospital to hospital thus creating more costs in some procedures and less cost in others (Kilic et al 2014). Examining such factors as these costs variations may lead to lower U.S. costs for coronary bypass. However, if true cost containment by the American health care system is not established, medical tourism may have more impact upon the system. Focusing on cost containment alone makes medical tourism appear as a way of escaping the true cost problem of the U.S. health care system.

Insurers and employer perspective

Some U.S. private health insurance providers and employers providing health care insurance to employees display an interest in medical tourism as a cost reduction measure. Health care treatments and procedures for major surgeries such as coronary bypass are expensive. The expense affects employer's costs of providing employee health insurance and employee's costs of paying the premiums in obtaining health care insurance and associated deductibles (Miller 2013; National Conference of State Legislatures 2013).

Rising health care insurance costs are dipping deeper into the pockets of employers and workers. Employer-sponsored health insurance is the largest source of coverage in the U.S., covering in excess of 149 million (2013 estimates) nonelderly persons. This coverage, expected to continue after implementation

of the Affordable Care Act (ACA) in 2014, will undergo changes as ACA regulations take effect. Both single and family plan employer sponsored insurance benefits have seen increases in deductibles with higher deductible plans offered, more out of pocket costs, employee contributions towards premiums, and decreases in coverage for certain procedures (Bodenheimer 2005; Claxton, et al. 2010; Claxton, et al. 2013).

Employers continually seek less costly health care options for their employees and in return, the employer's health insurance vendor can construct a plan allowing the use of overseas health services, all of which are cost savings measures. One of the major problems for this approach becomes "selling" the idea of utilizing overseas facilities and physicians to those covered under the health insurance policy (Deloitte 2008). Selling the idea of medical tourism and its lowers costs to a U.S. patient consumer has advantages and disadvantages (Gan and Fredrick 2011; Sobo, Herlihy, and Bicker 2010, Hopkins, et al. 2010).

U.S. health insurance companies and employers are approaching medical tourism with a wait and see attitude (smartfinance-usa 2013; Youngman 2011, Higgins 2007). Uncertainty of the impacts that medical tourism may have on U.S. health insurers and how they will react if the trend of medical tourism continues remains unanswered. Due to the paucity of valid and reliable current literature, determining health insurers and employer's interest in medical tourism abroad and its utilization for coronary bypass surgery, accurate information is lacking for making any significant determination as to the actual benefits resulting from utilization of medical tourism for more serious and costly procedures. While medical facilitators, employers, and insurers all cite the potential costs savings from utilizing medical tourism for coronary bypass surgery, data collection remains problematic.

Pilot projects from insurers such as BlueCross BlueShield (BCBS) of South Carolina and Aetna are offering employers the option of providing health insurance with a medical tourism option. This option for costly health care procedures and treatments lowers cost outlays for all parties involved (Gan and Fredrick 2011; Gill and Singh 2011; Smerd 2008; Beauvais, Brooks, and Wood 2010). However, the majority of services covered under these plans mostly involve elective procedures (Turner 2010a). From the insurers and employers perspective, each must be prepared to offer savings incentives to entice an employee to travel vast distances for major surgeries such as coronary bypass surgery. The enticement for a lower paid employee, saddled with deductibles, out of pocket indirect expenses and co-insurance payments, the idea of a low-cost alternative may prove irresistible (Marlowe and Sullivan 2007).

Insurer/employer pilot projects have prompted some employers and health insurers to develop health insurance for employees with a domestic medical tourism concept contained within the health benefits employee package. Large U.S. companies such as Lowe's, Wal-Mart, and PepsiCo have introduced domestic medical tourism into their health benefits plans for employees (Glatter 2012). Domestic medical tourism offers advantages, in the way of costs savings for major medical procedures, such as coronary bypass surgery, to insurer, employer, and employee. Some of these benefits include employee receptivity, higher-quality providers, and up-front package pricing from health care facilities, thus eliminating the possible future reimbursement concerns (Wojcik 2009; Youngman 2011; Carabello 2013; and Robinson and MacPherson 2012).

Marlowe and Sullivan (2007) point out for health insurers and employers the concept of savings by utilizing medical tourism can be misleading. While costs savings do exists, specific criteria need met when determining those costs savings. As high cost coronary bypass is the example, making overseas travel for the surgery more cost savings than a lower cost procedure, making the use of medical tourism worthy of the travel. The bypass surgery must be elective and scheduled, with costs for a travel companion included, thus increasing total costs and absenteeism from a job may be longer for a person. Further, eligible individuals covered by a group health plan will most often find the idea of traveling overseas for a life-threatening surgery unattractive. Looking at these and other criteria, selling an employee on the concept of

medical tourism, as an alternative delivery for their health care, are unlikely to save more than one to two percent of total medical spending.

Waiting lists

Medical tourism facilitators use the elimination of the extended waiting list for health care procedures as a tool for marketing and recruitment. Waiting lists for some medical procedures do exist in other countries and studies focusing on a reduction of the waiting times for cardiac surgery have proved insight into the issue of reducing the waiting lists (Chua n.d.; Sobolev, Levy, Kuramoto, and Hayden 2006). Medical tourism has been discussed as a method of reducing waiting lists times in countries such as the U.K. and Canada, where publicly financed health care systems exist (Johnston, et al. 2010). Many surgeries requiring a wait time are elective surgeries where life-threatening consequences of waiting are seen as an insignificant factor for health reasons (Bies and Zacharia 2007). Waiting lists for surgeries are not a common feature of health care in the U.S. If a wait time does occur, it often associates with populations being uninsured or underinsured and it is to this population medical facilitators frequently market (Wilcox, et al. 2007).

Quality of care and risks

As medical tourism increases in popularity, a review of the literature focusing on quality of care delivery concerns and risks involved with utilization of medical tourism for health procedures yields much information (Lunt, et al. 2011; Turner 2010a; Turner 2010b; Lunt, et al. n.d.). The future of medical tourism has prompted the American Medical Association and the American College of Surgeons to adopt safety and quality guidelines for those wanting to receive health care abroad (Unti 2009). The globalization of health care services prompted many overseas health care facilities and organizations, such as some in India, Thailand, and Singapore offering cardiac coronary bypass surgeries, to develop their approach to competing in the international health care arena. These health care facilities redesigned their strategic approach to offering health care services in the international market. As these overseas facilities began to offer health services, quality of care became an issue (Turner 2010b). Selling lower cost health care to international patients is a viable option for receiving care, questionable is the quality of the care received and is it of acceptable health care standards with limited risks involved. As the focus of this paper is to examine cardiac bypass surgery in the U.S. as it compares to India, Thailand, and Singapore the standard of measures for defining quality is that used within the U.S.

Delivering quality health care from a low cost perspective is important for selling medical tourism to a patient. U.S individuals expect high quality standards and low risk factors. Overseas health care facilities recognize this as an important factor in their strategic approach. Some U.S. hospitals and major health care universities acknowledging the potential benefits of medical tourism have begun to either acquire overseas facilities or develop affiliations with existing facilities (Lunt, et al 2011; Beichl 2009) . Hospitals seeking medical tourists recognize the need for U.S supported accreditation organizations, such as the Joint Commission International (JICI) and the American Medical Association (AMA)- (Lee and Chun 2012; Unti 2009).

Literature review of the risks factors involved with medical tourism provides information pertaining to common factors for coronary bypass patients and other medical procedures offered overseas. Some of these factors include nosocomial infections resulting from medical tourism, especially the antibiotic resistant NDM-1 originating from India (Rogers, et al. 2011; Hall 2011; Chan, et al. 2011), increased potential from travel for deep vein thrombosis, hepatitis-B from in hospital and transfusion-related procedures, and continuity of care upon returning to the U.S. (Kirshenbaum 2012; Stuart 2012; CDC 2012; Crooks, et al. 2010).

Hospitals within the U.S. exhibit variation in quality standards when applied to coronary bypass surgery. A comparative analysis of mortality rates for coronary bypass surgery in hospitals in California determined the average mortality rate to be about 3 percent. The variation ranges from one hospital having no deaths over the course of the analysis and a second hospital, with similar bypass procedure volumes as the first hospital, having mortality rates twice the California average and ten times the Cleveland Clinic average. A third hospital, which performs few coronary bypass procedures, had a mortality rate of 13.79%. Two major hospitals, one in India and the other in Thailand, report mortality rates for coronary bypass surgery to be < 1% (Samlan 2010; Herrick 2007). The difference in mortality rates may indicate several areas of concern as quality standards are viewed as a means of defending medical tourism as a legitimate resource for health care in coronary bypass surgery.

DISCUSSION

The economic gain for India, Thailand, and Singapore is a benefit of medical tourism. The economic gain for U.S. hospitals performing coronary bypass surgery is an important revenue stream for those hospitals. These hospitals are at risk of losing revenue from potential patients opting for overseas hospitals for their bypass surgery. Research indicates coronary bypass procedures are declining within the U.S., yet the number of hospitals performing the procedure has increased. This could prove beneficial for U.S. hospitals if the number of smaller hospitals performing bypass surgery at lower volumes than larger facilities were to eliminate performing the procedure, allowing larger hospitals to become the Center of Excellence for cardiac surgery. This supports the concept of domestic tourism.

The comparison of costs between the U.S., India, Thailand, and Singapore for coronary bypass surgery can be viewed as unfair in several respects. As a substantial difference among these countries in the cost for bypass surgery does exist, an examination of direct and indirect factors contributing to the costs is necessary. The standard of measure used in comparing the costs between the countries needs clearly defined. Further, comparing the treatment protocol in overseas hospitals with the same protocol in U.S. hospitals is important for making costs comparisons. Factors of variation in protocol across hospitals can create higher or lower costs for bypass surgery. As potential patients consider coronary bypass surgery abroad, the true costs estimates are as difficult to define overseas as they are within the U.S.

Quality of care received for overseas bypass surgery needs defined using U.S. standards. While variation in quality among U.S. hospitals performing coronary bypass surgery, individuals traveling overseas for bypass surgery must understand issues of variation in quality of care received and increased risks when having bypass surgery as a medical tourists. Research is lacking comparing the variation of quality measures pertaining to coronary bypass surgery from India, Thailand, or Singapore, making the idea of quality questionable for U.S. medical tourists. Medical tourism hospitals may have JCI accreditation yet the overall quality and risks involved for a foreign patient remains an issue. If affiliations with U.S. hospitals, health care universities, and medical tourism hospitals increase, it is possible this can assist to improve quality of care issues. Providing a remedy to the issues of quality and reduce risks for bypass surgery overseas requires standardization in measurement and data collection. U.S. health insurance providers will need to address the issues of quality and risk in an effort to sell an employer on the concepts of medical tourism.

As many U.S. employers have financial difficulty in providing health insurance to employees, the concept of medical tourism for major health issues may prove difficult to sell to employees. Persons traveling overseas for coronary bypass surgery are doing so on a volunteer basis thereby eliminating many ethical and legal factors they have within the U.S. While pilot projects offer insight into the acceptability of medical tourism for coronary bypass surgeries, obtaining data of the number of persons who did travel overseas for the cardiac surgery is difficult. Additionally, the number of uninsured or underinsured persons traveling overseas for the surgery needs considered.

CONCLUSION

Medical tourism for coronary bypass surgery is an option for care for those who are uninsured or underinsured within the U.S. and those insured through a public funded insurance, such as in Canada and the U.K. For medical tourism to be acceptable within the U.S., for coronary bypass surgery, there remain multiple issues and concerns. Employer sponsored health insurance covers 149 million U.S. nonelderly persons; these are the individuals where employers and insurance companies must focus attention. Time passage is a factor when analyzing the impact medical tourism may have on the U.S. health and health insurance systems. As coronary bypass surgery serves as a revenue source for many U.S. hospitals the need to create cost savings measures pertaining to the procedure are important for these hospitals. Much data needs collected and research performed before determining significant results from medical tourism as it relates to coronary bypass surgery.

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CUSTOMER LOYALTY: DOES IT WORK IN HEALTHCARE?

ABSTRACT

The ever-changing healthcare market is now driven by consumers armed with an abundance of information. Information that is readily available from so many different sources. With all this information, consumers are able to pick and choose which healthcare organizations to provide them the care they need. What can ensure that a customer will be loyal to your brand, to your organization? This presentation investigates the possibility of achieving consumer loyalty in the healthcare industry, and how this achievement can be made.

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PATIENT SATISFACTION WITH HOSPICE CARE SURVEY: A CROSS –CULTURAL STUDY

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ABSTRACT

In a report titled, World Population Aging 1950-2050, published by the Department of Economic and Social Affairs Population Division of the United Nations in 2002, it was stated that by the year 2050, the world population of individuals aged 60+ will have increased by more than three times during the current century. This shows the growth in elderly populations is not strictly an American trend (United Nations, 2002). With globalization in health care looming, we must begin to develop tools that compare quality of hospice and palliative care services not only within the United States but worldwide. Few survey instruments exist that are capable of assessing hospice care cross-culturally. Our study describes the creation of a single survey that can be used to measure patient satisfaction cross-culturally. It will allow hospice organizations to determine which aspects of care need to be improved in comparison to organizations in other nations by directly surveying the patients.

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LOUD AND CLEAR: AN EMPIRICAL VOCAL ANALYSIS OF FORMING RISKS VERSUS REWARDS IN DIRECT TO CONSUMER TELEVISION ADS

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ABSTRACT

Background: Currently, the United States and New Zealand are the only two developed countries that allow pharmaceutical companies to advertise directly to consumers. Direct-to-consumer advertising (DTCA) is a controversial subject. Those who support DTCA believe that by directing pharmaceutical advertisements specifically at consumers it allows the public to become more informed of potential health concerns and medical treatments. Alternatively, those who oppose DTCA think that by advertising prescription drugs directly to consumers, pharmaceutical companies are harming the physician and patient relationship and manipulating healthy individuals to make requests for unnecessary drugs.

Goal: The purpose of our research is to analyze the vocal communication of risks versus benefits in Direct-to-Consumer advertisements of prescription drugs. With the help of the Speech and Hearing Department, we will compare the differences between the vocal presentations of the drug risks compared to the presentation of drug benefits in DTC commercials. DTC commercials, ranging from the year 2000 to the current year, will be collected and converted into audio files. We will categorize the DTC commercials according to the severity of the ailment that the drug that is being advertised can treat (i.e. lifestyle drugs). We will employ the voice analysis software, Multispeech, to measure the rate of speech, pitch, vocal range, and vocal intensity of the presentation of risk information compared to benefit information in each DTC advertisement. Then I will examine the data collected and look for any relationships between the vocal presentation of the side effects of the drugs and the years the ads were produced and/or the severity of the ailments the drugs can treat.

Expected Results: We hypothesize that the data will show that most DTC ads will emphasize the benefits of the medications by pronouncing the positive effects more clearly and at a higher volume compared to the risks of the medications. The benefits of the drugs will be said at a lower rate of speech, at a higher pitch, and at a higher vocal intensity. In contrast, the negative side effects will be spoken at a faster rate of speech, lower pitch, and lower vocal intensity. We predict that the severity of the ailment the prescription drug can treat will influence how the side effects are stated in a DTC commercial. The less life threatening the health concern, the faster and the quieter the negative side effects will be listed in a DTC add.

Significance of Proposed Work: The findings from this research will give insight into how DTC advertisements are developed to influence the buying behavior of consumers. We will be able to judge whether the risks of drugs are presented faster and less clearly in comparison to the benefits of drugs in an effort to suppress negative information that could deter consumption.

Keywords: Direct to consumer, voiceover, vocal presentation, pitch analysis, side effects,

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TRACK

HEALTHCARE EDUCATION

EDUCATING HEALTH ADMINISTRATION STUDENTS ABOUT SOCIAL MEDIA AND PROFESSIONALISM: A CASE STUDY APPROACH

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EDUCATING HEALTH ADMINISTRATION STUDENTS ABOUT SOCIAL MEDIA AND PROFESSIONALISM: A CASE STUDY APPROACH

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ABSTRACT

Persons of like interest may share information via social media that allow for social networking—the development of social and professional contacts—at sites such as Facebook and Twitter. Consequently, people exchange information that may blur the lines between professional and personal life. Participation in such communities does not necessarily result in inappropriate blurring of the lines; however, the news is replete with healthcare professionals that have engaged in inappropriate use. The purpose of this paper is to briefly describe a case study approach to teaching healthcare administration students about social media, social networking and the importance of professionalism.

INTRODUCTION

Social media refer to web-based platforms that allow for Internet communications. Persons of like interest may share information via social media tools that include microblogs, blogs, podcasts, wikis, video sharing, etc. The result is that social media allow for social networking—the development of social and professional contacts—at sites such as Facebook, LinkedIn, and Twitter. Consequently, people participate in virtual communities exchanging information that may blur the lines between professional and personal life. Participation in such communities does not represent per se an inappropriate blurring of the lines; however, popular news is replete with reports of healthcare professionals that have engaged in inappropriate uses of

the technology. The concern for educators is not social media. Whether or not social media are misused has less to do with the technology on which they are based than on the individuals who are using the technology. The concern for educators is how we may effectively teach health administration students about social media, social networking, and the importance of professionalism when they use social media or when they will be managing others who do.

The purpose of this paper is to briefly describe a case study approach to teaching healthcare administration students about social media, social networking and the importance of professionalism. First, we present why the case study is a teaching tool that adds value in the classroom. Second, we define the concept of professionalism as an important competency for health administration students (and for working healthcare professionals), and last we offer a case study example that may be used in the classroom about recent use of social media by healthcare employees.

THE CASE STUDY AND THE CLASSROOM

Students in the classroom may benefit from the use of case studies. The case study approach has been a “key teaching tool in management education” (Mesny, 2013, 56). It is a standard method at Harvard Business School which publishes cases for classroom use; the Society for Case Research publishes three case journals specifically designed for instructional purposes (see www.hbsp.harvard.edu and www.sfcr.org). Moreover, various healthcare disciplines (e.g., management, medicine, and nursing) consistently use case studies to allow for students to apply their skills and knowledge to practical situations in the safe environment of a classroom (Kim et al, 2006).

Cases are real life; they tell a true story about an event in a real organization in a real industry. Students read the story, assess the facts made known in the case, determine what the main issues are in the case, and make recommendations regarding how to address the issues presented. Consequently, they are honing their critical thinking and decision making skills (Cellucci, Kerrigan, and Peters, 2012). Moreover, as many cases are taught to students that have been placed on teams, the use of the case study allows for them to practice working successfully on teams. Finally, the students conduct the assignment in the classroom. Student misinterpretations of the information given in the case study, their misidentifying the problems in the case, and/or their recommending a solution that is not an effective solution are examples of mistakes made. It is our assertion (and student anecdotal evidence supports this assertion) that they would prefer to make the mistakes in the classroom as opposed to in the workplace where they are responsible to their supervisor, their peers, and the patients they serve. Thus, the use of the case study in healthcare education provides the students the opportunity to take the role of a healthcare professional and experience situations similar to what they may encounter in their future healthcare work sites.

THE COMPETENCY OF PROFESSIONALISM

Professionalism refers to the ability to align personal and organizational conduct with ethical and professional standards that include a responsibility to the patient and the community, a service orientation, and a commitment to lifelong learning and improvement (Garman, Evans, Krause, and Anfossi, 2006, 219).

Many programs directed to educate healthcare professionals are accredited or certified. Consider, for example, the Association of University Programs in Health Administration (AUPHA). AUPHA represents more than 400 colleges and universities primarily in the United States and Canada, and it is the certifying authority for undergraduate programs in health administration. Each program that seeks full certification undergoes an external peer review that examines if the program meets 42 criteria (see www.aupha.org). These criteria range from program location (i.e., accredited institution) to specific coursework (Internship experience and identified subject areas such as organizational behavior, healthcare

management, and ethics) to the program's having established relationships with professional communities (i.e., to provide students opportunities for professional networking). The overall goal is to ensure that certified programs provide initial education for professional careers in health administration.

Program directors often rely upon their collegial relationships with members of national or state professional associations to help fulfill the criteria for professional networking. Professional organizations such as the American College of Health Executives (ACHE) have a higher education network to facilitate connections between the organization, the professors, and the students. Moreover, ACHE, the Medical Group Management Association-American College of Medical Practice Executives (MGMA-ACMPE), the Healthcare Information and Management Systems Society (HIMSS), and the Healthcare Financial Management Association (HFMA) have state chapters with local representatives who may become involved in nearby college/university health administration programs by serving on advisory committees, guest speaking in classes, and/or serving as adjunct professors. The end result is that students have opportunities to see professionalism first-hand. Moreover, as students become more aware of the professional organizations, they may explore the websites and learn about expectations regarding the standards of behavior and conduct as a member of the profession. The instructor may have the students compare the ethical codes of the healthcare organizations noted above (see www.ache.org, www.hfma.org, www.mgma.com, and www.himss.org). Or, the instructor may ask the students to take the ACHE ethics self-assessment. This self-assessment, however, should not be shared with others or in the classroom; rather, it is an exercise for students to reflect upon what they have identified as their strengths and considers what weaknesses they may want to improve.

In addition to these organizations (ACHE, MGMA-ACMPE, HIMSS, and HFMA) the American Organization of Nursing Executives (AONE) also endorsed the significance of professionalism as a competency. Mary E. Stefl, Ph.D., professor of health care administration, served as a taskforce consultant that was charged to identify healthcare management competencies by the Healthcare Leadership Alliance (HLA)—a consortium of healthcare professional associations comprised of the five professional healthcare organizations (Stefl, 2008). While these organizations shared the common ground that their members worked in the healthcare field, the members also shared similar work experiences precisely because they were healthcare managers. Thus, their expertise guided the HLA taskforce to identify competencies needed for industry expectations.

The HLA taskforce identified five competency domains for healthcare administration: professionalism, communication and relationship management, leadership, knowledge of the healthcare system, and business skills and knowledge (Stefl, 2008). For more information about the HLA, see <http://www.healthcareleadershipalliance.org>. While a discussion of all five domains is beyond the scope of this paper, the 2006 *Journal of Healthcare Management* (2006) published one article in each of its six issues to focus on the HLA model and its five competency domains and the appropriate applications of each in the healthcare arena. Led by Andrew Garman, Ph.D., director of the health service management master's program at Rush University, Chicago, the articles introduce the competences (Garman et al., 2006). The definition of professionalism, presented earlier in the paper, provides actionable behaviors that may vary according to one's career level. That is, at the entry career level, aligning one's personal and organizational conduct with ethical and professional standards that include a responsibility to the patient and the community, a service orientation, and a commitment to lifelong learning involves actions such as the following:

- Joining and becoming involved with appropriate professional associations,
- Networking to develop work relationships,
- Learning professional roles and norms,
- Improving the skills of giving and receiving feedback, and
- Contributing back to local community including local college or university administration programs.

All of these actions may have a social media component. For example, after meeting new colleagues at a state professional association meeting, an invitation may be emailed to join LinkedIn, a social media based professional network. LinkedIn provides a site where professionals from all industries may build and communicate with other professionals with like interests (see www.linkedin.com). Also, Facebook allows for people to post comments, videos, pictures, etc. with others whom they have friended or, depending upon their security settings, others who are surfing the site (see www.facebook.com). Further, Twitter, limited to 140 characters, offers persons opportunities to tweet quick, short messages (see <https://twitter.com>). While such sites provide avenues for the development of professional relationships and may spur one's professionalism, it is up to the user to ensure that she or he is actually doing so. It is important that one is following ethical behavior consistent with the profession, keeping in mind the importance of following professional roles and norms, working well with colleagues, and contributing.

Susan Casciani, MSHA, served as program director for the undergraduate program at Towson University, Maryland. She proposed that achievement of professionalism for undergraduate students could be evidenced via their Internship activities as outside experts. Internship preceptors typically rated the students regarding their performance and behavior while on the Internship (Casciani, 2012). To elaborate, the preceptor would have observed how the particular student treated others, worked with available technology, and presented him/herself at the workplace. At the end of the internship, the preceptor would have answered a student assessment survey that asked if the student had demonstrated ethical behavior consistent with professional code of ethics, had treated others with respect, and had performed at a level that met or had not met or had exceeded preceptor expectations. Thus, the process to master professionalism begins in the educational programs in the classroom and is evidenced via undergraduate activities (e.g., classroom knowledge, Internship experience, and professional networking) throughout one's educational career.

We are proposing that using a case study approach may be an effective way to help in the process. Specifically in this paper, we propose that this approach may effectively teach health administration students about social media, social networking, and the importance of professionalism when they use social media or when they will be managing others who do.

THE CASE STUDY APPROACH

Methods of Delivery

To present the case study assignment, the professor may choose various options—in class, class assignment to be discussed in the next lecture, or as an essay for a test. In class the professor instructs the student teams to read the various incidents and answer the questions that follow with reference to class lectures and course reading materials. The purpose for in class is to place emphasis on the students' working together within a set time limit. The professor may assess how well each team member works with each other regarding the discovery of the main themes of the case, identification of the problem(s), brainstorming solutions to the problem(s), and recommending the team's agreed upon best solution. The following case study requires 45 minutes of class time for each time to work through each incident. If less time is available, the teams may be assigned a different incident and present their assigned one to the rest of the class. Moreover, since the length of each incident varies, the professor may decide which format is best according to his or her preferences regarding how much in class time should be taken.

To present the incidents as a class assignment to be discussed in the next lecture, student teams are given the same instructions as the instructions offered for the in class assignment, but they are to work together outside of class. Hence, the students will have had more time to present a more fully developed discussion. As an essay on a test, each student would be given the same instructions but they are to work alone, without the input of the team members. The student will read the case and answer the questions in an essay format. Thus, the professor may assess individual mastery of the material as well as assess students' written work. The following case study example has been tested in classes via two methods—in class and

as an essay on an exam, allowing the authors to assess student mastery by team based as well as individual performances.

Three incidents are presented, along with discussion questions and possible answers to discussion questions. We have changed to the names of the persons involved and the names of the healthcare organizations, and we do not include the references to the actual news stories themselves in the handouts to the students so to discourage the students from looking up the incident, reading what happened to the people involved in the incident, and then, recommending a solution based upon the conclusion. However, we include the epilogue (and the references) so that the instructor may present (after discussion or testing) ‘the rest of the story.’

Incident 1: It was just one tweet.

Single mom Joanne Christian, Administrative Assistant at the University Medical Center, had a Twitter account. She had been a follower of the Lieutenant Governor of her state. A few weeks before Christmas the Lieutenant Governor had tweeted:

Glad the Legislature recognizes our dire fiscal situation. Look forward to hearing their ideas on how to trim expenses.

Ms. Christian tweeted back:

Schedule regular medical exams like everyone else instead of paying UMC employees overtime to do it when clinics are usually closed.

Ms. Christian had been told by other staff members that the Lieutenant Governor had reported to the University Medical Center for a regular check-up on a Saturday. The timing of his appearance required the clinic to open solely for his visit as it usually held clinic hours Monday through Friday only. Personnel had been paid overtime for their Saturday work.

As an employee of the UMC, Ms. Christian had received HIPAA training at the Medical Center and had signed that she understood that HIPAA—the Health Insurance Portability and Accountability Act of 1996—addressed patients’ rights to receive confidentiality, specifically personnel at UMC were to ensure confidentiality, identify and protect against “reasonable anticipated” disclosures of personal information (see <http://www.hhs.gov/ocr/privacy>). Ms. Christian did not believe her tweet was a violation of HIPAA and insisted she was exercising her right to freedom of speech.

Discussion questions

Did Ms. Christian’s tweeting exhibit professionalism or not? Explain and defend your position. Was Ms. Christian’s tweeting a violation of HIPAA or not? Explain and defend your position. What would you recommend UMC’s actions to be regarding Ms. Christian? Explain why you decided the option you did.

Answers to discussion questions

Did Ms. Christian's tweeting exhibit professionalism or not? Explain and defend your position.

Students will agree almost unanimously that Ms. Christian's tweet did not exhibit professionalism. Professionalism refers to the ability to align personal and organization conduct with ethical and professional standards (Garman et al, 2006). It is difficult, at best, to defend that tweeting the Lieutenant Governor with the short, brisk statement reflected behavior consistent with ethical and professional standards. With reference to the ACHE code of ethics, the responsibility to the profession includes one's conducting "activities with integrity, respect, fairness, and good faith in a manner that will reflect well upon the profession" (see I. B. www.ache.org/ABT_ACHE/code.cjm#profession).

There are, however, one or two students in the class who will note two points. First, Ms. Christian is an Administrative Assistant; so, since she is not a healthcare executive or provider, should we hold her to the same standards? Second, Ms. Christian was exercising her right of free speech. Why can't she voice her opinion about the Lieutenant Governor's having healthcare providers open the clinic on a Saturday? The two points made encourage discussion about limits of free speech for anyone employed by a healthcare institution. With reference again to ACHE code of ethics, the responsibility of one to patients is to ensure the existence of procedures that will safeguard the confidentiality and privacy of patients . . . served" (see II. G. www.ache.org/ABT_ACHE/code.cjm#profession).

Was Ms. Christian's tweeting a violation of HIPAA or not? Explain and defend your position.

Similar to the response for question 1, almost all of the students concur that she violated HIPAA with the public tweeting the Lieutenant Governor had been a patient at UMC. We also consider the points about free speech and her status as an Administrative Assistant, but consensus has been that neither point excuses her tweet about someone else's healthcare. Also, even though the Lieutenant Governor was a public figure, students agree that he still had a right to privacy about his healthcare.

According to the Health and Human Services website) persons covered by privacy rule are everyone that provides a service that is paid for health care. (<http://www.hhs.gov/ocr/privacy>). Moreover, institutions that do so as well are also considered to be covered by the privacy rule. UMC was covered and had trained Ms. Christian as an employee. Thus, even though she was not involved in the Lieutenant Governor's healthcare directly, she was still bound by the privacy rule.

What would you recommend UMC's actions to be regarding Ms. Christian? Explain why you decided the option you did.

The responses for this question have varied from a one week suspension without pay to termination. With reference to ACHE code of ethics, it is the responsibility of healthcare executives to provide "a work environment that encourage a free expression of ethical concerns and provides mechanisms for discussing and addressing such concerns" (see IV. B. www.ache.org/ABT_ACHE/code.cjm#profession). The incident is mute about whether or not Ms. Christian had another avenue to voice her concern over the Lieutenant Governor's use of the clinic on a Saturday; so, UMC should explain such mechanisms to Ms. Christian, suspend her, and allow her return to work if she agrees not to tweet about patients again.

Various factors made known in the case play in the discussion. It was noted that she was a single mother and the incident occurred just before Christmas. These facts are indeed red herrings. We do not encourage healthcare executives to manage employees differently, based upon religion or marital status.

And, the ACHE code of ethics also supports this stance (see IV. E. www.ache.org/ABT_ACHE/code.cjm#profession).

The Epilogue

Two days after the tweet, Ms. Christian was called by UMC's Department of Compliance for violation of HIPAA Laws. She reported that she was told she would be suspended for three days without pay and that she was advised to resign (Straw, 2013). Ms. Christian resigned.

The physician blog on Facebook.

Dr. Annabelle Tanzer had been posting on Facebook about her life and experiences as an Emergency Room physician. She never used a patient by name, and she never intended to disclose patient information. However, one post included enough information about the patient's injuries that community members could figure out who she was posting about. The patient was identifiable by the description Dr. Tanzer had posted.

Personal Health Information (PHI) is protected via HIPAA (see <http://www.hhs.gov/ocr/privacy>). Dr. Tanzer had violated HIPAA by allowing for Facebook readers to read about a patient's condition with enough information so that the case could be attributed to the specific person. When Dr. Tanzer learned that someone had identified the patient because of her post, she immediately deleted it. The State Medical Licensing Board was also notified of the incident. After a review of the incident, Dr. Tanzer's privileges were revoked by the hospital, she was fined \$500.00 by the licensing board, and she was ordered to attend a continuing education course on the appropriate use of social media.

Discussion questions

For the following questions, assume you are a newly hired manager in the human resources department at the hospital. You have received your undergraduate degree in health administration and this is your first full-time position in the hospital. You were involved with this incident as you assisted the Emergency Room manager as the incident unfolded, and currently you have been directed to lead a team to create the hospital's social media policy.

Explain why the hospital took the action it did and terminated Dr. Tanzer's privileges.

With reference to ACHE code of ethics, what should you be mindful of as you proceeded with the incident review of Dr. Tanzer (see www.ache.org) ? Specifically address how you are to act with professionalism, mindful of your responsibilities to patients, employees, and organization.

How would you go about the process to create social media guidelines the hospital? Explain the importance of effective team work in your answer and consider what networking actions may help you as you consider what should be included in the policy. Also, consider what steps you should take to ensure that the social media guidelines will be endorsed by hospital personnel and physicians who have privileges.

Answers to discussion questions

Explain why the hospital took the action it did and terminated Dr. Tanzer's privileges.

Students will refer to HIPAA privacy rules. Dr. Tanzer had violated the privacy rules by posting enough information about the patient's injuries so that a Facebook reader could identify the patient. According to HIPAA, protected health information includes all individually identifiable health information (see <http://www.hhs.gov/ocr/privacy/hipaa/understanding/summary/index.html>). Providers may not share information about an individual's physical or mental health condition or any information that identifies the individual. While Dr. Tanzer did not mean to provide such information, she did. Also, while Dr. Tanzer deleted the post as soon as she was made aware a Facebook reader had identified the patient by the information provided, she still was made accountable for the action. Finally, the hospital is responsible to the patient that identifiable health information will not be shared. Thus, it terminated Dr. Tanzer's privileges.

With reference to ACHE code of ethics, what should you be mindful of as you proceeded with the incident review of Dr. Tanzer (see www.ache.org)? Specifically address how you are to act with professionalism, mindful of your responsibilities to patients, employees, and organization.

The ACHE code of conduct states that responsibilities to patients include they will work to ensure patient privacy (see II. G www.ache.org/ABT_ACHE/code.cjm#profession). It is because of this responsibility that the students must be mindful especially regarding their responsibilities to employees (or for this incident, a physician with privileges). Responsibilities to Dr. Tanzer include the students (acting as the newly hired manager in the human resources department) are to create a work environment that promotes a safe and healthy atmosphere, provides mechanisms for discussing and addressing ethical concerns (see IV. B and F. www.ache.org/ABT_ACHE/code.cjm#profession). To do so, the students are to treat Dr. Tanzer with respect, listening to her side of the story as you assist the ER Manager, acting as the conduit of information back to your supervisor in HR, and being truthful and honest with all parties involved. Throughout the process, the students should be mindful of their role in helping to create and maintain an environment in which mistakes are disclosed and addressed effectively (i.e., the notification to the state licensing board and the subsequent termination of Dr. Tanzer's privileges).

How would you go about the process to create social media guidelines for the hospital? Explain the importance of effective team work in your answer and consider what networking actions may help you as you consider what should be included in the policy. Also, consider what steps you should take to ensure that the social media guidelines will be endorsed by hospital personnel and physicians who have privileges.

Throughout the students' educational career, they have worked on teams. Effective team work refers to the ability of the team members to cooperate and collaborate. Students will discuss times when they worked on a team filled with strife or composed of team members that worked together toward the common goal. All of the students in class reported they preferred to be a member of the latter. The first step then is to establish a team, complete with members that understand the importance of the institution's having social media guidelines. To this end, networking may help with the team forming. Particularly, members of the team may be employees as well as representatives from the physicians and the community.

Since we have told students that part of professionalism is to contribute to the community, including the local colleges/universities, it may be appropriate to invite a faculty member who is well versed on social media to serve. Once the team is formed, social networking may also aid to help gather information. Team members may use LinkedIn, contacting associates with whom they have developed professional relationships across various healthcare institutions. The contacts' respective organization may have already developed social media guidelines and can offer valuable assistance so that the team members are not reinventing the wheel. For example, students often present the social media guidelines for Mayo Clinic employees to serve as a resource (see <http://sharing.mayoclinic.org/guidelines/for-mayo-clinic>).

[employees](#)).

Last, to gain buy-in from physicians and employees, the first step is to have members of the team represent each group. A consequence is that these team members may become the best marketers for the newly created guidelines. Second, training, training, training is encouraged. An important component of the training is that it is visibly supported by upper management. The existence of the C-Suite (CEO, CFO, CIO) regarding the importance of one's learning about and then, following social media guidelines is key to training success. The third goes back to where we started. The concern is not social media. Whether or not social media are misused has less to do with the technology on which they are based than on the individuals who are using the technology. And if they exhibit professionalism, as elaborated in these first two incidents, appropriate use of social media will follow.

Epilogue

Dr. Tanzer is a pseudonym (see Kanbe, 2013 for the real event).

Incident 3: Posted on Facebook.

At Monday's early morning management meeting, it was reported that a survey found that 53% of Pine Valley Medical Center (PVMC) nurses "have high levels of stress, with feelings of extreme fatigue and being out of control." Management toyed with the following short run strategies: (1) keep reasonable work hours, (2) allow nurses to have a full 30-minute lunch time and several 15 minute breaks during the day, (3) be realistic when assigning tasks, and (4) create a supportive culture. A group of managers were chosen to work with the HR department and a consulting group would be developing a plan of action. As the C-E-O said, "We must ensure that our patients receive the best care in a safer environment and we must enable our staff (nurse's) to be the best they can be!" As the management team went out the door they agreed to provide all employees with more ample feedback.

Their decision fit well with the ethical standards endorsed by professional organizations such as ACHE that deal directly with the healthcare executives' responsibility to their employees. These responsibilities include their providing a safe and healthy work environment. Moreover, equity theory explains how people strive for fairness in their workplace (Adams 1963). Adams proposed that employees consider their inputs (skills, knowledge, abilities, time and risk) and the outcomes (rewards) they get and compare themselves with other. If the equity is not, employees may not perceive their work environment to be what it should be. Hence, the perception may result that it is not a healthy environment.

Charlotte Kelly had been the PVMC ER (emergency room) supervisor and had a very divisive group of employees who were operational 24-7. Charlotte recounted:

When people come to work, some cannot leave their personal feelings at the door. Some folks need help to understand the consequences for the way they act and the adverse effect it has on coworkers and patients. I look to accentuate the positive and I hate to deal with challenges for bad acts.

Later that week, things went from bad to worse! Marty Johnson, an eight year ER veteran, posted his comments on Facebook. "I am drowning here in the emergency room at CMC. I HATE THEIR GUTS! The supervisor, Charlotte, and doctors, nurses and tech's are the devils from hell!" The posting was unlike Marty, a well-respected employee who had past very good to outstanding annual performance reviews and had never had a past disciplinary actions.

One of Marty's Facebook friends, also a hospital employee, contacted the hospital HR department and noted concerns about the impropriety of the postings. Management launched an investigation. Marty claimed he had not written the offending comments and that a friend had access to his Facebook account and had posted them. A member of the HR department interviewed the friend who at first stated that she was the author of the comments. This friend was not a PVMC employee but after being warned that she could be charged with perjury, she admitted that Marty had told her to take responsibility so than he (Marty) would not lose his job.

The posting itself was not unique to PVMC. A 2005 SHRM study found that three percent of employers have disciplined employees for complaining (blogging) about their bosses, their working conditions, and other work-related issues. At the same time, 18% for the organizations had disciplined and/or fired employees for sending personal e-mails (SHRM Research 2005, p. 2). Two years later, 13% had disciplined or fired employees for blogging, and 22% had disciplined or fired employees for sending personal e-mails or non-work related instant messaging. (SHRM Online Survey 2007, p. 2). The authors note have in 2011, the National Labor Relations Board (NLBR) in three case found that employee social networking activity is not without reasonable limits (Danaher, 2013).

Marty told Charlotte, Carol Holbrook, PVMC's director of HR; and Bob Rentz, the executive VP for administration; that he was merely venting his frustration after several hard days at work. He had deleted the post shortly thereafter and comments were directed to his online friends only, not the hospital patients, other employees or fellow workers. He did not intend for the comments to be published or viewed by the public at large. Charlotte told Marty he was suspended for two days with loss of pay. She said that management would continue to investigate the situation and tell him at that time about his future with the hospital. As she pondered, she looked at the CMC's Cultural Beliefs on the wall, "People Matter: "I value people as I want to be valued, holding myself and others accountable." What should Charlotte and the CMC administration do?

Discussion questions

- What are the issues in this incident?
- Did Marty's posting exhibit professionalism or not? Explain and defend your position.
- What would you recommend management do about Marty?

Answers to discussion questions

What are the issues in this incident?

We like to begin discussion of this incident by asking students to think about the circumstances that would cause them to "lie" for or "take credit" for the acts of a co-worker or a friend. Most of your students will be on Facebook or one of the other social media networks. Every once in a while, there will be an employee who grows to hate his or her job, manager, or co-worker, and may fabricate a sensational story about the person. Stories like this, if unfounded, are difficult for management to stop.

On the surface, the basic problem seemed to be the Facebook post by Marty Johnson. But, we remind students that they should look at that the survey data noted in the incident. Many nurses reported high levels of stress, feeling of fatigue and no control of their work situation. Students don't have enough information to state if Charlotte Kelly was an effective or ineffective manager. One of the authors had known her for a long time as she was a student in his management and leadership class.

The problem is likely to be poor morale among the nurses in all areas of CMC. Many work units

will have a “problem employee.” At Monday’s management meeting, management considered making some changes to boost motivation. . We ask the students to consider what their responsibilities are to these problem employees, keeping in mind a Code of Ethics such as ACHE. When the Code is referenced, students tend to reference the healthcare executives’ responsibilities to the employees regarding their responsibility about providing a safe and healthy work environment (see www.ache.org). With the workload and little time for lunch and/or breaks, the atmosphere cannot be purported to meet that responsibility. They also may refer to equity theory and suggest that problem employees are more apt to be found in work environments that are not perceived to be healthy environments in which to work

The more pressing issue is the Facebook post by Marty Johnson. Disagreement at work comes with the territory. Ask your students if they like their boss. Have they used social media to give credit to their great ones or to blat the bad ones? Students may refer to the SHRM studies that indicated that employers are dealing with employees who are using social media to complain about work.

Did Marty’s behavior exhibit professionalism or not? Explain and defend your position.

Students usually agree that Marty did not exhibit professionalism when he called his colleagues the “devils from hell!” Although we have found that some students defend his right to free speech, the general consensus is that the choice to call people “devils” was not professional. The definition of professionalism supports this consensus as well. Professionalism refers to one’s aligning personal and organizational conduct with an understanding that you are responsible to the patient and the community. The message does not promote confidence of patients in the ER, nor does it promote good relationships with the community. Marty may have been upset, but he should not try to discredit the ER because of it.

Students also agree that Marty’s asking his friend to take the blame did not exhibit professionalism. They refer back to actions that exhibit professionalism to elaborate. When one networks face to face, the people know with whom they are interacting precisely because they can see each other. Networking via use of social media sites such as Facebook is dependent upon truth in who is posting. Marty’s friend was asked to pose as the poster to save Marty from reprimand or being fired. He had not learned or followed roles and norms associated with the practice.

What would you recommend management do about Marty?

Students generally begin the discussion by asserting that management needed to act professionally as well. To begin, management should review its own Cultural Beliefs, “People Matter: I value people as I want to be valued, holding myself and others accountable.” Some students note that everyone has a bad day.

Students also note Marty used some “killer phrases” and “insensitive words.” The negatively strong comments about Charlotte and other members of the management team will find some employees angry or indifferent. It will be best to communicate with Marty when all parties are calm, and not burdened by tension or stress.

We have found that many students use fast actions in administering discipline. However, his performance appraisals had been outstanding.

We suggest a team based exercise that we have found to be effective. Ask each team to report what they recommend. At the end of all suggestions and discussions, ask the class to vote on which option would “bear the most fruit” for CMC. Although there will be differences of opinion concerning this

situation, two themes emerge. First, at least one team will note that no patients were involved. This was a matter between Marty and his colleagues. Second, at least one team will focus on Marty's request to his friend to take blame for the post.

The usual sentiment expressed is that Marty had been a very good employee and had had a very, very bad day and used bad judgment regarding his friend.

One handout that an instructor might submit to the teams to help in this discussion is the following checklist (Leonard, 2013). They are as follows:

1. Are all the facts available, and are they reported accurately?
2. How serious is the offense (minor, major, or intolerable)?
3. Were others involved in or affected by the offense?
4. Were company funds or equipment involved?
5. Was there damage to CMC's reputation, service quality, personal injury, or other identifiable harm?
6. Did Marty know the rules, standards, and/or expectations?
7. Did Marty have a reasonable excuse, and are there any extenuating circumstances?
8. What is Marty's disciplinary record, length of service, and performance level?
9. Does the offense indicate carelessness, absentmindedness, or loss of temper?
10. How will Marty react to constructive criticism?
11. Should Marty receive the same treatment others have had for the same or similar offenses?
12. Is all the necessary documentation available in case the matter leads to outside review?

While there is sufficient evidence for Charlotte and the CMC administration to terminate Marty, there are also two other significant points. First, Marty is a very good employee and second, Marty is a nurse and the industry is experiencing a nursing shortage. He will not be easy to replace if his employment is terminated. Suspension without pay is the most common recommendation.

The Epilogue

Marty's behavior was indeed unprofessional, but his past work experience indicated he was a very good, committed nurse. Moreover, the atmosphere at the workplace was indeed stressful and management had recognized that they had needed to do more for the employees. Marty was given a seven day disciplinary layoff without pay. Since that time, there have been no future Facebook incidents from him.

CONCLUSION

The purpose of this paper was to briefly describe a case study approach to teaching healthcare administration students about social media, social networking and the importance of professionalism. First, we presented why the case study is a teaching tool that adds value in the classroom. Second, we defined the concept of professionalism as an important competency for health administration students (and for working healthcare professionals), and last we offered a case study example that may be used in the classroom about recent use of social media by healthcare employees. Student comments on the case study included that they appreciated learning about the role of networking for professional development and collegial sharing and contributing. Moreover, they valued learning about professional associations and their respective code of ethics. In particular, they appreciated applying the specific articles from the codes to real life situations and the practice of how these codes may serve as tools for them regarding their social media use. Finally, they noted that as future healthcare managers, they understood the importance of professionalism when they use social media or when they will be managing others who do.

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THE CHANGING FACE OF EDUCATION IN THE 21ST CENTURY

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ABSTRACT

Teachers across the nation will verify that education in the 21st century has changed. Gone are the days of endless lectures, copious notes and attentive listening. Education has taken on a whole new look, and the look is concept-based/active learning in the classroom. A new vernacular defines the educational realm and it includes phrases like "flipping the classroom, teaching conceptually and utilizing technology." Classrooms today are using active learning strategies that utilize the conceptual method of learning and incorporate it with new and innovative methods. Items such as learning contracts, self-reflection papers and journals, student led classes, use of a human patient simulator, and collaboration with local businesses to align curriculum with community needs are a few examples of these methods. Nursing schools are also including exposure to material that was once considered fringe treatments, such as the inclusion of information about alternative medical treatments. The utilization of the innovation and decision-making process associated with concept-based learning may significantly influence and advance student learning needs. The adoption of concept-based teaching strategies as a part of the new clinical models may also contribute to improved academic success and student outcomes.

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OPTIMIZING LEARNING IN PROJECT-BASED CAPSTONE COURSES

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OPTIMIZING LEARNING IN PROJECT-BASED CAPSTONE COURSES

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ABSTRACT

This paper addresses the design and implementation of project-based capstone courses in undergraduate and graduate management education programs. A team project methodology is proposed that involves collaboration with an external sponsoring organization and focuses upon such issues as strategic analysis and development, remediation of organizational problems, product development, entrepreneurial start-up, not-for-profit organizational development, etc. Key elements discussed include high level educational goals for the capstone, criteria for project selection, processes for sponsor relationship management throughout the project life cycle and the facilitative role of faculty in such experiential learning. Other methods that optimize learning in the areas of leadership development and team process learning are also described.

Keywords/Descriptors: Business education, capstone course, experiential learning, problem-based learning, project-based learning.

INTRODUCTION

Students, employers, accrediting agencies, and those financing higher education increasingly challenge educators to demonstrate learning outcomes worthy of their substantial investments. Traditional academic methods using textbooks, lectures, case studies and other didactic learning approaches all play a potential role in addressing this challenge. Nevertheless, upon completion of a degree program, these stakeholders also want to know that the student can actually integrate and apply what they have learned in the "real world". A recent survey of employers in the Chronicle of Higher Education supports this notion (Maquire Associates, 2013). This study showed that employers preferentially valued a student's real world experiences relevant to the challenges of the employment context versus evidence of time spent in classroom activities, reading assignments, essays, discussions etc. Employers want to know if the student can actually use the knowledge gained in such activities.

This paper explores one method for promoting learning grounded in this real-world experiential context - the Project-Based Capstone Course. Although the present analysis is drawn from a management education context, educators in other disciplines such as engineering, education or health care could also apply the approaches outlined herein. Topics discussed include delineation of capstone courses goals, criteria for project selection, processes for sponsor relationship management throughout the project life cycle and the facilitative role of faculty in such experiential learning. Methods for promoting leadership development and team process skills are also described.

What is a capstone course?

Most programs place capstone courses at the end of the curriculum and emphasize integrative problem-based learning versus a more passive "content acquisition" approach (Elam & Spotts, 2004; Wood, Smith, & Powell, 1995). Professional schools often utilize a consultative project, simulation or other experiential process (Razzouk, Seitz, & Rizkallah, 2003; Zechmeister & Reich, 1994) as the heart of the educational endeavor. This experiential learning context challenges students to address "messy" problems in realistic contexts. Here students have to understand multifaceted problems within the frame of their own mental models rather than that provided by the professor or other text materials. As such, these courses rely upon a constructivist approach to learning (Springer & Borthick, 2004) in contrast to more traditional "sage on the stage" pedagogy. As Davenport et al noted, useful knowledge derives from information combined with experience, context, interpretation and personal reflection (Davenport, De Long, & Beers, 1998). These are the hallmarks of a superior capstone experience. These courses treat learning as a search for better ways to act versus a sole emphasis upon lower order learning outcomes (Cavaleri & Fearon, 2000). In addition to their learning potential, such project-based courses are highly motivating to students, encouraging them to become active participants rather than passive spectators in the learning process (Humphreys, 1981).

What kinds of academic programs use capstone courses?

Professional schools such as business, engineering, information technology, health care and education often place the capstone as the culminating experience in their respective degree programs. In management education, such courses may focus on strategy and business policy (Leontiades, 1979), (Greiner, Bhambri, & Cummings, 2003), accounting (Jervis & Hartley, 2005; Johnson & Halabi, 2011), entrepreneurialism (Boni, Weingart, & Evenson, 2009; Gilbert, 2010), public administration (Bowman, 1989), management information systems (Wright, 2010), economics (Brooks & Schramm, 2007) or ethics (Hensel, 1990). Similar courses appear in schools of education (Brown & Benson, 2005; Kerrigan & Jhaj, 2007) and engineering programs (Gnanapragasam, 2008). These references should allow the reader to explore capstone methodologies relevant to these common focal areas.

Basis for analysis and associated recommendations

The analysis and recommendations in this paper are based upon the author's experiences teaching

capstone courses at both the undergraduate, graduate and executive MBA levels since 1988. Approximately 180 team projects were supervised during this period. These projects were central elements of the capstone management courses conducted at the Helzberg School of Management at Rockhurst University in Kansas City, Mo. Typically, these courses contained approximately 25 to 30 students and were conducted over the course of a 16 week semester.

During this time, the author collected qualitative and quantitative assessment information from a variety of sources. These sources include formalized end-of-course surveys, student interviews, specific surveys designed to assess various elements of the capstone process, course embedded assessment activities and, more recently, assessment conducted by external executives interviewing capstone graduates to ascertain learning outcomes.

In the following sections, we will explore some of the clear patterns that have emerged in this 25 year experience base. The reader can view the methodology used here as a kind of longitudinal or composite case study based upon these collected observations in combination with data from other capstone practitioners as documented in the literature referenced herein. The paper's goal will be to highlight lessons learned with the hope that other academic practitioners might find practical approaches relevant to their own curricular needs. Given the relatively broad scope and practical emphasis in the paper, the author did not emphasize empirical hypothesis testing, but rather sought clear and consistent patterns that have emerged over this 25 year experience base as documented by the data sources noted above. Where possible, these observations are cross validated by reference to other research focusing on the capstone course methodology.

Although this paper uses examples in the management education context, many of the goals and recommendations forwarded here have application to other disciplines to include public administration, management information systems, engineering and other associated professional fields.

In the following sections, we will focus on a student team project as the primary vehicle for course learning in the capstone. Such projects typically involve a team comprised of 4 to 9 students who interact with a sponsoring organization in a collaborative relationship to address real world problems or opportunities relevant to the sponsoring organization. These courses also provide project focused "just-in-time" learning resources to include targeted readings, faculty tutorials, external consultants and access to other specialized faculty with skills relevant to the specific project. The project life cycle shown in the next section will structure our discussion of recommended educational methods. We begin with a discussion of the goals of the project-based capstone and then discuss methods for designing and facilitating each of the project life cycle stages to optimize learning outcomes in light of the noted goals.

The capstone course project life cycle:

- Determination of project learning goals
- Sponsor acquisition and project selection
- Definition and refinement of project scope
- Problem analysis (i.e., primary and secondary research)
- Presentation of recommendations
- Project closure & assessment

Capstone learning goals

Within the capstone course, professional schools typically place emphasis on the specific skill development areas central to the challenges of the professional discipline. For example, business programs might strongly emphasize competitive strategy while engineering capstones might emphasize project management methodologies. Although such profession-specific goals have impact on capstone design, it is possible to forward a set of general or “meta” educational goals that are common to project-based capstone courses in a variety of educational contexts. These goals are important in our present analysis because they represent key optimization targets for the capstone learning experience regardless of discipline.

Capstone project meta goals

Goal 1: Focus learning on problems or opportunities in real world contexts

Goal 2: Challenge students to select and apply relevant theory/knowledge

Goal 3: Integrate knowledge and multiple theoretical perspectives

Goal 4: Promote individual personal growth

Goal 5: Develop leadership and team process skills

Goal 6: Create an experience that serves as a rite of passage

The following sections characterize the key elements of each of these high level goals and discuss ways in which learning outcomes can be optimized through the initial design and selection of appropriate capstone course projects. The author also asserts that the project-centric capstone course is an ideal educational vehicle to optimize these high-level learning outcomes in comparison with other educational methodologies that may be used in the capstone context. These other alternative approaches include simulation (Ganesh & Qin, 2009; Hanlon, 2008; Springer & Borthick, 2004), case study (Harper, Lamb, & Buffington, 2008), (Schee, 2009; Segev, 1988) and traditional lecture - discussion based courses. The author will also describe some of the typical problems that can arise that may impede success on each of these goals and suggests methods for mitigating such problems.

Goal 1: Focus learning on problems or opportunities in real world contexts

In problem/opportunity-based learning students are placed in a "real world" context and challenged with ill-defined or "messy" problems that often defy formulaic solutions. In this section we will examine the value of such real world learning contexts and explore some of the problems that can arise in choosing project sponsors, defining project scope and dealing with common problems that arise in this challenging and dynamic learning context.

In contrast to case studies or even simulations, the real world project context places students in a human drama involving multiple "flesh and blood" stakeholders. Student interaction with the client organization places the learning in an organic context where such issues as communications dysfunction, differing mental models, and other complex organizational realities characterize the project experience. In this scenario, organizational leaders in the sponsoring organization have interests, biases, personalities and motivational vectors that play out in the course of the project. Another significant dimension of this learning context is that stakeholders often have substantial interests at stake - the project may have real consequences for them. This is inherently a less tidy and more realistic world than is often found in case studies or simulations. The project basis for the capstone forces students into a situation where they must construct valid mental models and often face highly ambiguous circumstances.

Such situations can be a bit scary to students, but certainly provide insights about organizational dynamics that students will likely face again in their professional lives. In fact, end-of-course assessment surveys often express student satisfaction with the fact that the experience was real for them and their analysis and recommendations had the potential to make a real difference in the sponsoring organization. In some instances their work was reviewed and applauded by the very highest levels in Fortune 100 firms. Such potential for real impact is one of the features of the capstone project that is highly valued by students.

The importance of vetting and socializing project sponsors

The author's experience and assessment data shows that student learning outcomes are critically influenced by the choice of project sponsor, the specific focus of the project and the role expectations of the project sponsor. One way in which the role expectations of the sponsor can be shaped is by using the term "sponsor" rather than "client" as this acknowledges the mutually reinforcing goals of student professional development in conjunction with the value returned back to the sponsoring organization. When project sponsors are carefully vetted and socialized as noted below, sponsors are more likely to see that their investment in promoting student learning often returns value to them in the form of better analysis and conclusions. To foster this high performance collaborative relationship, the course facilitator should make every effort to socialize sponsors before the outset of the project to make sure that they understand the goals for the project and are cognizant of the specific ways they can support the learning process. These discussions should also seek assurance from the sponsor that have the time to commit to the project, that they are willing to share their "dirty wash " with student teams (this necessitates a confidentiality agreement) and they understand the overall capability of the teams to produce value within the limited 16 week runtime of the project. The author has developed a series of document templates designed to communicate these various goals and processes of the capstone project in the exploratory, project contracting, project execution and debriefing phases of the project life cycle.

One common sponsor-related problem is that the sponsor may have unrealistic expectations for the typical student group. To shape realistic expectations, sponsors should be informed that student teams are, in fact, not consultants in the usual sense of the word. In the author's particular educational context at the graduate level, students are typically perhaps 25 years old, they are likely working full time and attending classes during the evening. This means that their project related activity often occurs on weekends or late in the evening. Although communications with the sponsor highlight the high performance potential of typical project teams, this author tries to honor the adage, "*under-promise - over-deliver*".

Another reality to be discussed with the sponsor is the relatively short duration of the project (16 weeks). When one subtracts the inevitable ramping up of project activities and the time needed for project presentations, students have about 10 to 12 weeks to complete the project. These time constraints should be discussed as the facilitator and sponsor plan the initial project scope.

To reach a mutual understanding of these project features, the author often spends perhaps an hour discussing these issues with the sponsor either telephonically, through a video teleconference or, ideally in person. Such communication is followed up with a document that overviews the project process and addresses the issues noted above. If the prospective sponsor desires it, previous project sponsors can be made available to share their past project experiences. Assuming that the sponsor decides to move ahead with the project, a letter of agreement is drafted and signed.

Criteria for project selection

Although vetting of the project sponsor is an important part of organizing the capstone project,

another criteria for project selection is that the project should have an appropriate level of complexity. Although the nature of this complexity will vary from discipline to discipline, in the author's situation, ideal projects focus upon issues of strategic importance to the sponsoring organization. Rather than focusing upon highly detailed issues of a technical nature, students are challenged to grapple with multifaceted problems that often cut across organizational boundaries. Start-up entrepreneurial projects can also provide rich learning opportunities because these organizations are usually small enough so that students come to appreciate the organization's operations as a whole. Given the typical capstone goal of disciplinary integration, such projects can yield substantial learning in the dynamic startup context. Business accelerators and or incubators can be great sources for such projects and the sponsors are often highly motivated to work with students given their relative paucity of resources at this stage of their development.

Another dimension of appropriate complexity relates to what might be termed the stakeholder ecology of the sponsoring organization. Frequently the author finds that many inexperienced students may not appreciate the inherently political nature of organizational operations. Student interaction with internal and external stakeholders in the organization can promote learning by illuminating the interplay of stakeholder interests and the often complex trade-offs inherent in many organizational decisions. Such interaction also teaches the value of negotiation skills as the organization seeks to influence these various stakeholders to accept their project recommendations.

On selecting the appropriate level of challenge - Can a project be too complex?

Although an appropriate level of issue complexity is an important project criteria, sometimes the team will find itself grappling with a highly complex and potentially impenetrable problem that emerges as the central issue in the project. This seeming intractability can lead to a lot of student frustration and the perception that the team is simply "spinning its wheels" with little hope of sponsor benefit or useful learning. In this situation, the sponsor may also begin to lose interest as they may come to believe that the team has little to offer them. Although this situation can often be avoided with careful project vetting and scope definition, sometimes capstone projects are emergent and inherently exploratory. When project teams find themselves in such situations, the instructor should recognize that this frustration and potential panic on the part of the team, in fact, represents a learning opportunity.

In such situations, the facilitator should work with the team and sponsor to adapt or redefine project scope in a way where learning can continue. Facilitators can note that organizations often struggle with such problems that can frustrate the most skilled leaders and managers. The key learning opportunity is to explore how a team can pivot in such intransigent situations to find other ways to contribute value and to do so quickly with a minimal amount of friction and unnecessary "whining". This can be an outstanding lesson for "straight-A" students who may have otherwise glided through all their courses without ever having to address such "messy" real world challenges. Much like the greenhouse plant set out to adapt to a brutal outdoor environment, here the individual student and the team can practice and test strategies to respond to such exigencies.

In such situations, the course facilitator should structure opportunities for individual and team reflection and emphasize the value of learning how to adapt to situations where you feel stuck. In this scenario asking, "What can be learned here?" opens the door for growth and development. It is also essential for students to realize that, ultimately, the goal of the capstone process is not necessarily "solving the sponsor's problem per se". Such an outcome would be ideal, but it is not necessarily the most important learning outcome of the course. The course facilitator should always stress that the student's individual learning is the super-ordinate goal. In fact, the author has seen many projects where substantial learning occurred even in those situations where students were unable come up with effective solutions to the problems initially central to their project. The facilitator should help students frame what they have learned in such projects and, at the same time, communicate with the sponsor to help them better appreciate

the ways in which students benefited from the sponsors investment in time and energy. By providing the sponsor with insight into these student learning outcomes, the sponsor comes away from such less than optimal engagements at least knowing that they contributed to the student's professional development.

Goal 2: Challenge students to select and apply relevant theory/knowledge

Another capstone goal is the **application of relevant theory and discipline-based knowledge** to all aspects of the capstone project. Students should be encouraged to select those tools, perspectives and theories learned in previous classes and apply them in ways providing the most utility in the project context. In this applications process, students gain a greater appreciation for the relative power and inherent limitations of the such tools.

When teams offer recommendations to the sponsor at the end of their project, they have an opportunity to come to a deeper understanding of the many ways in which organizational decision-making may be less "rational" than students might otherwise expect. When a sponsor rejects their carefully analyzed recommendations, this experience reinforces understanding of such phenomena as satisficing in decision making and the ever present impact of perceptual biases and dysfunctional cognitive heuristics (Bazerman & Moore, 2009; Kahneman, Slovic, & Tversky, 1982). Students also learn that organization's have limits to their capacity for change.

An additional way to create opportunities for students to apply theory and other tools is to design a section of the course where it is possible to introduce "just-in-time" educational modules that are directly applicable to project issues. Sometimes these modules may be reviews of previous course content and other times new concepts and theories might be introduced. The ultimate goal here is to offer realistic context where these ideas and tools can be exercised and evaluated.

Sometimes any given project may not necessarily afford opportunities for students to apply important skill sets gained in previous coursework. An example might be a student majoring in finance who is not able to exercise the array of financial tools learned because the project has minimal financial elements. This is a fairly common occurrence as sponsoring organizations may want to avoid providing full access to all their financial information, a challenge particularly prevalent with privately held sponsoring companies. To address this challenge, ideal projects often contain multiple dimensions to the problem or opportunity being explored. We will return to this challenge in the next section on integration.

In terms of student assessment and grading, it should be noted that a grading rubric is utilized that specifically measures application of theory and previous course content. Although beyond the scope of this paper, the author has found that the capstone course provides a terrific opportunity for assessing courses upstream from the capstone experience. For example, if students face a problem best understood through the lens of organizational behavior (OB) and yet are unable to apply their OB coursework, then one can assume that there are potential problems with the upstream course or curricular sequencing.

Goal 3: Knowledge and theory integration

Another meta-goal in the capstone process is the **integration of knowledge** gained from a variety of discipline-based courses coming before the capstone experience. As Carlson and Bolton note, "a capstone course should give students a sense of coherence of their program of study in a discipline and should deepen their appreciation of the discipline as an approach to specific problems"(Carlson & Peterson,

1993). The capstone experience should also be designed to help students see relationships between the various sub-disciplines they have studied in the curriculum (Marshall, Bolten, & Solomon, 2000). If properly designed and implemented, one study showed that the capstone course was five times more effective than any other format to help students integrate their learnings and academic experiences (McCambridge & Thornton, 1994).

To promote learning integration, projects should be chosen that afford an opportunity for students to utilize multiple skills sets and knowledge gained in previous discipline- based courses. As noted earlier, in the entrepreneurial context, the student team can make contributions in a whole range of discipline areas to include marketing, supply chain management, global issues, information technology etc. The key here is that the real organizational context of the project allows students to view any given discipline or functional area within the holistic organizational context. In contrast to academic courses that focus on a specific disciplinary lens and/or set of tools, here students address problems and opportunities that often defy disciplinary categorization.

One method the author has used to encourage learning synthesis and integration is for the project team to structurally differentiate itself into different functional areas such as information technology, media design, market analysis, financial analysis etc. This structural differentiation affords student learning regarding the interplay between each of these functional perspectives. Learning can also occur in those circumstances where the team *fails* to integrate their insights and associated analysis in each of these subspecialties. Needless to say, this challenge of cross functional integration vexes many organizations and early lessons in this area can save a lot of frustration in one's later career.

One other method for optimizing learning integration is to provide students with a carefully selected set of analytical templates designed to illuminate various organizational phenomena. Such templates encourage students to approach problems from multiple analytical perspectives versus focusing specifically within the domain of greatest comfort to the student. The McKinsey 7-S Model (Peters, 2011) is one example used by the author. When students analyze internal organizational strengths and weaknesses, this model deepens insights relating to issues of organizational structure, metrics, leadership, motivational dynamics etc. For students focusing on technical disciplines like accounting, IT or finance, this tool helps broaden understanding of the internal organizational dynamics influencing organizational initiatives in the sponsoring organization. Stakeholder analysis tools can also be useful in the problem analysis stages of the project to promote appreciation of the often complex external stakeholder dynamics influencing various aspects of organizational activity. Such tools can also help students identify interests, perceptions and motivational dynamics that will influence acceptance and possible later implementation of their recommendations. Although the reader will likely have their own favorite tools, these examples illustrate analytical models which have been shown to strengthen analytical rigor in the capstone project (Schwering, 2003).

Goal 4: Promote individual personal growth

Capstone projects also provide a significant opportunity for **personal growth and professional development** critical for high performance in the world beyond the classroom (Goldstein & Fernald, 2009; Zechmeister & Reich, 1994). Ideally, the challenging problem solving context of well selected capstone projects should help the student build self-confidence in realms outside the often antiseptic confines of the traditional classroom (Ramocki, 1987).

One method to optimize individual personal growth in such projects is for students to outline a personal development action plan at the outset of the project. These development plans can be informed by performance appraisal data for working students or 360 degree feedback such as might be provided by the Kouzes and Posner Leadership Inventory (Kouzes & Posner, 2010). This active engagement of the student

in a personally relevant goal setting process has been shown to heighten learning outcomes in student projects of this sort (Grabe, 1986; Schunk & Gaa, 1981). This development plan should highlight individual strengths and areas for improvement that the student can address during the course of the project. Students can share these personal development goals with their teammates and encourage them to provide feedback supporting personal development. The author structures this feedback exchange into the last session of the class. One other mechanism promoting individual development is the requirement of a reflective essay at the end of the semester focusing upon individual lessons learned. Here the student revisits their initial professional development action plan and describes some of the kinds of insights, frustrations, and continuing developmental needs that have grown from their project experience.

Goal 5: Develop leadership and team process skills

Closely related to the goal of personal growth and professional development is the goal of **leadership and team building competency development**. Because so many capstone projects utilize the team structure, such projects provide rich learning opportunities as the team struggles through the various phases of the team lifecycle. Given this opportunity, courses are often specifically designed to optimize team process learning (Jervis & Hartley, 2005; Lueg & Molen, 2010).

It should be noted that the author does not attempt to manipulate project team composition other than a general approach to try to equalize the size of each group. Following individual sponsor presentations describing project opportunities, students mingle and negotiate with each other to form their student teams. This process has been shown to increase team performance and student motivation (Aller, Lyth, & Mallak, 2008). To afford some modicum of choice in these projects, more projects are cued up in the project portfolio than will actually be selected. Although this sometimes creates problems in terms of sponsors be disappointed by not being selected, it heightens student motivation because the students are able to work on projects of greater interest to them.

Another specific method used to promote learning in relation to the team and leadership development goal is to have each team formulate a team charter at the outset of their activity. Team members also discuss their own individual learning goals and attempt to build consensus around a set of operating values and team practices. This initial activity improves the performance of student teams and also sets the stage for further team process learning (Brownlee, 2012; Byrd & Luthy, 2010; Hunsaker, Pavett, & Hunsaker, 2011; Mathieu & Rapp, 2009).

One of the most significant methods the author has found to optimize leadership and team development is the use of a diagnostic survey that evaluates 30 attributes of team and leadership performance. This online survey is administered twice during the 16 week semester, once at the end of the first third of the semester and then again at the end of the semester. In the first iteration of this survey, teams are directed to produce a report of their diagnostic results and develop an action plan to build on their strengths and mitigate problems identified by the survey. Students report that they would have never attended to these team process issues had they not been forced to take the survey and discuss its results.

An additional technique is to request that teams keep a team journal describing team dynamics operating within their project context. One key component of this journal is the Plus/Delta technique whereby teams assess each meeting with the question: "*What were some plusses about what we did today as a team, and, what were some problems to which we should attend?*"

Goal 6: Create a rite of passage

The capstone course is often conceived as a kind of rite of passage bridging the student experience in the relatively cloistered academic situation with the vagaries of "the real world" (Wagenaar, 1993). In the undergraduate context, Durel notes, "the capstone course is a rite of passage that provides an experience in which undergraduate students look back over their undergraduate curriculum in an effort to make sense of that experience and look forward to building on that experience" (Durel, 1993).

The author has conducted capstone courses at both the undergraduate and graduate levels in the university business curriculum. This experience shows that the capstone course is a particularly salient rite of passage in the undergraduate context. At the end of the semester, the author often shares a luncheon with these students after grades have been submitted. In this setting, students often talk about ways in which the project built their confidence and encouraged them to take on new challenges.

One other method the author has used to create linkages between the collegiate experience and non-academic professional settings is a closure experience where executives from the community interview students in regard to the things they have learned in their project. Research shows that this ability to articulate the value of one's experiences is something that most employers value over a delineation of academic coursework (Associates, 2013). Knowledge that the project closes with this external assessment also strengthens student motivational expectancies (Driscoll, 1994).

Future research directions

Virtually all academic practitioners feel increasing pressure to provide proof of learning outcomes in the courses they facilitate. Although educators using project-based learning have published some assessment studies reviewing the effectiveness of capstone courses (see (Kerrigan & Jhaj, 2007)), we still lack methodologically rigorous learning outcomes data demonstrating that such capstones yield professional competencies valued outside academia. One way of assessing this competency development would be to actively engage the sponsoring organization or other external parties such as alumni or business practitioners in a process of assessing project-based student learning outcomes (Gnanapragasam, 2008; Linnan et al., 2010). The author has experimented with such a process, but this early attempt lacked the methodological rigor needed to firmly test the hypotheses in question. Related to this, it is sometimes possible to estimate the dollar value of any given student project based upon an assessment of the impact produced for the sponsoring organization. Although this economic valuation is clearly a proxy measure for learning outcomes, it does offer a way to quantify the value produced in such projects as measured by this monetization of value received.

Another assessment opportunity would be to explore the use of student or team portfolios as assessment artifacts (Jones, 1997; Kryder, 2011). These portfolios would challenge students to conceptualize and "market" their capstone learning in a way that might provide potential employers with a sense as to how the student might perform in realistic job contexts.

One additional future research opportunity involves harnessing the project-based capstone as a vehicle for assessing the overall performance of a given programmatic curriculum. As the capstone project challenges students with multifaceted and realistic organizational problems, it is possible to test hypotheses relating to learning outcomes in various areas of the curriculum. Such assessment data could then be fed back to faculty teaching upstream disciplinary courses in the hopes that their courses might evolve to better prepare students for these practical real-world challenges.

CONCLUSION

In this paper, the author has reflected upon lessons learned over twenty five years of capstone project facilitation in both the undergraduate and graduate business education contexts. Following the articulation of educational meta-goals foundational to the capstone experience, the author has also argued that a project-based capstone experience effectively promotes learning outcomes valued by students and potential employers.

I hope that the reader has also gained some practical ideas on ways of optimizing learning within the experiential capstone and responding to typical problems that may arise in the project life cycle. Although these capstone courses are challenging to facilitate due to their inherent lack of predictability, they offer students an opportunity to test and hone their skills in preparation for their lives after graduation.

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MEDICAL EDUCATION, PDAs AND SMARTPHONES: WELCOME TO THE 21ST CENTURY

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MEDICAL EDUCATION, PDAS AND SMARTPHONES: WELCOME TO THE 21ST CENTURY

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ABSTRACT

PDAs and Smartphones allow medical professionals to access medical information more easily than ever before. This literature review examines use of these devices and associated “apps” in medical education, finding widespread use by medical students, residents, and faculty. Surprisingly, little generational bias was noted.

INTRODUCTION

Background

The usage of smartphone devices by Americans continues to rise. A 2013 report from the Pew Research Center’s Internet & American Life Project found that, for the first time, more than 90% of Americans own a mobile phone and 56% owned a smartphone (Rainie, 2013), a cell phone that contains additional software functions such as e-mail and Internet browsing capabilities (Merriam Webster Dictionary, 2012). Based upon another recent survey (Anonymous, 2013), it is predicted that 80% of Americans will be using a smartphone regularly by 2014.

The predecessor to the smartphone, the personal digital assistant (PDA), once dominated the market for hand-held mobile devices and had sales growing “exponentially” (Wiggins, 2004), but its sales actually started dropping about 2003 (Krazit, 2004), with the decline quickly becoming precipitous (Anderson, 2007). The transition from PDA to smartphone should not be terribly surprising: a 2011 smartphone had over 16,000 times the data storage of the Palm III, one of the earliest PDAs (Friedman, 2011). Despite their relative departure from the current scene, PDAs are included in this review for two reasons: (1) due to several studies demonstrating their contribution to the study of mobile medical devices on medical education and (2) as recently as 5 years ago, PDAs were considered to be a “valuable tool” in medical education (Lindquist et al., 2008) and “an essential part” of medical practice (Chatterley and Chojewski, 2010). Mobile technology has changed the landscape of the medical profession, as the majority

of providers and providers-to-be desire decision support and current clinical information at the point of care (Baumgart, 2011; Mosa, Yoo and Sheets, 2012).

PDA's allowed healthcare professionals and the general public to communicate more efficiently, collect data and research topics in healthcare (Lindquist et al., 2008). A 2008 study of Canadian medical students found that 65% owned a PDA, and 77.4% of those used it for accessing drug references and 49.1% for looking at medical textbooks. The vast majority (over 75%) had received no formal training in how to use a PDA; i.e., they were self-taught (Chatterley and Chojecki, 2010). Another study was conducted in 2012 among medical students at Brighton and Sussex Medical School to determine how the use of mobile devices affected learning (Davies et al., 2012). After students were given preloaded PDA's containing software known as DrCompanion to use over a ten month period, the authors conducted a survey as well as a focus group. Of 387 total participants, 134 surveys were able to be used finding that 102 students (76%) actually used the device during the allotted time. The authors determined four ways in which the PDA's enabled learning. First, they found that PDA's allowed for timely access to key facts. They also found that there was consolidation of knowledge through repetition since students were able to look up information with ease leading to a higher degree of confidence. Third, the students saw that PDA's allowed them to make use of wasted time as they could use the device during times when they had a few minutes to spare. Finally, authors determined that students felt the PDA's were more a supplement, rather than a complete replacement of textbooks (Davies et al., 2012).

Recent surveys have determined that more than 80% of physicians (O'Reilly, 2012) and Certified Registered Nurse Anesthetists (Johns, 2012) used smart phones. About 70% of nurses report using smartphones while working (Spyglass Consulting Group, 2012), a 40% increase in two years (RNsearch, 2010). Smartphones have offered physicians a less cumbersome format for Health Information Technology (HIT) without the imposition of a large financial burden (Sarasohn-Kahn, 2010), by combining the features of a cellular telephone, pager, and a PDA (Burdette, Herchline and Oehler, 2008), although some have posited that this new technology may be more of an interruption than a help (Ross and Forgie, 2012). Nonetheless, doctors have moved away from the traditional pagers to smartphone devices (Putzer and Park, 2012; Sheth and Kane, 2009), enhancing the efficiency within healthcare organizations by allowing for improved time management and communication between other medical colleagues (Ozdalga, Ozdalga and Ahuja, 2012; Voalté, 2010). In 2012, there were an estimated 121.40 million smartphones in the US, with this number predicted to grow to 207.4 by 2017 (Statista, 2012).

It has been estimated that \$14 to \$27 billion in financial incentives will be distributed over ten years under the Health Information Technology for Economic and Clinical Health (HITECH) act of the American Recovery and Reinvestment Act of 2009 as encouragement for those in the medical field to adopt and meaningfully use HIT (Blumenthal, 2010; Farley, 2013). Many have argued that the implementation of HIT into medical education has not kept pace with the growth of HIT and physician training and accreditation must be reevaluated as to become parallel with the increased use of HIT throughout the country (Graham-Jones et. al., 2012).

Research purpose

The purpose of this paper was to analyze how medical students and medical educators can benefit from the use of smart phone technology. The study was performed to determine if there is benefit from the use of smartphones for medical education.

METHODOLOGY

The methodology for this literature followed the principles of a systematic search and was conducted in distinct stages. The aforementioned stages included: establishing the search strategy, determining the inclusion criteria, evaluating the studies retrieved for relevancy and validity, and data extraction and synthesis.

The electronic databases of EBSCOhost, PubMed and ProQuest were used to search the terms 'Smartphone' AND OR 'Medical Training' OR 'Healthcare' OR 'Education'. The reputable websites of the New England Journal of Medicine, the American Medical Association, Google Scholar and other valid healthcare and technology websites were utilized. Citations and abstracts identified by the search were also reviewed in order to recognize additional relevant texts.

The search strategy was limited to relevant texts published within the last ten years as smartphone and tablet technology has only recently become dominant. Sources were also limited to those written in the English language. A total of xx articles were reviewed and xx selected for this research, x of which were used in the results. This literature research was conducted by NM, SA, and BP and validated by AC for this research project. Subsequently, all citations/references were re-checked by DP, who updated the literature search using Google, ABI-Inform, and JSTORE.

RESULTS

The use of Smartphones in the medical field

A digital study was conducted in California among all Accreditation Council for Graduate Medical Education (ACGME) training programs, via email, to examine the usage of smartphones and related applications in the medical field (Franko and Tirrell, 2012). Results showed that 85% of respondents used smartphones and more than 50% reporting the use of smartphone applications in clinical practice. While medical calculators and drug guides were among the most frequented, applications, textbook/ reference material, classification and treatment algorithms were highly requested upon respondents. It was also determined that physicians and trainees had a strong desire to use relevant and higher quality applications upon their discovery (Franko and Tirrell, 2012). Franko (2011) also surveyed ACGME accredited orthopaedic surgery departments and found that 84% of respondents owned a smartphone, 53% of which currently used relevant applications in clinical practice. Finally, 96% of the respondents using applications noted that they wish more orthopedic applications for smartphones were available, particularly those for medical reference, techniques and guides, and Orthopaedics In-Training Exam review.

Applications ("apps")

More and more convenient and customized applications ("apps") are being developed for smartphone users (Mosa, Yoo and Sheets, 2012); some (van Velsen et al., 2013) even believe that medical professionals are "being overwhelmed" with apps. These applications can be downloaded onto smartphones for a predetermined cost (some are available for free) via the app store and are available in almost every category imaginable (Burdette, Herchline and Oehler, 2008), especially medical education and health (Vinay and Vishal, 2013). As of February 2010, there were 5,805 health apps available within Apple's

App Store, with 27% of those apps targeted towards healthcare professionals (Sarasohn-Kahn, 2010). Although many apps designated as “healthcare apps” are not strictly that, being related not at all or only loosely to healthcare, the IMS Institute for Healthcare Informatics in 2013 found 7,400 apps designed for healthcare professionals, and 16,275 designed for consumers (Baum, 2013). Clearly, the market for healthcare apps designed for healthcare professionals is large and growing.

The availability of medical apps for use on smartphones has made it easier for patients and healthcare professionals to control their health and access medical reference material. With the added convenience of these medical tools, 89% of residents and 98% of faculty in medicine and pediatrics used smartphones (Katz-Sidlow et al., 2012).

Patients have been given the opportunity to better understand their personal health with apps related to fitness and weight loss. Condition specific apps have been created as well, such as Diabo, an app that allows individuals with Type 1 Diabetes to collect and store information related to plasma glucose levels, carbohydrate counts and planned physical activity (Ozdalga, Ozdalga and Ahuja, 2012). With the rapid improvement of smartphones and the available features, these devices have the potential to aid in the improvement of healthcare systems across the country. In the United States (U.S.), many areas lack proper medical care and it has been estimated that more than 65 million Americans live in communities with a shortage of primary care doctors (Freundlich et al., 2013).

Many facilities have been especially enthusiastic regarding utilization of the easily accessible and innovative applications that smart phones have been able to offer. Not only have the phones been used for finding information regarding medical conditions, but the efficiency of the communication tools have allowed timelier results and diagnoses for patients. In one such case, the iPhone was used to mount a campaign against a retinal disease that afflicted premature babies. The effort took place mostly at remote outposts, where lab assistants used the phones to take pictures of the preemies’ eyes. The lab assistants were then able to send the pictures in real-time to pediatric eye surgeons, who were able to review them immediately (Engelhart, 2010).

More than 40 percent of medical students state that they turn to mobile medical apps first when seeking information regarding a clinical question (Anonymous, 2012). Unfortunately, only 28% of physicians reported being very satisfied with medical “apps” (Glenn, 2013). In a UK study, 79% of medical students and 75% of medical residents owned a smartphone, and the majority owned 1-5 medically related apps, which they used several times a day. Both medical students and residents in this study desired development of additional medical apps (Payne, Wharrad and Watts, 2012).

The use of smartphones in medical education

A mixed-method article published in 2012 used semi-structured interviews and a 17 question survey to determine the use of mobile devices among medical students, residents and faculty at a Canadian medical school (Wallace, Clark and White, 2012). Of the 213 participants, 85% were found to use a mobile computing device at least once daily for medical purposes. Participants suggested benefits of using mobile devices for medical purposes including increased portability, faster access to information on the internet, greater time efficiency, flexibility of communication, powerful applications, and access to

multimedia resources. Results from the survey also found that the majority of participants, 55% of students, 95% of residents, and 75% of faculty, agreed that smartphones had a positive educational effect. There were three different categories of usage described by the participants, including information management, communication, and time management.

Generally speaking, students' and residents' use of smartphones for information was greater than that of faculty (Robinson, 2013), which was not unexpected, as the current generation has been described as "thriving" on new and innovative technology (Fay and Greenwood, 2011; Gardner (2013). However, this was not the case across the board (see Table 1). In terms of learning new information, medical students have more to learn than residents, who have more to learn than faculty, so it is not surprising that the percentage of each group using smartphones was observed in this order for use of online textbooks, medical podcasts and online lectures. All three groups were found to use smartphones extensively for medical calculation purposes, residents more than the others, which is perhaps due to their duties of writing orders for direct patient care. This was also the case for note taking, albeit at substantially lower levels across all groups. The large use of smartphones to assist in defining unfamiliar terms demonstrates that the widespread adoption of this technology across all groups.

Table 1: Information Management Categories*

	students	residents	faculty
information management			
online textbooks	70%	67%	35%
medical podcasts	60%	38%	23%
medical calculators	75%	98%	75%
online lectures	50%	17%	17%
note taking	45%	67%	50%
defining unfamiliar terms	93%	95%	82%

* Wallace, Clark and White (2012)

At least one medical app, such as Epocrates, Pepid, Medscape, Skyscape, and Dynamed, was found to have been used regularly by 77% of individuals in the study (Wallace, Clark and White, 2012).

Regarding communication, more than 80% of respondents stated that they use their smartphones to connect with peers, teachers and other individuals involved in their healthcare team. The majority of respondents stated that texting was more efficient than meeting in person or speaking via telephone. In terms of time management, participants were found to use their mobile devices to manage their time by accessing schedules and calendars (students, 81%; residents, 84%; faculty, 56%). The authors found that some participants expressed concern that the use of mobile devices could lead to superficial learning, with the rapid access of information potentially leading to inhibition of internalization of knowledge. Privacy of information was a concern for 34% of participants and 66% of students were concerned that mobile devices were causing distraction in the classroom. Finally, the researchers determined that 96% of survey

respondents agree that the use of smartphones in medical education will increase in the future (Wallace, Clark and White, 2012).

Smartphone usage by both medical students and professionals is increasing almost daily (Vinay and Vishal, 2013; Wu et al., 2013). A study in 2011 showed that healthcare professionals desire current and up to date clinical information and decision support which can be provided by smartphones. Through the National Library of Medicine, PubMed for Handhelds apps, individuals in medicine have gained access to traditional texts/reference materials, professional society guidelines, drug references, and institution specific therapy standards at a moment's notice. Smartphones were also found to serve those seeking re-validation of medical licenses as they provide a means to earning continuing education credits through the use of apps such as Epocrates, Skyscape, and Medline (Baumgart, 2011).

The effectiveness of smartphones in medical education

In 2011, researchers in Miami, Florida administered a study to determine the efficacy of three minute chest tube insertion tutorial prior to an actual chest tube insertion. Of the 128 healthcare trainees, including medical residents, medical students and U.S. Army Forward surgical team members, 50% were shown the video via an Apple iPod touch while the other group was shown nothing. It was found that those participants who viewed the simulation on the iPod prior to insertion performed better and scored higher on a skills checklist assessed by a trained clinician (Davis et al., 2012). A similar study was conducted in the United Kingdom in 2011, to determine whether the use of a smartphone application improved the results of advanced life support in a simulated emergency. Of 31 junior doctors, half were randomly selected for the test group, which allowed the use of an iPhone equipped with the iResus© application. Results showed that the test group had a significantly higher score on the overall cardiac arrest simulation as the mean score was 84.5 while the control group, who did not have access to smartphones, had a mean of only 72 (Low et al., 2011).

After interviewing a number of professors and college officials across the country in 2011, it was found that smartphones improved teaching, studying, and research. Professors admitted that they were using smartphones to take attendance, through apps such as Attendance, to collect data for research, and uploading lectures and reference material (Young, 2011). Professors and students have access to scholarly articles and are sharing documents through smartphones and tablets through apps such as DropBox, Good Reader, and Evernote. Students have found these apps useful as they are able to create virtual libraries, highlight and take notes (Young, 2011).

Another study administered in 2011 compared physicians and medical students usage of a drug calculator on a smartphone with the use of the British National Formulary for Children (BNFC) to test the accuracy, speed, and confidence of prescribing in a simulated pediatric emergency (Flannigan and McAloon, 2011). The authors found that participants who used the drug calculators on the smartphone were more accurate, as 100% of them correctly prescribed, while only 28% of participants using BNFC were correct. The participants using smartphones were also found to be timelier; on average each smartphone participant saved over five minutes compared to users of BNFC. Finally, the smartphone participants stated they felt much more confident with the calculated prescription (Flannigan and McAloon, 2011). All of these differences were statistically significant.

The use of smartphones in medical research

Researchers conducted an online survey in 2012 to research assistants, post-doctoral and postgraduate medical staff at Monash University in Clayton, Australia, to determine the use of smartphones in medical research. From the 10 question survey, it was found that smartphone use increased productivity levels, enabling the respondents to access email and calendars, connect with colleagues and to transfer data. Only two of the five respondents used applications on their smartphones. The authors discovered some limitations of smartphone use in medical research, particularly in the lab, including occupational health and safety risks, security, distractions, absence of wireless network, and lack of awareness (Abeynaike, 2012).

New medical applications for smartphones

A study published in 2012 found new advantages to smartphones. A health monitoring system based on the smartphone has even been developed. A small and low-power-consuming Biosignal Monitoring Unit (BMU) measured electrocardiogram (ECG), photoplethysmogram (PPG), temperature, oxygen saturation, energy expenditure, and location information. The 2.4 GHz Bluetooth network in the BMU communicated with a smartphone. From there health information was able to be transmitted to a remote healthcare server through a built-in 3G or Wi-Fi network in the smartphone. The remote server was able to be monitor multiple users in real-time. Normally, vital sign data were being transmitted to a remote server, but in an emergency or for a special care case, additional information such as the waveform of the ECG and PPG were displayed at the server. For increased transmission efficiency, data compression and a simple error correction algorithm were implemented. Using a smartphone, an efficient personal health monitoring system was developed and tested successfully for multiple users (Lee, Jeong and Yoon, 2012).

Another study described a new opportunity for mobile devices users, the eCAALYX mobile application. The eCAALYX Mobile Application has been developed under the scope of the eCAALYXEU-funded project (Enhanced Complete Ambient Assisted Living Experiment, 2009-2012), which focused on building a remote monitoring system targeting older people with multiple chronic diseases. Patients', care givers' and clinicians' involvement was extensive throughout the prototype design, deployment and testing, and clinical trial phases of the project. The main purpose of the eCAALYX Mobile Platform was to act as an easy information based link between the wearable health sensors used by the older person and the health professionals' Internet site, by informing the patients and health professionals about alerts and measurements obtained from sensors and the geographic location through the use of the smartphone GPS of the user. Also, the mobile platform was able to reason with the raw sensor data which identified higher level information, which included easy-to-detect problems including tachycardia and signs of respiratory infections, based on established medical knowledge. Additionally, a user interface was also offered, which allowed the user to be able to evaluate the most recent medical details obtained from sensors, perform new measurements, and communicate with the caretakers (Boulos et al., 2011). As of October of 2013, there appear to be no published results for eCAALYX or the BMU system, but both appear promising.

DISCUSSION

There is a significant and undeniable growing interest in the use of smartphones and their capabilities in the field of medical education, mirroring the growing interest in this technology worldwide. The use of these devices appears to be growing rapidly because of the real-time advantages they offer in making critical decisions. The findings suggested that the future generation of medical students, medical residents and medical educators will rely on these devices and their medical applications more than previous generations. Presumably, as these individuals who have been exposed to the advantages offered by use of smartphones enter the practice of medicine, they will continue using this mobile technology. After all, the half-life of medical knowledge has for some time been estimated at 5 years (Emanuel, 1975;

Singh, 2014), so continuing education for physicians is mandatory, and physicians in training who have been exposed to smartphones as a learning mechanism acknowledge the utility of this approach (Hardyman et al., 2013).

CONCLUSION

A review of the literature leads to the inescapable conclusion that smartphones are playing an increasingly important role in medical education, before, during and after medical professionals enter practice. A somewhat surprising finding is the relative lack of a generational bias in the use of this mobile technology.

It is expected that medical professionals will become more dependent upon these kinds of devices as time goes on. However, technology will continue to evolve, with smartphones eventually being replaced by other technology, as were pagers and PDAs. But, for now, smartphones and medical education appear to be increasingly and inevitable intertwined for the next few years. After that, who knows what the future will hold?

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ATTITUDES OF THE NEXT GENERATION OF ALLIED HEALTH PROFESSIONALS IN THE UNITED STATES TOWARDS UNIVERSAL HEALTHCARE

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ABSTRACT

For decades, medical costs within the United States have risen at least two points faster than the Consumer Price Index (CPI) (Bloche, 2012). In 2010, US healthcare costs were 17.9% of the GDP (Hartman M, 2013), a significant increase compared to 11% GDP which was recorded in 1989 (Enthoven A, 1989). Currently, healthcare costs are on track to reach nearly 25% of the GDP by 2035 (Bloche, 2012), leaving some experts to question if healthcare spending will rebound in coming years, as it typically has after economic downturns (Hartman M, 2013). Further, there is an exceedingly poor 'return on the investment' of these healthcare dollars. The United States healthcare system is the costliest in the world, yet has one of the poorest outcomes for overall health indices of any developed country. For example, the US spends \$7,681 per capita on overall healthcare, which is approximately 33% greater than Norway, which ranks a distant second in per capita spending (Organization for Economic Cooperation and Development: OECD health data 2011, 2011). Yet, it is difficult to argue that this high level of spending has produced the 'best' health care system for our society, we currently rank 37th in the world in healthiness, according to a recent World Health Organization report (The World Health Report 2000 - Health Systems: Improving Performance, 2000)

Recently, the United States government undertook reform of our healthcare system in order to improve the access and cost for all citizens. The Patient Protection and Affordable Care Act (PPACA), or more commonly known as 'Obamacare' was signed into law in 2010 in the United States (PPACA: whitehouse.gov). This controversial law represents the greatest change to our healthcare delivery system since Medicare and Medicaid was enacted in 1965. Essentially, the PPACA can be characterized as a reform of our capitalistic healthcare system (Bloche, 2012). Yet, despite the PPACA, approximately 40 million individual citizens within the United States continue to lack access to adequate healthcare (PPACA: whitehouse.gov). For many United States citizens, the socioeconomic financial disparity leaves many with painful choices between healthcare and other fundamental needs such as food or housing (Bloche, 2012).

Affordable and effective healthcare is an ongoing national concern. Good health is linked to improved overall well-being in all aspects of life for not only the individual, but ultimately for society as a whole. Employees who enjoy good health also enjoy increased job security, financial security, and reduced personal healthcare expenditures compared to individuals with poor health (Frieden, 2009). Medical ethicists promote that healthcare is an essential right of all citizens (Bloche, 2012) (Frieden, 2009), which aligns with the goals of the PPACA to provide universal access (PPACA: whitehouse.gov). The Code of

Ethics for healthcare professions also suggests healthcare as a 'moral' right for all individuals. Yet, the financial and policy implications from the PPACA have divided public opinion (Huntoon KM, 2011), although there is general agreement that the rising costs and poor performance of the current healthcare system is unsustainable and systemic change is required.

Purpose: *The purpose of this pilot study was to examine the ethical attitudes of allied health (AH) students as they embark upon their new careers. Specifically, we asked AH students if access to healthcare was an essential right or a privilege for individual citizens. Because healthcare professions require empathetic personality traits (JM, 2009), we hypothesized that AH students would generally respond that healthcare is an essential right of all citizens.*

Methods: *During 2012-2013, an anonymous electronic survey using a cross-sectional design with both Leikert and open response items was sent to 90 AH students at Washburn University, with a response rate of 85.5%. The main outcome measure was to determine the students' attitude regarding healthcare access. The AH students surveyed were completing their bachelors degrees in health information technology, ultrasonography, physical therapy, occupational therapy, radiography, respiratory therapy, radiation therapy or nursing fields.*

Results: *Survey results indicated that 93.1% of the respondents agreed that the United States healthcare system needed reformed. Additionally, 45.2% responded that healthcare access and affordability is an essential right of all citizens, with a subgroup of 19% indicating that those who could not afford insurance should receive some type of rationed healthcare plan. 54.8% of the AH students indicated that healthcare is a privilege, where care is provided for only to those individuals with the means to pay for the care.*

Conclusions: *Based upon this small pilot study, our preliminary results indicate that AH students had similar views on healthcare access as the general public, in that they consider citizens should be responsible for their healthcare, regardless of cost (Ramlet M, 2013). This initial data suggests that the new generation of AH professionals expect citizens to take elevated personal responsibility for gaining or maintaining their health, with modest expectations of rationed care based upon affordability. Future studies will further explore the attitudes of AH students to clarify the concept of healthcare as an unconditional right, or entitlement, versus an earned privilege. Also, we will determine their expectations of a right to some minimal level of care, such as preventive healthcare which is provided to all citizens. Finally, we will further explore their attitudes of the impacts of the PPACA on their professions and personal lives.*

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NURSING EDUCATION IN SAUDIA ARABIA: CHALLENGES AND FUTURE

IMPLEMENTATIONS

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ABSTRACT

Nursing in Saudi Arabia has established in the begging of 1954 under the administration of the Ministry of Health (MOH). During the past 50 years, nursing has faced many obstacles and challenges to reform nursing among Saudi community. Now, according to the ministry of health, the number of the majority of nurses are holding a diploma degree exceeds 10,000 nurses with diploma degree. In response to the challenges, and in order to improve the quality of nursing education in the country, the Ministry of Health (MOH), in collaboration with Ministry of Higher Education (MOHE) have recommended that Baccalaureate of nursing is the minimum required degree for professionalism, and the entry level to the practice. Yet, with shortage of nurses, qualified preceptors, and difficulties of clinical settings, the poor outcome of nursing practice has affected nursing image. Moreover, the revolution of higher education in health specialties including nursing has been emerged to reach up to 25 nursing program with average of 1000 students per year. This paper will address the history of Saudi nursing education identifying the challenges of creating qualified new nurses to be ready in the field of care. Furthermore, it will explore the current nursing workforce and ways to improve nursing images at Saudi Arabia.

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BARRIERS TO CONDUCT EVIDENCE-BASED PRACTICES IN SAUDI ARABIA

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BARRIERS TO CONDUCT EVIDENCE-BASED PRACTICES IN SAUDI ARABIA

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ABSTRACT

Evidence-based practice is essential for the advancement of nursing professionalism. In order to see evidence-based practice in reality, one needs to assess the factors which facilitate and enhance the application thereof. On the other hand, one has to investigate the barriers of evidence-based practice, understand those barriers, and override them with the best evidence-based approaches. This paper sheds light on the evidence-based practice barriers. For this purpose, I chose governmental hospitals in Western and Qassim regions of Saudi Arabia; to use an evidence-based practice barriers survey and investigate the barriers which stand in the way of nurses, from applying EBP at the facility and provide recommendations to overriding these obstacles in order for the facility to provide evidence-based practice successfully.

INTRODUCTION

Evidenced-based practice (EBP) is crucial for nursing and health care practices. Evidence-based practice is essential for the advancement of nursing professionalism. In order to see the evidence-based practice in reality, one needs to assess the factors which facilitate and enhance the application of evidence-based practice. On the other hand, one has to investigate the barriers of evidence-based practice, understand those barriers, and override them with best evidence-based approaches. Unfortunately, there are many obstacles in the way of applying evidence-based practice in the practice settings. These obstacles differ from minor to major obstacles depending on healthcare providers' perceptions of evidence-based practice, lack of support from managers or administrators, lack of staff, lack of interest, inadequate or poor training, and lack of the equipments or facilities required for applying evidence-based practice. In order to succeed in performing evidence-based practice, one needs to understand the obstacles and override them to ensure supportable environment which guarantees optimal performance of evidence-based practice (Marshall, 2009).

Evidence-based practice is widely used in health care industry, as the benefit of EBP includes cost savings, improve clients' outcomes, and reduce the gap between theory and practice (Branham, 2011). McKenna, Ashton and Keeney (2004) conducted a study to identify the barriers to evidence-based practice and they found that nurses in different settings are facing different barriers according to their area of

practice such as community nurses and general practitioner nurses. Significantly, most barriers were related to the ability of the nurses to search the evidence-based practice information, the gap between theoretical nursing and practical nursing, poor computer facilities, and poor patient compliance.

For instance, nurses have different policies in caring for their client, which might not be consistent with Centers for Disease Control Guidelines. Courtney and Webster (2004) conducted a study in 14 intensive care units in Australia to describe the then current infection control practices for central venous catheters' (CVC) care and they compared those practices to the evidence-based practice guidelines. Courtney and Webster found that there were a wide variety of responses about the duration of the use of the CVC, parenteral nutrition and propofol infusions, precautions used during the procedures, dressing frequency, and the materials used for dressing. There are no consistency between the 14 ICU's in the guidelines and polices regarding the care of CVC, and there was inconsistent adherence to the guidelines.

Moreover, Barriers to conduct EBP include operating within nonacademic/research infrastructures, and staff shortage. It is crucial practitioners work to achieve diffusion and fusion of evidence-based findings (Sly et al., 2012). The purpose of this study is to shed light on the barriers of evidence-based practice in Saudi Arabia.

METHODOLOGY

This descriptive study presented data on the evidence-based practice barriers in Saudi Arabia. A convenience sample of health care providers recruited from the tertiary hospitals in Madinah and Qassim regions of Saudi Arabia. The restriction of sampling to Madinah and Qassim allowed the researcher to have personal contact with hospital administrators in each of the targeted institutions, which was important to foster their cooperation. All eligible health care providers within each of the institutions invited to participate in the study through the administration of the hospital. The researcher distributed and collected the surveys from participants.

IRB approval obtained for the study. Participation was voluntary, and there were no penalty or loss of benefit for not participating in the study. Participants assured of the confidentiality of their responses and their right not to participate or to withdraw from the study at any time. Moreover, no intervention was required for the study. Data will be stored in a secure location accessible only to the investigator and all data will be destroyed three to five years after dissemination of the findings.

Gale's instrument for evidence-based practice barriers was used to describe the barriers which stand in the way of nurse in performing evidence-based practice. It includes ranking the three greatest barriers to using the evidence-based practice in clinical practice, ranking the three greatest reasons of adapting practice changes into clinical practice, whether application of Evidence-based practice is essential for effective nursing practice, whether literature and research findings are useful in daily practice, whether the adoption or evidence-based practice puts an unreasonable demand on time, whether evidence-based practice does not take into account the limitations of practice setting, whether evidence-based practice helps make decisions about patient care, whether sufficient information is available for me to access when I have questions about the practice change, whether all of the practice changes so far have been practical and fit well with workflow of the unit, the expectations of nurses role in helping with a practice

change, the reasons which make nurses want to adopt the evidence-based practice changes into practice, and how an organization performs with practice changes.

RESULTS

The number of nurses who responded to the survey is 22. The majority of the respondents were staff nurses (81%), the rest were a senior staff nurse and 3 other healthcare providers. The majority of the respondents were juniors at the facility as (52.4%) of them served less than 3 years. On the other hand, 85.7% of the nurses were licensed as nurses for less than ten years. Participants' level of education falls into three categories, associate degree (4.8%), Diploma (33.3%), bachelor degree (47.6%), and master degree (14.3%). The dominant age group of the participants was 26-41 years (85.7%), and the rest are 25 years or under. Unfortunately, only one participant attended evidence based conferences or nursing research continuing education in the previous year.

The majority of the participants (66.6%) selected *lack of staff* as the first barrier to using the evidence-based practice in the clinical practice. That is not surprising as the ratio of the staff to patient at the facility is extremely high; thus nurses cannot access or perform evidence-based practices and they could hardly finish their assigned work. The second greatest barrier was *insufficient time* (33.3%), which led nurses to base their selection of information on ease access data rather than quality and evidence-based practice (Bertulis, 2008). The third greatest barrier was *not having the right equipment or supplies* (28.6%), healthcare agencies should provide the right supplies on the right time.

The majority of participants consider insufficient time and lack of staff as greatest barriers which prevent them from performing evidence-based in clinical practice. It is worth reconsideration from the administration's side to reconsider the staff ratio and amount of work required from nurses at facility to increase the quality of care and reduce preventable medical error.

The participants are willing to adopt evidence-based practices, 23.8% have interest in the practice changed and they belief negative consequence could occur as if they do not use the evidence-based practice. For the second and third greatest reasons for adapt evidence-based practices the participants have selected *my manager/administrator support EBP, talks about it, and expect me to do it* (22%), and *my I value it* (19%). In other words, nurses are enthusiastic and willing to adopt evidence-based practices in their clinical practices but there is a lack of staff and insufficient time to do the work play a major role in the practice settings.

Relevantly, all the participants (100%) agreed that application of evidence-based practice is essential to effective nursing practice and they have a positive attitude toward evidence-based practice. All of the participants agreed to the importance of the literature and research findings and they value them in daily practice. The common view of the participants was that the evidence-based practice did not put an unreasonable demand on their time and that they could do it as a part of work if it supported and planned by

the administration. Of all the participants, (76%) believe that evidence based practice helps them to make decisions about patient care and increase the quality of care.

Regarding the limitations of the practice setting, participants have different views toward this point; (22%) agreed that evidence-based practice does not take into account the limitations of the practice setting, (22%) were neutral, (33%) disagreed, and (22%) strongly disagreed and they think evidence-based practice does take into account the limitations of the practice setting. Sixty five percent of the participants believe there is sufficient information available to access when they have questions about the practice change. Fifty five percent of the participants approved that all of the practice changes so far have been practical and fit well with workflow.

CONCLUSION

The participants reported they have not attended any evidence-based or nursing research continuing education in the previous year, so it is highly recommended that nurses be motivated to receive any evidence-based or nursing research continuing education.

It is important to overcome the obstacles which prevent nurses from performing evidence-based practice such as insufficient time, lack of staff, lack of interest, inadequate or poor training, and not having the right equipments or supplies. It is also equally important to support the greatest reasons selected by the participants for making practice changes such as motivating the value and interest of practice changes, supporting the evidence-based practices changes, and providing a computerized system which allows nurses to access medical resources.

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TRACK

HEALTH INFORMATICS and TECHNOLOGY

ISSUES, CHALLENGES, AND FINDINGS IN HEALTHCARE INFORMATION TECHNOLOGY

(HIT) IMPLEMENTATIONS: A LITERATURE REVIEW

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ABSTRACT

Rapid advancements in computer and internet technologies have transformed the way healthcare is delivered to patients the world over, and notably in the United States. Faced with an increasing pressure to deliver the best healthcare at an affordable price while being compliant with a multitude of laws (such as HIPAA, HITECH, EMTALA etc.), healthcare providers in the US are turning to healthcare information technology for solutions. This has led to a drastic increase in the number of healthcare information technology implementations in the recent past. Due to the transient and rapidly expanding nature of healthcare information technology, it is important for researchers and practitioners alike to stay abreast of current literature and developments in the field. This literature review paper summarizes from the research literature the most significant issues, challenges and findings pertaining to healthcare information technology implementations. Eight major HIT types are distilled. Based upon gaps in the current literature, detailed suggestions are made for future research directions.

INTRODUCTION

The purpose of this paper is to provide a concise overview of the issues and challenges involved in

implementing healthcare information technology projects, as reported in both the IT and the healthcare literature. The motivation behind this work lies with the increasingly important nature of both the healthcare industry and IT implementations for healthcare.

Healthcare is a huge, trillion dollar industry in the United States, with spending reaching 17.6% of GDP (or \$8160 per United States resident) in the year 2009 (Kaiser Foundation Report, 2009). A multitude of laws (such as HIPAA, EMTALA, HITECH etc.) need to be complied with by the US healthcare industry to ensure the appropriate regulation of the industry and the protection of the patients and the public. This puts a significant amount of financial and resource pressure on the healthcare industry. At the same time, there is also tremendous pressure on the healthcare industry to perform efficiently and effectively, and offer the highest quality patient care at an affordable price. Fortunately, the proliferation of internet and computer technology in the last decade has made available the necessary tools to assist healthcare organizations in efficient and effective operations.

Internet and computer technologies are gradually replacing the traditional patient-doctor interaction paradigms in healthcare (known in healthcare jargon as an “encounter”), wherein the doctor was the center-piece and the provider of health related information, while the patient was a passive receptor and completely reliant on the doctor for healthcare as well as medication information (Wilson, 1994). Such interaction traditionally took place in the doctor’s office or at a brick-and-mortar hospital, with the doctor being completely in-charge of the encounter. Today, patients are able to access healthcare websites (such as WebMD.com, FamilyDoctor.org, Mayoclinic.com etc.) and get health, disease and treatment related information in the comfortable, familiar and trustworthy environment of their homes, rather than the unfamiliar and sometimes stress-producing environment of a hospital. This alleviates the pressure on the hospitals and the healthcare system to some extent, because the patient comes to the doctor in a hospital for touch-and-feel clinical interactions and lab tests, but not necessarily for all informational needs. Information on such needs as determining when to come in for medical services or what home remedies are possible can be readily found on the internet.

The use of computers for processing large amounts of data, especially in the case of information systems, has become ubiquitous. In the healthcare industry, collecting, storing, processing, analyzing, and appropriately sharing a massive amount of patient information and data pertaining to cost and quality of care and treatment outcomes, would not be possible without the use of Healthcare Information Technology (HIT).

The definitions and scope of the various types of HIT projects are diverse and inconsistent in the research literature. This may be because the field is relatively new, spanning less than a decade, and applications of HIT in healthcare are still evolving, albeit at a relatively slow pace when compared to information technology applications in other fields such as education or manufacturing (Teo, 2009; Lunce and Smith, 2000; Srinivasan & Jayaraman, 1999; Timmermann, 1998). The term HIT is used generically to refer to various types of healthcare projects involving information technology use (see Table). Therefore when discussing a particular type of HIT project, it is important to have clarity regarding its scope, nature, similar healthcare applications already implemented, and what the research literature states about the type of HIT project under consideration. This approach will be taken in the literature review that follows.

TABLE: HIT Implementations-Literature Review Summary

<u>Author(s)</u>	<u>Central</u>	<u>Methodology</u>	<u>Theories</u>	<u>Findings and/or Relevant</u>

	<u>Theme</u>		<u>or Significant Studies Quoted</u>	<u>Notes</u>
<u>E-HEALTH:</u>				
Li, Seale, Ray, Wang, Yang, Zhang & MacIntyre (2013)	E-health implementation success: preparedness assessment	Case study involving a hospital in Beijing	Predicting the adoption of electronic health by physicians (Ford et al., 2006) and other studies	Pre-implementation assessments involving organizational preparedness and preparedness in areas identified in this study will go a long way in helping to achieve implementation success
Mair, May, O'Donnell, Finch, Sullivan & Murray (2012)	Barriers and facilitators to e-health implementation	Data collected from prior research through a literature review; Data analyzed qualitatively using normalization process	Normalization Process Theory (May & Finch, 2009)	More focus on organizational issues in implementation, neglecting the wider social framework that must be considered in new technology implementation
Piette, Lun, Moura, Fraser, Michael, Powell & Khoja (2012)	Impacts of e-health projects on patient care outcomes	Data collected from targeted scans of scientific databases, reviews of reference lists and conversations with domain experts. Existing meta-analysis data also used. Scoping reviews were conducted using all of the above.	Mekong Basin disease surveillance system; Studies by the Bill & Melinda Gates foundation; Studies involving meta-analysis from published studies.	E-health systems have a positive impact on the process of clinical care in low and middle income countries. Inter-operability between multiple points of care improves health outcomes.
Goh, Gao & Agarwal (2011)	Mechanisms underlying successful implementation	Analytical device of narrative networks to identify where and	Adaptive Structuration Theory (Desanctis &	Significant interactions between routines and technology at every stage of implementation. Routines change after implementation and evolve

	n: interplay between technology and patterns of clinical work	how healthcare information influences work patterns; Longitudinal field study in a large hospital	Poole, 1994)	through dynamic interactions with technology
Wu, Kao & Sambamurthy (2009)	Evaluate e-health readiness and its impact on enhancing e-health transformation success	Developed and validated a scale to measure e-health readiness; PLS method used to empirically test the conceptual model and hypotheses using data collected through a large scale survey	Change preparedness (Roberts, Jarvenpaa & Baxley, 2003); Lewin's change theory (1961); Socio-technical systems model (Bostrom & Heinen, 1977)	Nomological domains of E-health readiness (IT infrastructure, e-health capabilities, extrinsic motivations, intrinsic motivations, e-health business) validated by data. Level of e-health readiness positively associated with transformation success. Several other conclusions.
Deng, DeCock & Preneel (2009)	Enabling collaboration of multiple healthcare providers in one e-health system using interoperability solutions	Electronic platform to interconnect healthcare providers enabling them to update and share patient health information efficiently (non-quantitative data; primary data)	Builds on the results of two major projects: IDEM (2008) & EHIP (2008).	Proposes a new service for cross-context identity management in e-health systems. Explained with a use-case scenario. Ultimately enables an unlimited view of patient health information for better service to patients.
<u>EHR:</u>				
Luchenski et al. (2013)	Patient and public views on electronic health records and their uses	Cross-sectional questionnaire survey administered to patients and members of public	Patient and health care professionals perspectives on electronic health records	Use of electronic health records is supported in general, but patients have many issues relating to privacy safeguards, and need more awareness regarding the use of ehRs for secondary uses

			(Nazi, 2013)	
Stanberry (2011)	Efforts to expand use of HER	Evidence from implementation of EHRs through NHSCRS in UK, through Canada Health Infoway in Canada, & through NEHTA in Australia, and analysis of US laws. No data collection through empirical evidence survey or study.	Laws in the US that present challenges to EHR implementation such as anti-kickback laws, anti-referral laws, malpractice exposure laws, privacy regulations	Laundry list of issues relating to cost, privacy and laws/regulations must be addressed before EHRs can be successfully used to manage and communicate healthcare information.
<u>HIS:</u>				
Mantzana, Themistocleous& Morabito (2010)	Examination of a model that supports the management, design and delivery of HIS training for older employees	Quantitative study and statistical data analysis using a questionnaire survey	E-learning model (Rutkauskien e, 2006); online learning (Zhang, 2002)	Older employees must be trained on HIS using new technologies and older employee training theories; a well-organized and managed training process is essential
Saleem, Jones, Tran & Moses (2006)	Enhancing the success of HIS in improving patient care by including	On the basis of theoretical paradigms underlying user participation and	Discrepancy model of end user computing involvement	End user involvement in design is essential; Congruence must be maintained between user expertise and user influence on system design

	target users in the design phase	team design, authors derived user characteristics. Field survey was conducted to validate these in the HIS context.	(Doll & Torkzadeh, 1989); Status congruence theory and several other theories	
Mahmoud & Rice (1998)	Role of HIS in quality improvement in healthcare organizations	Evidence from hospital based studies collated by the authors	Continuous quality improvement in health practice (Reeves, Matney & Crane, 1995)	Carefully planned implementation of IT/HIS can help with quality improvement. The challenges of human acceptance, technology complexity and others must be overcome first.
Hsu, Dunn, Juo, Danko, Johnson, Mas & Sheu (2012)	Measuring and improving the public HI competencies	Web based questionnaire survey followed by statistical analyses	Studies on HI implementations (Foster & Bryce, 2009; Covvey et al., 2007; O'Carroll et al., 2003)	Community-based practice and computer skills were perceived as the most important;
<u>HI:</u>				
Dalrymple (2011)	HI is changing focus from cure to prevention and wellness	Evidence from published papers and author's own experiences	Studies on HI implementations (Groth & Mackie-Mason, 2010; Kampov-Polevoi & Hemminger, 2010; Bakken, Stone & Larson, 2008)	HI is being increasingly used to make healthcare efficient and effective, and to focus on prevention and wellness; Formal education in HI is on the rise at the bachelors, masters & doctoral levels

Bath (2009)	Overlap between health informatics and health information management with respect to the focus on user centered design and user participation in design	Summary of conference papers along with the authors' insights	Studies on HI implementations (Hunter et al., 2009; Cockcroft, Sandhu & Norris, 2009; Ayatollahi et al., 2009)	User centered design is important; views and rights of users must be considered when developing strategies for implementation of ICT (Information & Communication Technologies)
Bath (2008)	Challenges in HI & health information management; Information needs and behaviors of healthcare decision makers in non-clinical settings;	Summary of conference papers along with the authors' insights	Studies on HI implementations (Kerr, Norris & Stockdale, 2008; Vidrighin & Potolea, 2008)	Many issues and challenges remain in the implementation of HI; Data quality is very important; Perceptions towards m-health is improving
<u>HEALTHCARE WEBSITES:</u>				
Parthasarathy & Fang (2013)	Emotional/hedonic user interfaces in healthcare websites	Preliminary/exploratory study (not validated through data collection)	Cognitive structure of emotions theory (Ortony, Clore & Collins, 1998)	Emotional or hedonic websites in healthcare will attract patients and enable them to obtain healthcare information in a friendly and non-threatening environment, and will alleviate pressure on the healthcare system
Huang (2009)	Using e-health videos on hospital websites	Case study approach; Triangulation of findings from different research approaches	Major aspects of e-health (Dickenson & Fuller, 2005); E-health (Solovy, 2003); Multiple	Patient education videos on healthcare websites develop visitor trust and market competitiveness

			attributes of video as a visual medium (Kelsey Group, 2008)	
Chyna (2001)	Use of healthcare websites by patients	Questionnaire survey	Several non-peer reviewed studies/data collection quoted	Healthcare websites are being increasingly used by patients to obtain healthcare related information.
Weber (1999)	Healthcare websites will transform the way medicine is practiced for doctors and patients	Evidence from published studies and the author's own experiences	Several non-peer reviewed studies/data collection quoted	The traditional paradigms of healthcare practice will be replaced by new paradigms wherein the computer, internet and information technology will play key roles.
<u>M-HEALTH:</u>				
Alepis, E. & Lambrinidis, C. (2013)	Analytical Hierarchy Process Algorithm (AHP) used to develop a M-health module that infers presence of an illness and provides relevant supplementary diagnoses	Case Study/project	Diagnostic and advanced M-health system studies (Karan et al., 2012; Bayraktar et al., 2011)	An M-health application immensely useful to doctors and patients, motivates health improvements and has related applications in every area of healthcare
Thirumurthy & Lester (2012)	M-health for health behavior change in resource limited settings	Evidence from published studies and the author's own experiences	Studies on m-health implementations (Lester et al., 2010; Chi & Stringer,	M-health interventions can be applied to a broad range of health related behaviors; Rigorous evaluations of small and large interventions could reveal the extent to which m-health can provide cost effective solutions to public health challenges

			2010)	
Van Heerden, Tomlinson & Swartz (2012)	Point-of-care in your pocket- a research agenda for m-health	Evidence from published studies and the author's own experiences	Studies on m-health implementations (Jordan et al., 2011; Lejbkowitz et al., 2010; Breslauer et al., 2009)	M-health is attractive and exciting, but country level best practices on the basis of rigorous research and evaluation must be established. The impact and cost-effectiveness of m-health must be studied in detail.
Mayernick, Resick, Skomo & Mandock (2010)	M-health to bring screening and preventive services to low income neighborhoods	Case study	Health consequences vs. access to healthcare across socio-economic populations (Pappas, Hadden, Kozak & Fisher, 1997)	High degree of success in achieving desirable health outcomes due to m-health's ability to bring care to familiar surroundings (fostering trust), and to low income neighborhoods (where patients find it difficult to travel to a hospital)
Curioso & Mechael (2010)	Widespread and increasing emergence of m-health projects leading to applications that enable data collection, diagnostic & treatment support access and healthy behavior.	Evidence from published studies and the author's own experiences	Studies on m-health implementations (Mechael, 2009; Iluyemi, 2008)	Diagnostic tools delivered to point-of-care through mobile devices are expanding the ways in which patients can receive healthcare
<u>TELEMEDICINE:</u>				
Ganapathy & Ravindra (2009)	Lessons learned from a successful telemedicine implementation	Case study involving successful telemedicine implementation by the Apollo Group of hospitals in India	Studies on m-health and telemedicine implementations (Ganapathy & Ravindra, 2009, 2008,	Key issues and challenges in telemedicine implementation include acceptance by patients/physicians/hospital administrators, designing cost-effective hardware and software, providing appropriate training, and grants/ sufficient funds for extension

			2007)	to rural and suburban areas.
Yoo & Dudley (2009)	Evaluation of the use and positive impact of telemedicine in the ICU	Evidence from published studies and the author's own experiences	Studies on telemedicine implementations facilitating remote monitoring and "intensivist" staffing (Zawada et al., 2009; Breslow et al., 2004; Field & Grigsby, 2002; Gupta et al., 2002)	There is an increasing use and evidence for positive impact of telemedicine in the ICU. However research into defining a conceptual framework of the ICU and how exactly telemedicine positively impacts it is still inconsistent and unequivocal. "Tele-ICU improves care" is not a testable hypothesis. Future research should emphasize components of ICU present before telemedicine and what was added after telemedicine, and use such information to evaluate telemedicine effectiveness in the ICU.
Chau & Hu (2004)	Lessons learned regarding important issues and common pitfalls in telemedicine technology implementation	Case study involving a Hong Kong based telemedicine program implementation	Technology implementation issues in an organizational setting (Kwon & Zmud, 1987; Cooper & Zmud, 1990); Studies on telemedicine (Huston & Huston, 2000; Sheng et al., 1998; Bashshur, 1995; Perednia & Allen, 1995)	Role of the clinical administrator is critical in telemedicine implementation; Consensus is an inevitable ingredient for successful implementation; User acceptance depends on member physician participation, consensus and adaptation activities; Patient base and service/facility capacity impacts telemedicine utilization.
Field & Grigsby (2002)	Telemedicine in remote patient monitoring, slow and steady	Evidence from published studies and the author's own experiences	Studies on telemedicine implementations (Angood et al., 2000; Rosenfeld et	Telemedicine will continue to evolve slowly, but steadily, as research clarifies its benefits, limitations and costs; Medicare and other insurer reluctance to cover telemedicine costs has slowed its dissemination (esp. in USA), but this

	progress in the use of telemedicine		al., 2000; Strode et al., 1999; Shah et al., 1998)	scenario is gradually changing; Acceptance of the technology by physicians is gradually improving.
Strode, Gustke & Allen (1999)	Technical and clinical progress in telemedicine	Evidence from published studies and the author's own experiences	Studies on telemedicine implementations (Swartz, 1998; Thrall & Boland, 1998; Kim, 1998; Kewslar & Balch, 1995)	Store-and-forward tele-consultations involving static images (tele-radiology) are becoming popular; HCFA's definition of a telemedicine consultation could use revising; Clinical effectiveness and cost effectiveness of telemedicine need to be studied more.
<u>HIT SAFETY:</u>				
Borycki (2013)	Preventing, detecting and reporting errors in HIT thereby increasing its safety	Evidence from published studies and the author's own experiences	Studies on safety issues in HIT (Kushrinuk et al. 2005, Magrabi et al., 2012)	Safety of HIT is an important issue. Technology induced errors must be mitigated or eliminated using the listed methods.

REVIEW FOCUS

This literature review has the following foci:

- How have researchers conceptualized the use of information systems, computers and the internet in information technology projects pertaining to healthcare?
- What do the different terms used in research literature to describe information technology projects in healthcare mean, in terms of their definition, patient care outcomes, and cost considerations?
- What are the significant theories and/or studies quoted in the papers published on information technology in healthcare?
- What are the central themes in and major contributions made by the papers published, including any investigative trends?
- What are the research methodologies used in the papers published?
- What are the outcomes emphasized in the papers published (process indicators, product based outcomes, patient health outcomes, quality of care etc.), and what should be emphasized?

REVIEW METHOD

An extensive literature search was performed in major research databases pertinent to computer and information technology, as well as those relevant to healthcare. The preliminary literature search yielded approximately one hundred peer-reviewed research papers and research reports that were pertinent to the subject matter. The abstract of each of these papers and reports was reviewed, and they were re-

grouped based on the type of HIT implementation they focused on. A subsequent and more detailed review of the grouped papers was conducted, and the papers were re-grouped on the basis of the relevance of the contributions made with respect to the healthcare delivery and implementation scenario in the United States today, and also with respect to the currency of the technologies discussed. IT is a rapidly evolving field and for this reason, IT implementations discussed in some of the research papers written more than ten years ago were found to be irrelevant based on the IT hardware and software technologies available today. Papers that discussed technologies that are no longer relevant to today's world of IT were eliminated from this review, as long as they did not present any innovative implementation methods that could still be used in conjunction with the hardware and software of today. Finally, the re-grouped papers were critically reviewed so as to capture the central theme, methodologies, theories & studies referenced, and findings, and this information has been captured in a table format (see Table)

REVIEW FINDINGS: TYPES OF HIT IMPLEMENTATIONS

The findings from the literature review are summarized in the table in TABLE, and discussed in the following paragraphs. The distribution of published papers based on the type of HIT studied was found to be almost equal.

Major Types of HIT

The literature review revealed that issues and challenges in HIT implementations are based on the following eight major HIT types: E-Health (Electronic Health), EHR (Electronic Health Records), HIS (Healthcare Information Systems), HI (Health Informatics), Healthcare Websites, Mobile Health (M-Health), and Telemedicine. As stated earlier, since HIT is a relatively new and developing field, there is lack of consistency in research and practitioner literature in defining these categories, and overlaps and conflicts in definitions and descriptions are common. We now discuss each of these categories separately.

E-Health

E-Health is defined as the use of ICTs (Information and Communication Technologies) in healthcare (Blaya, 2010). Abdelhak et al. (2007) define e-health as the use of emerging information and communication technology, especially the internet, to enable or improve health and healthcare. Research literature on e-health is mostly based on process indicators rather than on patient outcomes. Few papers focused on e-health implementation issues. Goh et al. (2011) discussed significant interactions between routines and technology at every stage of implementation, with the routines changing after implementation and evolving through dynamic interactions with technology. Li et al. (2013) investigated the factors necessary for the successful implementation of an e-health system in a hospital in Beijing (China), with a particular focus on e-health implementation preparedness.

Qualitative methods were employed in two phases: (1) group interviews were conducted with key stakeholders to examine how the surveillance system worked with information and communication technology (ICT) support in Beijing, the results of which provided background information for a case study at the second phase and (2) individual interviews were conducted in order to gather a rich data set in relation to e-Health preparedness. The study suggested that prior to the implementation of e-Health, planning must be undertaken to ensure the smooth introduction of the system, including the assessment of organizational preparedness. This study identified deficient areas of organizational preparedness and suggested possible solutions for the areas in need of improvement to facilitate e-Health implementation success. Mair et al. (2012) focused on organizational issues in implementation, including neglecting the wider social framework that must be considered in new technology implementation. Piette et al. (2012) discuss the benefits of e-health implementation on the process of clinical care in low and middle income countries, and the resulting inter-operability between multiple points of care which improves health outcomes. In effect, they strongly support the e-health initiative. Wu et al. (2009) investigated the

nomological domains of e-health readiness (IT infrastructure, e-health capabilities, extrinsic motivations, intrinsic motivations, e-health business). They found that the level of e-health readiness is positively associated with transformation success. Deng et al. (2009) propose a new service for cross-context identity management in e-health systems, and explain the same with a use-case scenario. They contend that this ultimately enables an unlimited view of patient health information for better service to patients.

Electronic Health Records (EHR)

Electronic Health Records are entire patient health records in digital form, and include the patient's health history, treatments, medications and diagnoses, allergies, lab results and all other pertinent health information and records. In the United States, the American Recovery and Reinvestment Act of 2009 of which the Health Information Technology for Economic and Clinical Health (HITECH) Act is a part, drives the increased use of electronic health records by all players in the healthcare industry including providers and insurers. While calling EHR a "silent giant", Stanberry (2011) discusses the factors necessary for increased use of EHRs, and alludes to laws in the US that present challenges to EHR implementation such as anti-kickback laws, anti-referral laws, malpractice exposure laws, privacy regulations. The stated implication is that the laundry list of issues relating to cost, privacy and laws/regulations must be addressed before EHRs can be successfully used to manage and communicate healthcare information. Luchensky et al. (2013) have researched the patient and public views on electronic health records and their uses in the UK, through a cross-sectional questionnaire survey administered to patients and members of public. They found that the use of electronic health records is supported in general, but patients have many issues relating to privacy safeguards, and need more awareness regarding the use of EHRs for secondary uses.

Healthcare Information System (HIS)

According to Cullen (2002), HIS (Healthcare Information System) includes and encompasses the management and utilization of large amounts of healthcare related data, electronic health records, and data mining (with a view to use the results in evidence based healthcare practice). HIS is considered a part and parcel of providing evidence based healthcare (Landry et al., 2005; Mahmoud and Rice, 1998). Mantzana et al. (2010) examine a model of HIS implementation that supports the management, design and delivery of HIS training for older employees. They found that older employees do need significant training on HIS using new technologies, and that the training process must be well organized and well managed. Saleem et al. (2006) found that for a HIS implementation to be successful, end user involvement in the design phase is essential, with the caveat that congruence must be maintained between user expertise and user influence on system design. For example, for complex and unique HIS systems, greater amount of user involvement during the design phase is necessary, whereas a lower amount of user involvement is suggested for basic HIS designs based on standard protocols, that provide thread-bare information. Mahmoud and Rice (1998) investigated the role of HIS in quality improvement in healthcare organizations.

Health Informatics (HI)

Health Informatics (HI) is defined as the application of information science methods to analyze and understand healthcare information, to progress from raw data to knowledge, for improved problem solving, decision making and care delivery (Dalrymple, 2011). It is also defined as the science that deals with health information, its structure, acquisition, and uses (Abdelhak et al., 2007). Dalrymple (2011) found that the focus of HI is shifting from cure to prevention and is increasingly being used efficiently and effectively to this end. This is supported by an increase in the formal academic degrees emphasizing HI, at the bachelor's, masters and doctoral levels. Bath (2009) studied the overlap between HI and Health Information Management (HIM) with respect to the focus on user centered design and user participation in the design. User centered design and user participation in design was found to be very important factors in the successful development and implementation of HI, wherein the views and rights of the users are taken into account in the development of ICTs (Information Communication Technologies such as HI and HIM).

Bath (2008) also researched the challenges in HI and the behaviors of healthcare decision makers in non-clinical settings, and reached the conclusion that many challenges remain, including the quality of the data. Hsu et al. (2012) studied the measurement and improvement of public HI competencies, necessary due to the increasing use of HI in this day and age. Among all public HI competencies, community based practice experience and computer skills were found to be the most important.

Healthcare Websites

Healthcare websites provide information relating to diseases and their treatment, medical interventions, medicines and their side effects and related medical information to the public. Some examples of popular healthcare websites in use today are WEBMD.COM, FAMILYDOCTOR.ORG, and MAYOCLINIC.COM. With the proliferation of computers and the internet in the past decade, patients prefer to get healthcare and disease related information on-line and see the doctor only for clinical interactions (Herrick, 2009; Misra et al., 2008; Chyna, 2001). This is changing the traditional doctor-patient interaction & encounter paradigms wherein the doctor was the instructor and the provider of directions, and patient was a passive receptor from whom compliance and obedience were sought (Misra et al., 2008; Weber, 1999; Wilson, 1994). Perhaps in part thanks to healthcare websites, the patient is as much in charge of the situation today as the doctor, is able to ask the right questions and challenge orders for intrusive treatments and seek alternative therapies. This has contributed to researcher interest in emotional or hedonic healthcare websites which take the patient's current emotional state into account, and provide an emotion improving experience during the process of obtaining health and disease related information (Parthasarathy & Fang, 2013; Tuch et al., 2012; Huang, 2009; Hem, 2007; Picard, 2000; Dash, 2000; Allen et al., 1992). The hedonic experience is obtained through color and imaging, sounds and music, videos, photos, interactive games, chat rooms, real time domain expert interactions, blogs, interactive quizzes that pique user interest and other such accessories. The feedback loop could be active or passive, with the most sophisticated computer and internet technologies being used for active feedback.

Mobile Health (M-Health)

M-Health is e-health and telemedicine delivered through mobile devices. Therefore it is also nicknamed "pocket healthcare" and "mobile phone healthcare". M-Health is defined by the global observatory for e-health of the World Health Organization (WHO) as "medical and public health practice supported by mobile devices, such as mobile phones, patient monitoring devices, personal digital assistants, and other wireless devices" (Van Heerden et al., 2012). Curioso and Mechael (2010) studied the widespread and increasing emergence of m-health projects leading to applications that enable data collection, diagnostic & treatment support access and healthy behaviors by the public. They found that diagnostic tools delivered to point-of-care through mobile devices are expanding the ways in which patients can receive healthcare. Thirumurthy & Lester (2012) found that m-health interventions can be applied to a broad range of health related behaviors with a view to improving them, and that rigorous evaluations of small and large interventions could reveal the extent to which m-health can provide cost effective solutions to public health challenges. Van Heerden et al. (2012) contend that country level best practices for m-health on the basis of rigorous research and evaluation must be established, and that the impact and cost-effectiveness of m-health must be studied in detail. Mayernick et al. (2010) discuss the high degree of success in achieving desirable health outcomes due to m-health's ability to bring care to familiar surroundings (thus fostering trust) and to low income neighborhoods (in which patients find it difficult to travel to a hospital). Alepis and Lambrinidis (2013) discuss an m-health application using the Analytical Hierarchy Process Algorithm (AHP) that infers presence of an illness and provides relevant supplementary diagnoses. This system is in tune with the artificial intelligence and expert systems based m-health applications researched by Karan et al. (2012) and Bayraktar et al. (2011) which provide supplementary diagnoses and analytical data retrieval of real time patient health data. Such m-health applications are immensely useful to doctors and patients, motivate health improvements and have related applications in every area of healthcare.

Telemedicine

Telemedicine involves a radical departure from traditional doctor-patient encounters in the doctor's office, and instead makes use of computer and internet assisted technologies for doctor-patient and nurse-patient interactions (Whitten et al., 2010; Roh, 2008; Schooley, 1998). It is therefore possible for telemedicine to cater to patients in rural areas and in other areas that are not easily accessible for any reason. Chau and Hu (2004) found that the role of the clinical administrator and consensus were critical to success in telemedicine implementations. Patient base and service/facility capacity impacts telemedicine utilization. Strode et al. (1999) emphasize the increasing popularity of store-and-forward teleconsultations involving static images (also known as tele-radiology), while contending that HCFA's definition of a telemedicine consultation should be revised and that clinical effectiveness and cost effectiveness of telemedicine need to be studied more. Ganapathy & Ravindra (2009) found that the key issues and challenges in telemedicine implementation are acceptance by patients/physicians/hospital administrators, design of cost-effective hardware and software, provision of appropriate training, and the availability of grants and sufficient funds which would facilitate the extension of telemedicine to rural and suburban areas. Yoo & Dudley (2009) contend that though there is an increasing use of telemedicine and evidence for positive impact of telemedicine in the ICU, research into defining a conceptual framework of the ICU and how exactly telemedicine positively impacts it is still inconsistent and unequivocal. Furthermore, they point out that "tele-ICU improves care" is not a testable hypothesis and therefore future research should emphasize components of ICU present before telemedicine and what was added after telemedicine, and use such information to evaluate telemedicine effectiveness in the ICU. Field & Grigsby (2002) argue that telemedicine will continue to evolve slowly but steadily, as research clarifies its benefits, limitations and costs. They lament that while the reluctance of Medicare and other insurers to cover telemedicine costs has slowed its dissemination (esp. in USA), this scenario is gradually changing, and acceptance of the technology by physicians is gradually improving.

Safety Issues in HIT

With the proliferation of healthcare information technology, there are concerns about technology based errors in the use of healthcare information technologies, and safety in the implementation and use of healthcare information technologies. Several researchers (Borycki, 2013; Magrabi et al., 2012; and Kushrinuk et al., 2005) have studied technology induced errors in the implementation and use of healthcare information technology. Borycki (2013) points to technology-induced errors that include slips and mistakes. Slips have been defined as errors "which at some point the user notices and corrects". An example of this would be an incorrect medication entry that the user amends. Mistakes are errors which are not observed or corrected by a user. For example, the user enters a medication dose thinking it is correct and a default auto-populates the field with another dose, or, more than one patient record is opened on the computer screen and the doctor inadvertently enters patient data in the wrong record after being called away from the computer to deal with a patient issue. Borycki (2013) states that such errors also include information transfer errors that users may not be aware of and are occurring on the back end of a system. All researchers of technology based errors in the use of healthcare information technologies, and safety in the implementation and use of healthcare information technologies contend that technology induced errors must be mitigated or eliminated. Borycki (2013) has suggested methods such as heuristic evaluation, usability testing, clinical simulations and cognitive walkthroughs, which may be used proactively and reactively for safety assurance.

REVIEW FINDINGS: DATA COLLECTION AND RESEARCH METHODOLOGIES

Table 1 summarizes the research methodology used in the reviewed papers. It is interesting to note that as many as 43% of the papers published involving the subject matter of HIT have either used secondary data from prior research studies, or have not presented any data analysis. A possible explanation for this is that HIT is a new and evolving field,. Though there are a substantial number of published papers

(57%) that have presented detailed data and statistical analyses, the actual number of such papers is relatively small compared to the size and importance of the industry. It is also interesting to see that only 6% of the published papers involve data sharing amongst network members formed by prior arrangements. As technologies such as HIS and HI gain momentum, such data sharing should drastically and substantially increase. After all, data sharing and data mining are some of the key primary motivations behind using HIS and HI.

Table 1. Distribution of Data Collection Methods

Data Collection Method	Percentage of Research Papers Using The Stated Method
Surveys (Primary Data)	26.5%
Prior research studies (Secondary Data)	16.5%
Case study (Primary Data)	14.5%
Longitudinal field studies	10%
Shared databases wherein patient and care are entered and shared among network members by prior arrangement	6%
No data collection or validation. Paper based on evidence from prior work and authors' own experiences	26.5%
Total	100%

Diversity of Study Settings

Of the papers considered for review in the preliminary stage, only 40% of the papers discussed the employment of HIT types such as M-Health and Telemedicine in rural or hard-to-reach geographical areas. The true benefit of HIT types such as M-Health and Telemedicine lie in their use in rural or hard-to-reach geographical areas, and in situations where traditional medicine in brick-and-mortar settings cannot be accessed (Blaya et al., 2010; Ganapathy & Ravindra, 2007; Field & Grigsby, 2002; Kewslar and Balch, 1995). Hence it is reasonable to state that the diversity of the study settings found in the extant research literature pertaining to certain types of HIT such as M-Health and Telemedicine needs to be expanded, to include more research studies using such technologies in rural or hard-to-reach geographical areas and situations where traditional medicine in brick-and-mortar settings cannot be accessed.

DISCUSSION AND LIMITATIONS OF THE STUDIES REVIEWED

From the above presentation, it should be possible to see the enormity of the subject matter and by contrast, the sparseness of the research literature. Most of the published papers discuss the organizational aspects of implementation and the nature of expected outcomes. In terms of the organizational aspects of implementation, there are no papers that discuss the organizational framework that is necessary for a successful implementation. Instead the approach is more anecdotal. Socio-technical issues are hardly discussed, even though human resistance to change and distrust and fear of new technologies is well known. Some papers do discuss the initial reluctance of doctors and nurses to accept HIT, and the continued rejection of HIT by other doctors and nurses. These papers are relatively few in number and use anecdotal evidence or a case study approach, making generalizations difficult. Some of such papers are written for non-peer reviewed publications making it difficult to assess their rigor. Others have no data collection and rely on past experiences of the authors. The paper by Mantzana et al. (2010) does have significant implications for the implementation of HIT in organizations with older employees. The same study could well be conducted with different groups of employees in a socio-technical context, such as people with fear of technology, people with distrust of technology, people biased against new technologies

and their possible roles in the displacement or elimination of jobs etc.

The papers that have discussed the nature of the expected outcomes have made suggestions as to the expected outcomes and their nature, but have not analyzed the actual outcomes themselves. It is thus impossible to use the information for further research or follow up studies involving the same or similar type of HIT implementation. Most of the studies are based on process outcomes or process indicators, and have not discussed patient outcomes, which are arguable the most important result in the context of healthcare. It is worthwhile noting that certain types of HIT implementations may have a greater positive influence on certain types of patient outcomes rather than others. For example, due to the ability to remind the patient to take medications in real time, m-health may have had a greater positive impact on diabetes management than healthcare websites did. Therefore when discussing patient outcomes, the relevance of the technology to the outcome should be considered. Product outcomes may also provide useful information about implementation challenges, especially where the type of product used to deliver is as important as the process, such as in the case of m-health and telemedicine. There are very few papers that have discussed HIT implementations in rural and difficult-to-access locations. Certain types of HIT implementations may have a profound impact on patient and process outcomes in rural and difficult-to-access locations and therefore more research studies involving these locations are necessary.

SUGGESTIONS FOR FUTURE RESEARCH

Based on this literature review, several areas that need attention in future researches pertaining to HIT implementations have been identified. It is suggested that future research and further studies take the following suggestions into consideration:

- Focus on patient outcomes, which are critical in healthcare HIT implementations
- Focus on product outcomes in addition to process outcomes, in terms of whether use of certain hardware enhance or erode the quality of patient care
- Focus on implementing studies and research in rural and difficult-to-access regions, in addition to urban regions
- Moderating effects of gender, culture and financial status on patient outcomes
- Moderating effects of state of technology use and operational considerations on the success of HIT implementations
- Development of a framework considering technology readiness, security issues and other socio-technical issues for the successful implementation of HIT projects in both, organizational and non-organizational contexts
- More studies needed in rural areas to truly gauge the benefits and reach of certain HIT technologies such as M-Health and Telemedicine

More studies needed involving the use of certain HIT technologies such as M-Health and Telemedicine in times of natural disasters (such as *Hurricane Katrina*) to evaluate their use when traditional medical facilities are over-burdened or simply not available due to the environmental conditions. More studies needed with primary data from surveys and field studies to present highly accurate research conclusions, at the expense of papers with secondary data or no data (which may leave room for doubts and ambiguities).

CONCLUDING COMMENTS

Both researchers and practitioners are becoming increasingly interested in the use of information technology in healthcare, both to control costs and to facilitate sharing information across entities. This

paper has attempted to summarize the current state of research knowledge regarding the issues, challenges and findings pertaining to HIT implementations. In doing so, this paper also identified eight common categories of HIT systems, and presented the limitations of the extant literature, including the relatively small amount of primary research in the field, the paucity of studies of rural telemedicine and mHealth, and the general lack of consideration of patient outcomes in the current literature. Facts such as these, while they certainly identify gaps in our current knowledge, also provide fertile grounds for future research. Due to the transient and rapidly expanding nature of HIT, studies such as this one should be completed regularly, at least until the field matures.

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DOES COMPUTERIZED PHYSICIAN ORDER ENTRY REDUCE MEDICAL ERRORS?

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DOES COMPUTERIZED PHYSICIAN ORDER ENTRY REDUCE MEDICAL ERRORS?

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ABSTRACT

Introduction: Computerized Physician Order Entry (CPOE) is a system that allows physicians to electronically order patient services. The services that can be ordered, but are not limited to include: prescriptions, labs, x-rays, and referrals. Adopting CPOE will eliminate the use of paper orders with illegible hand writing. The purpose of this research project was to examine the cause of medical errors and to determine if adopting a CPOE system would be an effective solution to this problem.

Results: The results of this study show that CPOE can reduce medical errors and adverse drug events significantly. CPOE coupled with other systems has shown a positive outcome preventing medical errors. Some major barriers of adoption and implementation of a CPOE system is the cost associated with it and older physicians being stuck in old ways of practicing medicine.

Discussion/Conclusion: Adoption and implementation of CPOE has been growing in recent years with the HITECH Act of 2009. While preventable medical errors and ADE's continue to increase; this study will show that adopting a CPOE system can reduce medical errors and ADE's.

INTRODUCTION

The Health Information and Technology for Economic and Clinical Health (HITECH) provision of the American Recovery and Reinvestment Act of 2009 was put into place hoping health information technology would improve patient care, decrease medical errors, decrease costs, and advance the health of the population (Bloomrosen et. al., 2011). Medicare and Medicaid providers could be eligible to receive incentives once the standards have been met using a certified Electronic Health Record (EHR) for Meaningful Use (MU), (Blumenthal, 2010). The earlier the adoption the more incentives a medical clinic could make using an EHR. Medicare will pay \$44,000 and Medicaid will pay \$63,750 for the adoption and implementation of an EHR after demonstrating Meaningful Use (CMS, 2013). To make sure a facility is going to receive incentives 14 core objectives and 5 menu objectives needed to be met to demonstrate Meaningful Use (Jha, DesRoches, Kralovec, & Joshi, 2010). If medical clinics take advantage of the incentives and demonstrate MU the money that is received can help cover a huge amount of the cost.

Meaningful Use has been divided into three stages. Computerized Physician Order Entry (CPOE) use is involved in the all three stages. In the first stage CPOE needs to be used with at least 30% of patients who are eligible. This means that providers need to use CPOE to order medication for at least 30% of the patients. The next two stages would increase that percentage close to 80% of patients. CPOE use is stressed in stage one as the thought of preventable medical errors starts at the moment a provider hand writes a prescription (Jones, Heaton, Freidberg, & Schneider, 2011). With the mandate that medical facilities operate using a CPOE is underway, by the end of 2011 57% of physicians/doctors have already reported having an EHR system (Hsiao, Decker, Hing & Sisk, 2011).

In the United States (U.S) every year approximately 200,000 people die due to preventable medical errors (Andel, Davidow, Hollander, & Moreno, 2012). The physician when ordering services and prescriptions for patients initially starts most medical errors. Physicians that write out prescriptions using a paper pad often do not have legible handwriting and are not able to be read by a number of important individuals who process the prescription and prepare it for the patient. Adverse Drug Events (ADEs) are another cause of 770,000 patient injuries and or deaths a year (AHRQ, 2013). If a patient is given a drug that was not prescribed by the pharmacist who was not able to read the physicians hand writing, those patients are at risk for ADEs. The results from ADEs are patients experiencing negative reactions to drugs which can result in extended hospital stays, increased medical costs, permanent disability, and possibly death (Du, Goldsmith, Aikin, Encinosa, and Nardinelli, 2012). A solution to fix the increasing number of medical errors and ADEs is for hospitals to adopt a CPOE system. According to Jones, Heaton, Freidberg, & Schneider (2011), using a CPOE system will enhance patient safety and decrease preventable medical errors.

CPOE is a software system that can be utilized in hospitals and can remove physician hand written order legibility, remove abbreviations, and increase order speed by having physicians electronically order services and prescriptions (Cucina, 2013). CPOE systems coexist with Clinical Decision Support Systems (CDSSs) which offer additional functions for a providers use. Some functions of CDSSs include drug interaction checks, drug allergy checks, and prompts for the provider about when to order a service for a patient (Kaushal & Bates, 2013). Some CDSS's have been enabled with many different alerts for the physician to check on a patient's health. When there are so many different alerts popping up physicians can ignore them, which can be a problem especially if the alert was about a life-threatening drug that was prescribed, this is known as *alert fatigue*. Providing a tailored system to an individual facility for the type of patients the facility provides care for or a certain age group could help minimize the excess alerts and limit the number of alerts the physicians may receive (Kesselheim, Cresswell, Phansalkar, Bates, & Sheikh, 2011).

With the adoption of a CPOE system, the increased number of preventable medical errors can decrease considerably. Unfortunately, less than 10% of hospitals have adopted a CPOE system (Altuwaijri, Bahanshal, & Almehaid, 2011). Some barriers for implementing CPOE have been the significant cost to hospitals and small practices that cannot afford an EHR system and the concerns that CPOE could reduce medical errors and ADEs. At Brigham and Women's Hospital, \$11.8 million dollars was spent to cover the cost of adoption and implementation of a CPOE system. This is a large cost for any facility yet the CPOE system saved the hospital over \$28 million dollars (Kaushal et. al., 2006). The size of a health care facility is not the only factor to consider when looking at the adoption rate. Geographic areas, private or public regulation, teaching hospitals, are all factors to consider with adoption rates. Hospitals that have a higher bed capacity are more likely than smaller hospitals to adopt, this is due to the insufficient funds smaller hospitals have (Furukawa, Raghu, Spaulding, & Vinze, 2006). In an effort to help with the costs of the CPOE system implementation, incentives have been given out by the Government to facilities that adopt an EHR (GEC, 2009). On the other hand facilities that do not comply with MU and adopt a CPOE system will receive penalties by the Government which will result in lower reimbursements (Harrison & Lyerla, 2012). Starting in 2015, one percent penalties will go into effect by the Recovery Act (DHHS, 2011). The percentage will then increase in 2016 and in 2017 where it will stay at a five percent penalty (GEC, 2009).

Research Purpose

The purpose of this research project was to examine the cause of medical errors and to determine if adopting a CPOE system would be an effective solution to this problem.

METHODOLOGY

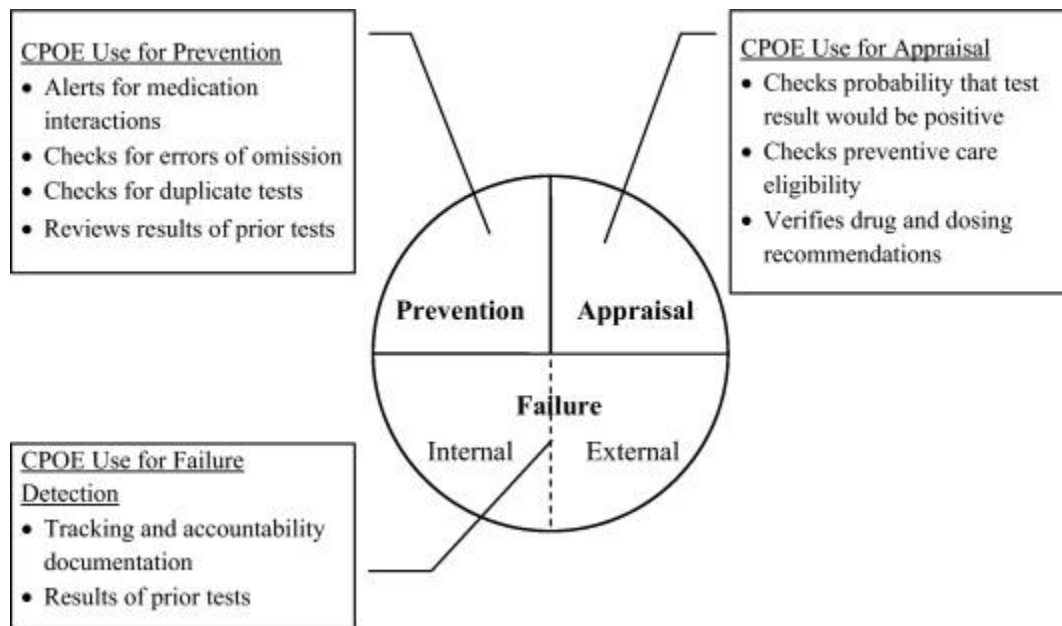
The hypothesis of this research paper was; hospitals would significantly decrease their medical errors and ADEs with the adoption and implementation of CPOE.

The methodology for this study was a literature and case studies review. The electronic databases of Google Scholar, Academic Search Premier, and PubMed were searched for the terms 'CPOE', OR 'Computerized Physician Order Entry', OR 'Meaningful Use', OR, 'Electronic Prescribing' AND 'Medical Errors' OR 'ADEs', OR 'Adoption', OR 'Implementation'. Reputable websites from the AHRQ, Health Affairs, and CMS were also used. Additionally, citations and abstracts identified by the search were assessed in order to identify relevant articles.

Attempting to stay current in research, only articles published from 2002-2013 were included in the review process. The search was limited to sources attainable as full texts, and those written in the English language. Original articles and research studies including primary and secondary data were included. The methodology and results of the identified texts were analyzed and key papers were identified and included within the research query. Thirty references were used for this study, nine of which were utilized in the results. In addition, a semi-structured interview with an Expert of CPOE systems in a hospital setting was added to the data collected (Appendix A). This Expert will be referred to as Expert in CPOE Systems within this study. The interview was recorded, and only relevant and pertinent answers were used to support the information found in the literature review.

The use of the conceptual framework by Queenan et. al. in the current study is appropriate as the focus is on prevention, failure detection, and appraisal of CPOE systems. Figure 1 depicts three uses for CPOE. CPOE is used for prevention by having alerts in the event of a medication interaction that could harm the patient. With the difficulty of providers ordering tests not knowing the patient just received the same test recently, CPOE can check a patients past history of tests given. Next is the use for failure detection, since CPOE is electronic, there exists a capability to track documentation of patients charts and prior test results. Lastly, is the use for appraisal; CPOE can check for dosing recommendations, preventive care eligibility and can check to see if a test ordered would give them positive results (Queenen et. al., 2011).

Figure 1



Source: Queenan et. al. (2011)

Figure 1. Prevention–Appraisal–Failure Conceptual Framework Model in the Context of CPOE Use.

RESULTS

Benefits of CPOE Adoption

Adopting and implementing a CPOE system has a number of benefits. Most importantly are the benefits the patient will gain from going to a facility that has made the transition from paper to electronic charts.

A medical group experienced a 70% reduction in medical errors when electronic prescribing was implemented Devine et. al. (2010). Within the same study, many benefits were noted for an independent medical group. Some of the benefits included were a decrease in patient paper charts, improvements in accessible patient information, additional coordination of care, reduction in prescription ordering by the physician, and by having total support by the organization helped the process of implementing the new system.

The Expert in CPOE Systems mentioned that one of the biggest benefits to adoption at the hospital he is employed with was the turnaround time. Providers are able to utilize electronically order entry of a service for the patient, thus resulting in faster patient care. An additional benefit the hospital experienced is instant access to patient's previous medical history.

CPOE Use for Prevention

CPOE systems can be tailored to individual healthcare facilities. Once an organization identifies its main problem, whether it is with a certain age group of patients or increased medical errors during a certain procedure, the facility can adopt a system within CPOE to help decrease the errors. In 2004, a study was performed on a Massachusetts medical center that was experiencing problems with potentially inappropriate medication with older patients. Programmers were able to develop a program within CPOE

that would alert physicians once a patient's medication order would be placed (Mattison, Afonso, Ngo, & Mukamal, 2010). The same authors explain that the study was performed and tracked before and after the new system was embedded into their CPOE system. The researchers demonstrated the alert system prevented numerous potentially inappropriate medication orders to their older patients. In addition, the use for CPOE to prevent medical errors was found to be successful at that medical facility in Massachusetts (Mattison, Afonso, Ngo, & Mukamal, 2010).

CPOE Use for Appraisal

A CPOE system has many capabilities for providers. The initial stage of a medication error begins when a provider prescribes the patient medication (Riedmann et al., 2011). Implementing a CPOE system can help clinicians and physicians have a check and balance system. Doolan & Bates (2002) reported; CPOE coupled with a CDSS can check for all drug interactions and for the recommended doses for patients with limited organ function. The authors stated, the technology can reduce medical errors and ensure appropriate tests are ordered while alerting the provider when a duplicate test has been ordered. Further, it was reported, CPOE can allow users to utilize drug references and provide specific drug recommendations for a patient.

CPOE Use for Failure Detection

In 2004, eight billion dollars was estimated to be wasted on duplicate tests for a patient (Jha, Chan, Ridgway, Franz, & Bates, 2009). Often time's patients who go to the doctor excessively might not remember what tests were performed from one doctor's visit to the next. One of many perks to implementing a CPOE system is the rewards it can offer for the patient and hospital by reducing the extra healthcare costs. Using a CPOE system, the ordering physician has instant access to a patients' electronic health record, including testing and the results of those tests (Callen, Westbrook, & Braithwaite, 2006).

Within a CPOE system interruptive or non-interruptive "pop ups" can be installed to decrease unnecessary testing. The same authors stated that "pop ups" can allow a physician to know when a test has been selected and if that patient has previously had the test performed or not. The interruptive "pop ups" can halt the physician from going any further in the ordering process, and the non-interruptive "pop ups" inform the physician but does not interfere with ordering tests (Baron & Dighe, 2011).

Barriers of CPOE Adoption

Barriers to implement CPOE systems begin with cost. CPOE systems are costly and the cost threatens small clinics while sufficient funds to adopt are not available. Another barrier to implementation is the limited function of a basic CPOE system. If the standard CPOE system is adopted and does not have any added features, for example, for increased medical error reduction, then this can become another barrier for the facility. With additional features of an integrated system, medical errors can be reduced more effectively.

According to the Expert in CPOE Systems another barrier to the implementation of a CPOE system is the hesitation by physicians to adopt because all they have known their entire medical career is how to use paper charts which has worked for so many decades, why would they want to learn a whole new way of charting electronically now. One concern physicians do have is on patient satisfaction. If the doctor goes into a patient room then they think that patients will not be satisfied by the loss of eye contact, decreased opportunity for psychosocial communication, and less sensitivity to the patient from missed nonverbal cues. This was measured by rating patient satisfaction before and after the implementation of a CPOE. The overall results illustrate there was no significant decrease in patient satisfaction (Irani, Middleton, Marfatia, Omana, & D'Amico, 2009).

One of the purposes of going electronic was the ability of providers to have easy access to a patient's medical record; also the speedy access of records was a benefit. Physicians have the ability to be at home or another office and have access to a patient's past visit with for example, a specialist. Unfortunately, some systems have a lack of interoperability with other systems hindering the physician ability to access to a patient's medical record (Yaffee, 2011). If a physician cannot access needed information it defeats the purpose of having the system.

A few studies have shown that implementing a CPOE system can do more harm than good. It is important for all health care personnel to have in depth knowledge of what a CPOE system can offer. A way to get that knowledge is researching and reading studies on the subject. If there are not many studies on the topic then those individuals will not have all the knowledge required to make an educated decision about adopting a CPOE system.

. If CPOE is going to be effective then other systems need to be integrated into it. As reported earlier one of those systems could be the CDSS's. Additionally, pharmacy and EHR systems can impact medical error reduction (Aartz & Koppel, 2009). While there are few barriers to adopt and implement CPOE none of the ones reported are significant enough to change the facilities decision about implementing such a system.

DISCUSSION

The purpose of this research was to examine implementing a CPOE system in medical facilities to reduce the number of medical errors and ADEs. The results of the literature and case studies review and the interview with an Expert in CPOE Systems have demonstrated, implementing a CPOE has positive effects on the number of preventable medical errors. This literature review supports the adoption and implementation of CPOE in most healthcare facilities.

While preventable medical errors and ADEs continue to increase, it is important for healthcare facilities to implement a CPOE system for the clinical staff and providers to utilize. A CPOE system with CDSS capability can be used to diminish individual facilities' preventable medical error rates and this is proven by this literature review. CPOE is seen as a significant technology to enhance patient safety (Aarts & Koppel, 2009). CPOE has been around since the 1970s, yet only recently has it become more popular and found to be very effective in healthcare facilities. With the recent mandate of EHR and all the incentives and penalizations a facility can receive CPOE is gaining popularity every day while as facilities try to demonstrate MU.

Limitations

This literature review was limited due to the restrictions in the search strategy used, such as the number of databases accessed, and publication and researcher bias may have affected the availability and quality of the research identified during the examination. While there are many studies focusing on CPOE, there are significant amounts of studies, which favor facilities adopting and implementing a CPOE system.

Practical Implications/ Recommendations

Out of 30 journal papers, one paper included a conceptual framework involving how CPOE could be used for different functions. The framework that was used in this research paper is one of the first literature reviews including a conceptual framework describing some of the attributes CPOE has to offer. Future research should address the importance and effectiveness of CPOE as one of the leading systems for reductions in medical errors and ADEs.

The adoption and implementation process can take a very long time. Extensive studies need to be done to make sure the most effective system for the individual organization is adopted. Training needs to be available for all authorized personnel using the system, as well as, technical support needs to be accessible at all hours of the day (Crosson et. al., 2011). Hospitals are open twenty-four hours a day and seven days a week and hospital employees need to be able to contact technical support in the event of a system error or malfunction. Once all employees are trained and ready for the change from paper to electronic forms of charting the transition process should run a lot smoother.

CONCLUSION

CPOE has been demonstrated to have a vast ability to improve the overall healthcare system in the U.S. This literature review has indicated that adoption of CPOE in hospitals and medical clinics have significantly decreased medical errors and ADEs among the population.

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APPENDIX A

Questions asked in semi-structured interview of an Expert of CPOE systems on April 25, 2013

- How is CPOE related to EHR and EMR?
- Has CPOE reduced medical errors at CHH? How?
- How much did the CPOE system cost here? Ball park figure?
- What have been the barriers to adoption so far?
- What has been the main challenge to adoption?
- What has been the biggest benefit to CPOE adoption?
- When did you adopt CPOE, how long did it take to train physicians?

LONG TERM CARE: ONLINE EXIT SURVEYS AND RETENTION

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ABSTRACT

The goals of this trial study were two fold. The first goal was to identify how long term care employee retention could be affected by investigating the data gathered from online exit surveys. The second goal was to gain a better understanding of why long term care employees voluntarily leave employment. Data from a pilot study of long-term care employees who voluntarily terminated their employment from skilled nursing facilities and their comparative reasons of why they chose to leave their employment were collected through an online exit survey. Analysis provides an early assessment of the reasons and employees' opinions. Results include statistically significant associations, using Pearson correlations. The significance of this trial data points toward the usefulness of developing retention strategies in long term care provider organizations.

Turnover is a significant fact for health care providers and is a major obstacle to continuity of quality health care.

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IMPACT OF INTERACTIVE RESPONSE SYSTEMS ON STUDENT ATTENDANCE, PREPARATION, FOCUS, AND ABILITY TO LEARN

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ABSTRACT

The use of interactive response systems, also known as clickers, has increased in higher education as a method for creating active learning environments. Use of these types of systems offer enhanced interaction and immediate feedback for instructors. It has been reported students prefer the anonymity associated with use of these devices and the immediate feedback they receive through their use.

This pilot study examined the perceptions of students from both profession specific courses and general allied health courses regarding the use of these devices in the classroom. 100 students were surveyed from three different courses regarding ease of use, impact on attendance, impact on preparation, impact of focus during class, and

effect on ability to learn.

Ninety-nine percent of students reported use of these devices as either easy or very easy. 89% either agreed or strongly agreed the use of these devices made them more likely to attend class. 89% either agreed or strongly agreed they were more likely to read/study class material in advance as a result of their use. 94% either agreed or strongly agreed the use of clickers in the classroom helped them stay more focused during class. 91% reported the use of clickers was somewhat helpful or definitely enhanced their ability to learn. 86% recommended use of the devices in future classes.

These findings support the use of interactive response systems in allied health courses as a method to encourage student attendance, heighten preparation, increase focus, and enhance ability to learn.

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TRACK

NURSING

NURSES' PERCEPTIONS ON COMMUNICATIONS, TEAMWORK, AND STRESS IN LONG TERM CARE FACILITIES

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ABSTRACT

When workers and leaders in long term care are asked about their work, it is common to hear that better communications and more teamwork would lead to less stress and a better working environment. The goals of this study were to identify how long term care nursing employees felt about communication, teamwork and stress in doing their work and to test for correlations between these concepts.

Data from long term care nursing employees (RNs and LPNs) on their comparative opinions of receiving information and being asked for their input, giving help to others and receiving help in doing their jobs, and their opinions of the stress level in their jobs were collected through an online survey. These data, as well as demographic variables, were collected using a commercially available software application to measure opinion on a 4-point Likert-type scale. Data were collected from nursing employees located in an estimated 23 skilled nursing centers with an estimated response rate of 19% resulting in a sample size of 80. Participation was anonymous and voluntary.

Two variables were used to measure perception of teamwork: how often the respondent helped others and how often the respondent was helped. Two variables were used to measure communication: how often the respondent's opinion was asked and how often the respondent was told what he/she needed to know. One question was asked to measure perceived frequency of excessive stress. Additional questions gathered information on level of education, type of nursing position, length of time worked in long term care, race, and gender.

Three additional variables were created as summated scores. The first was a "communications score" produced by adding the scores of the two communications questions numbers 6 and 7. The range of the "communications score" is 2 to 8. The second score, with the same final range, was a "help score" produced by adding questions 8 and 9. The final variable was a "team combined score" created by adding the communications and help scores which thus has a possible range of 4 to 16.

All analyses were conducted using IBM SPSS Statistics version 20.0. Kendall's tau-b correlations were calculated because of the use of ordinal variables and the prevalence of many ties in the rankings (Lewis-Beck, 1995). Kendall's tau-b ranges from -1.0 to 1.0 when each of the correlated variables has the same number of categories, but not when they differ.

Analysis provides an assessment of associations between demographic information and nursing employees' opinions. Significant results from the Kendall's tau-b correlation analysis of the study variables include a decrease in excessive stress correlated with an increase in being told what they needed to know and being asked for their input (the communications factor) when observations with extreme values of excess stress were removed from the sample.

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THE MAGNET NURSING SERVICES RECOGNITION PROGRAM: DOES MAGNET STATUS ATTRACT HIGHER HCAHPS PATIENT SATISFACTION SCORES?

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ABSTRACT

Objective. Preliminary study to test the impact of the American Nurse Credentialing Center (ANCC) Magnet Recognition Program designation on improvement in Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) clinical composite patient satisfaction scores, as well as the two global and two non-clinical items for hospitals within the Centers for Medicare and Medicaid Services (CMS) Region 7.

Design. Study identifies the hospitals within CMS Region 7 (Iowa, Nebraska, Missouri, Kansas) that currently hold the ANCC Magnet Recognition. HCAHPS clinical composite top-box scores for the four most recent reporting periods were identified for all hospitals within CMS Region 7, and scores were analyzed for statistical significance based upon whether or not the hospital had achieved ANCC Magnet Recognition.

Participants. All HCAHPS reporting hospitals within CMS Region 7 with four reporting periods of data submitted.

Interventions. The Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores for each of the four most recent reporting periods was obtained for CMS Region 7 hospitals from the Medicare.gov Hospital Compare data set.

Main outcome measures. Top-Box scores were compiled for each of the six HCAHPS clinical composites, two non-clinical items, and two global items.

Results. The six clinical composite scores, as well as the two non-clinical and two global items will be analyzed for the X respondent hospitals within the Hospital Compare data set (>95% of all hospitals within the four state region). Hospitals are coded as "Magnet" or "Non-Magnet" and appropriate statistical tests will be employed to determine significance of the Magnet designation as a significant factor in higher HCAHPS patient satisfaction scores. All HCAHPS measures were also compared to US national averages for each reporting period. Hospitals are also being identified by size, urban/rural designation, and ownership type for further statistical testing based on these independent variables.

Conclusion. Data analysis is currently underway with conclusions expected to be completed in early January 2014.

Keywords: patient satisfaction surveys, quality measurement, accreditation, quality indicators

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THE AMERICAN EPIDEMIC: THE U.S. NURSING SHORTAGE AND TURNOVER PROBLEM

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THE AMERICAN EPIDEMIC: THE U.S. NURSING SHORTAGE AND TURNOVER PROBLEM

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ABSTRACT

Introduction: Nursing shortages have been on the rise throughout the country which has continued to become a problem due to an aging baby-boomer population causing increased turnover through the United States (U.S.). With this need for nurses expected to rise, determining the root causes of this problem are essential for health care providers as costs continue to grow.

Methods: The methodology for the qualitative study was a literature research review of case studies as well as a semi-structured interview. Five electronic databases were mined. Thirty-six articles were utilized in this study.

Results: Through the use of a conceptual framework the root problems of the nursing shortage and what leads to nursing turnover were evaluated. These studies were based on; aging of nurses, patient demographics, insufficient staffing, a lack of experience, nursing schools, and salary problems to be potential links to increased turnover and overall shortages within the U.S.

Discussion/Conclusion: Evaluation of these study problems determined a positive correlation towards both the nursing shortage and to turnover of nurses in health care organizations. These issues established that negative job satisfaction leads to turnover, which leads to the overall nursing shortage problem facing the U.S.

INTRODUCTION

In 2012, The Bureau of Labor and Statistics released their findings for projected employment growth between 2010 and 2020. This report shows that the expected need for Registered Nurses (RN's) will rise from 2,737,400 to 3,449,300, which is an increase of 26% (Bureau of Labor Statistics, 2012a). This increase in the need for RN's can be attributed to the rise in the baby-boomer population. With the recent surge of citizens of "baby-boomers" turning 65 at a rate of almost 10,000 persons a day which total 79 million people or 26% of the total population it has become very apparent for the amplified need in RN's to facilitate this ever growing need by this demographic (Barry, 2011). In 2008, the American Health Care Association (AHCA) released results from its study completed in 2007 that 110,000 direct-care staff positions were vacant which was at the time one in six of registered nursing positions but qualified skilled candidates were not available to fulfill the required need (AHCA, 2008). The ACHA also reported that this need to fulfill this empty positions will continue to rise and the amount of vacancies present will also continue to increase which by 2025, the shortage of RN's will rise to over 260,000, which would be twice as many as the United States (US) experienced in the 1960's (AHCA, 2008, Rosseter, 2012;).

Turnover is defined as the movement of employees from being hired to leaving the current position voluntarily and not staying with the organization (Reference.com, 2013). The increase of turnover has been associated with avoidable turnover, which is the result of the organizations inability to keep the employee in the organization, which has been estimated to be at a rate of 64% compared to 36% of turnover considered to be unavoidable due to marriage, pregnancy, and other life events (Booyens, 2007). Several factors have been given to explain the cause of the nursing turnover and lack of available skilled

nurses within the U.S.; job dissatisfaction, RN age increases, demographic changes in patients, insufficient staffing, recent turnover, and supervisor control have been the major links to this continuing problem that is occurring within the healthcare industry involving nursing staff (Rosseter, 2012; Strachota, Normandin, O'Brien, Clary, & Krukow, 2003). Having such high turnover has been a growing problem for healthcare providers and is causing increased expenses and draining financial assets for every open position within a facility, with an estimated \$10,000 to \$60,000 cost per vacancy depending on the specificity of the nursing position (Cleary & Rice, 2005). Over 80% of the total expense comes from the vacancy within the staff and the lost productivity by the organization to cover the duties of the missing employee (Strachota, et al., 2003).

To compound the situation of nursing turnover; the inability to educate nurses is another factor in the lack of available nurses. In 2009, 21% of people would consider becoming an RN as their career profession with only one in ten males viewing it as a possible career choice and in 2006, nursing schools denied 41,683 applications into bachelorate degree nursing programs with the major reason cited as lack of faculty being the issue at 74% (Fox & Abrahamson, 2009).

Research Purpose

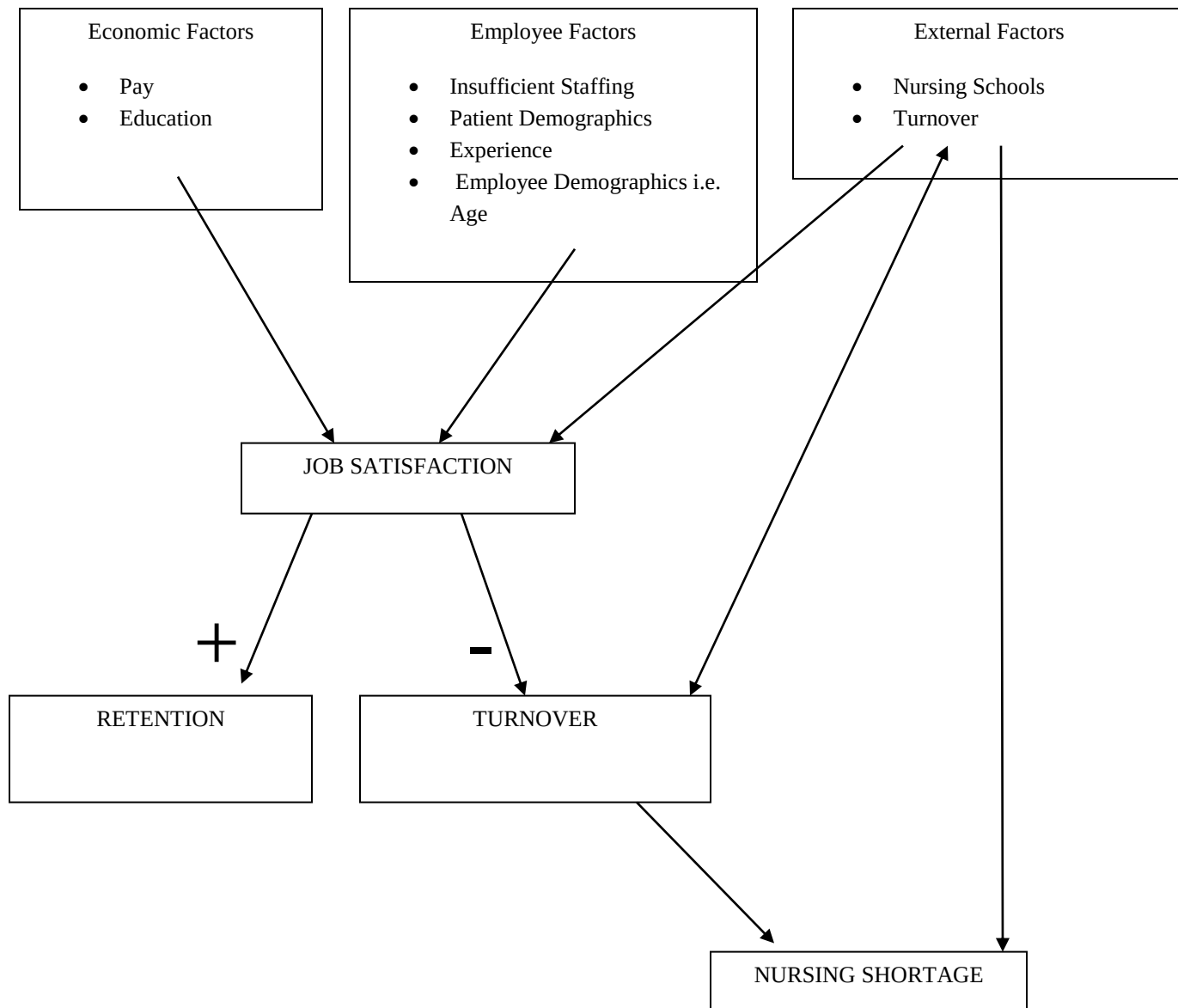
The primary purpose of this research was to determine the root problems of nursing turnover and, to assess what factors are driving the nursing shortage issue facing the U.S.

METHODOLOGY

The primary hypothesis of this research was: the nursing shortage problem is growing due to high turnover and low levels of nursing school graduates. A secondary hypothesis was: dissatisfaction in the workplace is leading to greater turnover by nurses currently in the field.

The methodology for this study was a literature review. The electronic databases of PubMed, EBSCOhost, Academic Search Premier, ProQuest, and Google Scholar were searched for the terms 'nursing turnover' or 'nursing shortage' or 'healthcare turnover' and 'job satisfaction' or 'nurse retention' or 'shortage.' Reputable websites of the American Association of Colleges of Nursing, the American Medical Association, the American Health Care Association, and the Center for Disease Control were also mined. The search was limited to articles published between 2000 and 2013 in the English language. Original articles, reviews and research studies including primary and secondary data were included. Relevant articles were selected after review of the abstracts was preformed. Thirty six resources were selected for this research. The literature search was conducted by PC and validated by AC. Further, a semi-structured interview with expert human resources professional whom well versed in issues facing nurses and employment of nursing professionals being the Vice President of Human Resources (HR) for a 1200 bed facility in the Mayo Clinic Care Network. This professional will be referred to as Expert in HR throughout the review (Appendix A). This interview was recorded and only pertinent information was used for this literature review. A conceptual framework was adapted from Coomber and Barriball (2007)

Figure 1: Driving Factors that Lead to Nursing Turnover and the Nursing Shortage: Conceptual Framework



Source: Adapted from (Coomber & Barriball, 2007)

Figure 1 depicts three major factor categories that lead to job satisfaction, which is either positive or negative leading to retention or turnover of the nursing staff. External factors and negative job satisfaction leading to turnover are the drivers of the nursing shortage issue facing the U.S.

RESULTS

Aging Nurses

The average age for nursing staff is growing at an increased rate. In 2004 the average age was 46.8 years old and grew to 47 years of age in 2008 (Buerhaus, Staiger & Auerbach, 2008). As providers are starting to age, those over the age of 50 make up 44.7% of the total healthcare staff population in 2008 which has rose from just 33% in the year 2000 and average almost 43.7 hours of work per week (U.S. DHHS, 2010). Higher percentages of nurse professionals who are ageing primarily those over the age of 50

work in nursing homes, academic education programs, and the home health setting; and are more likely to stay with their same employer from year to year as compared to the younger generation of nurses which are more likely to move to different settings as providers age (U.S. DHHS, 2010).

Several issues that arise with an aging workforce is the increase the retirement of these well skilled nurses. Chronic pain, tiredness, exhaustion have been identified as major stressors to this aging staff who have been dealing with increasing pressure due to high work demands and nursing shortages (Gabrielle, Jackson, & Mannix, 2007). In 2009, the cost of losing nurses especially those from the ageing population with their experience in the field cost the healthcare organizations between 1.2 and 1.3 times the annual yearly salary or about 5% of the total budget of healthcare providers (Palumbo, McIntosh, Rambur, & Naud, 2009). The combination of these stressors and increase in ageing suggest in the increased need for older nurses in the workplace, and require managerial recognition and to change the delivery to fit the health needs of its ageing nursing population (Gabrielle, et al., 2007).

Patient Demographics

As the population of the U.S. and the baby-boomers generation reaches 60 years and older, the ratio of nurses to the elderly population is decreasing by an average of 40% between 2010 and 2020 due to the increased age of the U.S. population and the nursing population decreased due to high rates of turnover (University of Illinois College of Nursing, 2001). The ratio of baby boomers aging from 50 to 65 to a population age of 85 and older decreased from 11 to 1 in 1996 to an estimated 4 to 1 by 2050 (Stone & Wiener, 2001). With the changing population, and a majority of the population turning 60 by 2020 changes will have to occur in order to affectively aid and help the new demographic in the U.S. that will have more long-term conditions than ever before (Kinnair, 2012). The long term conditions such as dementia care, requires specialized training and has been often left out of general nursing education, which requires the need for continual practice which after nurses receive it, is difficult for healthcare providers to keep such trained employees due to the salary requirements (Kinnair, 2012).

The recent recession affecting the U.S. over the past five years has temporarily slowed down retirement by nursing professionals, but in 2010 it was expected that 14.2% of nurses were planning to retire (Healthcare Association of New York State, 2010). With the new current national healthcare reform known as 'ObamaCare' will create greater access to healthcare services from the ageing population and those over the age of 60, which will cause increased need for nurses to provide more treatment to this demographic of patients (Healthcare Association of New York State, 2010).

Insufficient Staffing

Due to the decreased staffing of nurses, because of high turnover of nurses and retirement, it is becoming more difficult for current active nurses to affectively provide quality patient care to their patients. If nurses are required to service more patients due to a lack of staffed nurses it has been shown to increase infection rates in hospitals (Cimiotti, Aiken, Sloane, & Wu, 2012). With decreases in disease control, due to insufficient staffing within hospitals, the inability for patients to receive proper treatment are continuing to become more difficult as exposure to infectious diseases have been increased between 50% up to 200% due to possible needlestick injuries and near-misses, which occur an estimated 400,000 to 600,000 times annually nationwide, due to amplified fatigue because of an increased patient load (Stone, Clarke, Cimiotti, & Correa-de-Araujo, 2004). In addition, 88% of nurses have reported safety concerns with 75% observing a decrease in patient care due to work stress, overworking, and concerns about health with over 60% fearing back injuries, and 45% fearing HIV or hepatitis due to needlesticks (Stone, et al., 2004). Also it has

been found that workgroup learning was lower with hospitals where turnover rates were between 3.3% and 4.5% compared to hospitals with 0% turnover as an organization (Bae, Mark, & Fried, 2009).

In 2005, it was found that 75% of nurses believed that the nursing shortage presented a major problem for the quality of life and a quality work life, due to an increased amount of time spent with an increased patient load because of the high turnover and retirement of ageing nurses (Buerhaus, Donelan, Ulrich, Desroches, & Dittus, 2007). The nurses surveyed about the increasing shortage of nurses available to serve patients 98% stated an increased stress on their nursing career, 93% an impending lowering of quality care towards patients, and 93% mentioned it as a reason to leave the profession (Buerhaus, et al., 2007). It has been estimated that the need for nurses will rise from the year 2000 nursing staff requirements to between 500,000 to 800,000 by the year 2020 with an additional to many nurses retiring due to age (Aiken, 2005). Due to increased patient load due to low staffing, for each patient that is added to the nurses current high workload, nursing burnout rised by 23% and job dissatisfaction rised by 15% for each nurse on staff which led to increased turnover of nursing staff (Aiken, 2005).

In 2007, it was found that 13% of newly licensed nurses after the first year of working had left their original job and over 37% felt a strong desire to change jobs due to long hours, overworking, stressful situations, and understaffing (Kovner, et al., 2007). Also in 2005, the average RN turnover rate was 13.9% , and a 16.1% vacancy rate in hospitals which an average cost-per-hire totalling \$2,821 per nurse (Bernard Hodes Group, 2005).

Lack of Experience

While many nurses positions are open the inability for healthcare providers to hire qualified nurses has become a growing issue. The major job requirement that has withheld many potential applicants to apply for open nurses positions are the words, “No New Graduates” (Kurtz, 2013). Due to the recession healthcare organizations are seeking nurses who are much higher qualified than previous since there are fewer nurses who have the years of expereinced desired by the healthcare organizations, because these organizations no not want to spend the additional funds to train new nurses (Staiger, Auerbach, & Buerhaus, 2012). In 2011 36% of new nurses who have graduated were still unemployeed four months after they have graduated; as 80% of healthcare organizations were hiring nurses with experience instead of new graduates (Jannetti, 2011). This problem has been even higher in California with 47% of all new graduates within the state with a nursing degree are unemployeed as 51% of nurses who were working part-time now working in full-time positions (Jannetti, 2011).

Nursing School

It has been reported that by 2020, 3.4 million nurses will be required from the current level of 2.7 million in 2010; almost 764,000 of these positions will be Certified Nurse Assistants (CNA), (Bureau of Labor, 2012b). This high number of CNAs could be a direct result of the lack of graduate nursing programs, with graduate nursing programs turning away 37,412 qualified applicants in 2004 (Siela, Twibell, & Keller, 2008).

With over 32 million more American’s gaining access to healthcare due to the ‘ObamaCare’ provisions, an increase of 5.1% enrollment in entry-level nursing school programs in 2011 was not sufficient to meet the upcoming demands that are facing the healthcare industry with over 50,000 new graduates leaving nursing school only 24% of those graduating had job offerings upon the time of

graduation (Jannetti, 2011). The goals established by the Institute of Medicine in 2011, has called for over 80% of the nursing workforce to hold baccalaureate level degrees by 2020 will not be achieved due to the driving need for specialized care of the new patient demographics (American Association of Colleges of Nursing, 2011). The major driver causing a shortage of nurses has been the inability for nursing schools to accept all those qualified for entrance into nursing school with over 78,587 applicants turned away from nursing schools in 2011; due to insufficient faculty and budget constraints being the biggest two factors (American Association of Colleges of Nursing, 2011).

In 2002 it was shown that was a 12% lacking of nursing educators needed to fulfil the requirements due to unfilled faculty positions, retirement, and the lack of preparedness of students applying for entry-level nursing education programs (Southern Regional Education Board, 2002). The inability for nursing schools to accept new students into their nursing programs has made it extremely difficult and with nursing schools reaching capacity each term and even accepting more than the schools can hold, in 2004 nursing schools in the state of New Jersey were over capacity by 42% which denied 1,621 qualified applicants into the programs throughout the state, makes it difficult on staff to properly education their students (New Jersey Collaborating Center of Nursing, 2004).

Salaries

During the 1980's and early 1990's nurse salaries were rising on an average of 3% each year but since 1997 a drop of 17% (Peterson, 2001). Basic nurse salaries average \$60,700 with the lowest 10% averaging \$40,000 and the highest 10% averaging \$83,400; yet most of the providers who are compensated in the higher 10% are in management positions (Online Nursing Degrees, 2013). Since 2000, those providers who are working for unionized hospitals have been able to negotiate a 3%-5% increase in wages (Peterson, 2001). However in 2002, it was found in the state of New York 45% of nurses viewed the primary reason for dissatisfaction was salaries and compensation (Online Nursing Degrees, 2013).

DISCUSSION

The purpose of this research was to examine the root problems of nursing turnover and to assess the factors driving facing the nursing shortage within the U.S. The results of the literature review and the conformation of data in real world applications with an expert in the field demonstrated that the nursing turnover problem and the nursing shortage within the U.S. is multi-faceted.

With the factors an aging nursing population seeing an increase in retirement by nurses will only increase, the changing demographics of the U.S. population; specifically the "baby-boomer" population reaching retirement ages and require increases in need for the healthcare system, insufficient staffing has lead to higher stress and greater workloads. The Expert in HR specifically expressed that often nurses describe the need to more nurses to ease the patient workload and relieve the strains of the day to day work within the healthcare system. As healthcare organizations try to face the issues facing nurses such as insufficient staffing and the lack of experience of the nurses that are desired by the organizations, the costs of hiring and retaining nurses lead to both issues. To change these problems costs need to be reduced and more training needs to be available to those nurses who seek more education and to reach the qualification levels desired by hospitals. When nurses are able to have the levels of education and experience needed to provide proper care to patients it will be almost impossible for healthcare organizations to hire nurses and paid them according the levels appropriate for the position (Expert in HR, 2013).

Possible solutions to many of the problems have arisen from increased education, fellowship programs similar to those for doctors, monetary incentives by healthcare organizations for education, legislation initiated by state and federal government, and web-based training for continual medical education (Expert in HR, 2013). While these are possible affective solutions for the problems in nursing, the issue that will always face healthcare providers is the overall costs that will occur in implementation of these possible programs. Without assistance from state and federal government, little to no ground will be made in fixing this growing problem.

Limitations

Limitations for this literature review were possible publication bias, researcher bias, the number of databases used, the number of sources examined, and the time given to examine the topic. Also further and continued research needs to be performed to track trends and to understand if issues change over time.

CONCLUSION

High turnover of nurses and the nursing shortage within the U.S. have caused constraints to the healthcare system and limited proper care to patients. This literature review has indicated that the problem of increased turnover and the shortage of nurses have many different facts or topics that result in the overall problem. The need for continued research is necessary in order to further understand this growing problem within the U.S.

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Appendix A

Expert in Human Resources Interview Questionnaire

VP of Human Resources for 1200 Bed Facility within Mayo Clinic Care Network

1. How difficult is it to hire qualified nurses?
2. How much money is spent in order to hire a qualified nurse?
3. Is turnover an issue in your facility? Why?
4. How important is the nursing staff to the organization?
5. Do you believe nursing schools are a factor in ability to hire qualified nurses?
6. How many positions are currently open for nurses in your facility?
7. Do you see any solutions to the nursing shortage?

TOWARDS IMPROVING RURAL HEALTHCARE SERVICES: A COLLABORATIVE INTER-DISCIPLINARY EDUCATION APPROACH

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TOWARDS IMPROVING RURAL HEALTHCARE SERVICES: A COLLABORATIVE INTER-DISCIPLINARY EDUCATION APPROACH

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INTRODUCTION

While some claim that our healthcare system is among the finest in the world, many argue otherwise. In recent years, the cost of U.S. health care has been out of control. Despite the rising expenditure on health care, the public is not happy with the performance of the system. In context, countries such as Sweden, which spend far less on health care than what is spent in the USA, still have citizens who are more satisfied with their health care. This spinning out of control cost of U.S. health care system could be attributed to several factors. These include, among others, newer technologies, increasing demand of aging population, and increasing cost of malpractice.

While politicians debate the issue and attempt to address the health care concerns, patients, or potential patients, are expressing their discontent with efficacy, quality, and services they receive from a troubled health care system. Politicians are blaming each other and insurance companies, with new disagreements resulting. On the other hand, the health care community is blaming the government and insurance companies. The obvious losers in this blame game are the average citizens, who are left with many questions and few practical answers.

The illnesses of the American health care system are even more evident in rural areas. Most citizens of these areas are unemployed, uneducated, and definitely underserved in their health care needs. According to Lee, Hayes, McConnell & Henry (2013), these challenges include persistent poverty, low levels of education, premature mortality, and high levels of chronic and acute illness (Lee, Hayes, McConnell & Henry, 2013, p. 45). Other challenges include distance from health care facilities and lack of community resources. For the majority of these citizens, preventive care is nonexistent. They rarely see the

doctor, in some cases, only in the Emergency Room. In such cases, maintaining existing state of health, rather than preventive care, becomes the priority.

PURPOSE

The purpose of this research is to present an innovative approach used in Northeast Tennessee to promote better health care in the community. This approach is especially aimed at rural parts of the Appalachian region, by utilizing the joint expertise of inter-professionals health care students. According to the World Health Organization (2010), "Inter-professional education occurs when students from two or more professions learn about, from, and with each other to enable effective communication and improve health outcomes (WHO, 2010, p. 7). Students from East Tennessee State University participating in this initiative include nursing, medical, pharmacy, nutrition, speech and physical therapy, and public health students. This inter-professional education program joins students together to discuss and initiate projects aimed at improving availability, services, and accessibility to citizens of the rural areas. This approach capitalizes on the synergy which exists among these health care professional students to educate and increase the awareness of members of the community of health care options, especially the role of preventive health care.

The inter-professional education approach is dynamic, as it is designed to include volunteer students as they become available. Furthermore, it is flexible, as it attempts to reach out to more communities. Despite its multifaceted efforts, education and increased communication between health care professionals remains the main goal of this group. The lack of education in these communities can lead to abuse and misuse as the following example illustrates.

At a recent inter-professional program, we discussed a case study of a 55 year old male with chronic back pain due to an injury. This patient was on prescription narcotics and lives in the rural area around the Appalachian Mountains. He was being prescribed narcotics by his primary care provider, physician at the pain clinic, and the emergency room physician. His brother and father were arrested for possession and sale of narcotics. To make the case more complex, the patient recently told his psychiatrist that he had thoughts of suicide with no active plan, and the psychiatrist could not get in contact with the patient's primary care provider to discuss this patient's case, despite trying to call the office on more than one occasion. This is just one example that illustrates our broken health care system. Discussion amongst the health care students led to the conclusion that lack of communication between health care providers is one of the problems contributing to the failing health care system.

While the interdisciplinary education health care approach proposed in this research will not cure the illness of the American health care system, it represents a modest step toward the elusive solution to the problem of our health care system. As a healthcare student member of the team utilizing this approach, my completed paper will be ready at the meeting in March.

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TRACK

PHYSICAL THERAPY

USING ASTYM TO REDUCE HEALTHCARE COSTS ASSOCIATED WITH PLANTAR FASCITIS

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ABSTRACT

Plantar fasciitis is prevalent amongst individuals in the United States, with over two million acquiring the condition every year (Tong & Furia, 2010). Many of these individuals seek medical help to receive medication and physical therapy to reduce their pain and speed up the recovery process. The influx of patients seeking healthcare has created a great financial stress on third-party payers costing them an average of \$284 million a year (Tong & Furia, 2010). Oftentimes, conservative physical therapy methods are used to treat the patient. Treatment methods that were found to be beneficial include: manual physical therapy with exercise, eccentric strengthening, and plantar fascia specific stretching (Cleland, Abbott, Flynn, Kidd, et al., 2009; Sweeting, Parish, Hooper, & Chester, 2011; Wasielewski & Kotsko, 2007). However, the lack of a standardized treatment protocol can cause the recovery from plantar fasciitis to be a prolonged experience. The use of Astym, a soft tissue mobilization technique, along with eccentric exercises in the treatment of achilles tendinopathy was found to heal the condition in less time than normally observed (DiGiovanni, Nawoczinski, Malay, Graci, et al., 2006; What is Astym?, 2012). It can be speculated that a decrease in rehabilitation time and healthcare costs for treating plantar fasciitis could be accomplished with a standardized treatment protocol using Astym. Additionally, standardization of treatment protocols for other soft tissue injuries could also prove beneficial.

INTRODUCTION

Plantar fasciitis is a prevalent condition amongst individuals in the United States and is considered to be the most common cause of inferior heel pain (Roxas, 2005). It has many other names such as, painful heel syndrome, heel spur syndrome, plantar heel pain syndrome, runner's heel, subcalcaneal pain, calcaneodynia, and calcaneal periostitis (Roxas, 2005; Stuber & Kristmanson, 2006). As its name suggests plantar fasciitis affects the plantar fascia, also called the plantar aponeurosis, which is connective tissue that runs along the sole of the foot from its origin at the calcaneus to its insertion at the metatarsal heads (Brook, Dauphinee, Korpinen, & Rawe, 2012; McNally & Shetty, 2010). The purpose of the fascia is to support the longitudinal arch of the foot and help with re-supination, or the avoidance of excessive pronation during the gait cycle (Brook et al., 2012; McNally & Shetty, 2010).

According to its name plantar fasciitis by definition means an inflammation of the plantar fascia (Lemont, Ammirati, & Usen, 2003; Stuber & Kristmanson, 2006). However, research done by Brook et al. (2012), Lemont et al. (2003), and Roxas (2005) has unearthed that not all cases of plantar fasciitis present with inflammation, but it is more of a degenerative process that is caused by microscopic tears in the collagen. A new term is now being coined to replace plantar fasciitis called plantar fasciosis, meaning pain along the fascia (Lemont et al., 2003; Roxas, 2005). This research becomes important when a clinician is treating a patient with plantar fasciitis, so they keep in mind to not always treat the condition as simple inflammation.

Common complaints of plantar fasciitis include patients having a gradual onset of pain and stiffness on the plantar surface of the foot beginning in the heel and working its way to the metatarsal heads (Shultz, Houghlum, & Perrin, 2010). The most common complaint will be significant pain when getting out of bed in the morning or when standing following a prolonged period of sitting (Schultz et al., 2010; Starkey, Brown, & Ryan, 2010). The pain is due to the stiff and damaged tissue being stretched when the first steps are taken and could either be described as sharp or dull along the fascia (Chandler & Kibler, 1993; McNally & Shetty, 2010). However, most patients will report the pain subsides or lessens after they have been active, but it then increases again as activity continues for longer durations. The pain can continue once the activity has stopped (Cleland et al., 2009; Schultz et al., 2010; Starkey et al., 2010). Another symptom will be pain when direct point pressure is placed onto the medial calcaneal tubercle of the heel (Schultz et al., 2010).

Traditionally, plantar fasciitis was believed to be an inflammatory disorder. However, research has revealed that plantar fasciitis may be more of a degenerative process (Cleland et al., 2009; Lemont et al., 2003; Roxas, 2005). Much of the literature describes it as being multifactorial associated with excessive foot pronation, an increased body mass index (BMI), decreased ankle dorsiflexion, pes planus, pes cavus, greater occupational limb stress, reduced calf endurance, leg length discrepancies, muscle strength imbalances, improper training, overexertion, increase in age, and improper footwear (Allen & Gross, 2003; Chandler & Kibler, 1993; Irving, Cook, Young, & Menz, 2007; Lemont et al., 2003; Roxas, 2005; Scher, Belmont, & Owens, 2010). Many factors accompany this condition and exacerbate it making it hard to define any etiologic factor for a given patient. However, the individual's age and activity level are commonly associated with specific factors such as overuse and training errors. Whereas, in the elderly population it is suggested that it arises from poor intrinsic muscle strength, an acquired pes planus, and their decreased ability to heal (Roxas, 2005).

The repetitive tensile forces placed on the fascia from the previously mentioned risk factors cause it to develop micro-tears. This tearing could be a secondary result of the functional shortening of its tissues (Irving et al., 2007; Starkey et al., 2010). Starkey et al. (2010) described that after a period of time the gastrocnemius and soleus will become tight leading to a decrease in dorsiflexion and additional stress placed onto the fascia. Wearing, Smeathers, Sullivan, Yates et al. (2007) study found subjects with unilateral plantar fasciitis had plantar fascia which was thicker on the symptomatic limb when compared to the asymptomatic limb (Wearing et al., 2007). Thus, a positive correlation of fascial thickness to pain, arch angle, and midfoot loading was found (Wearing et al., 2007).

PREVALENCE AND ECONOMIC IMPACT

Over two million patients are treated for plantar fasciitis every year, making it the most common cause of heel pain (Tong & Furia, 2010). Approximately 10% of the United States population is at risk of acquiring the condition within a lifetime (Tong & Furia, 2010). According to a six year study by Riddle and Schappert (2004) the estimated annual number of patient visits to physician offices and hospital outpatient offices in the United States is approximately 1,005,000 for plantar fasciitis. Visits in the United States per year for patients with plantar fasciitis without other musculoskeletal disorders are around 818,000 (Riddle & Schappert, 2004). Data collected from the six years showed that 94% of the visits were to office-based physicians and 6% were to hospital outpatient departments (Riddle & Schappert, 2004). To expand on the research collected by Riddle and Schappert, Tong and Furia (2010) estimated the national economic burden of plantar fasciitis. They approximated that the annual economic burden for ambulatory care visits are on average \$41 million (Tong & Furia, 2010).

Often during the ambulatory visits medication is prescribed. Pain medication was cited at being prescribed at 46.6% of the visits, with NSAIDs being the most frequent, correlating to costing between \$149 million to \$360 million (Riddle & Schappert, 2004; Tong & Furia, 2010). Along with medication exercise counseling/education and physical therapy were recommended treatments for those suffering with plantar fasciitis. Exercise counseling was provided at 26.2% of ambulatory visits while physical therapy was provided or ordered at 18.8% of visits (Riddle & Schappert, 2004). Estimated annual costs in the United States associated with plantar fasciitis include \$10 million for exercise counseling and \$8 million for physical therapy (Tong & Furia, 2010). The identification of effective treatment methods to decrease pain and improve functional ability at a quicker rate would be able to decrease the costs associated with this condition.

TREATMENT METHODS

The treatment options are typically conservative as opposed to surgical. Conservative treatment may consist of modifying the patient's activity level, weight loss if necessary, and NSAIDs. Rest and avoiding the activities that increase the pain is the first option in treating any overuse injury, and is one of the most effective at relieving symptoms. This is easier in other parts of the body and not always a realistic option at the foot. A better option would be to modify the patient's activity level so they can still be active in a controlled manner, which will prevent them from working through the pain. Weight loss can also be advised if the patient is overweight, thereby relieving pressure off the heel. The use of NSAIDs such as aspirin, ibuprofen, and naproxen is generally recommended and prescribed for almost half of the patients to temporarily resolve symptoms (Tong & Furia, 2010). Additional conservative methods can include electrophysical agents, stretching and strengthening, or the use of Astym (Roxas, 2005).

Numerous treatment methods are used as a trial and error process to relieve plantar fasciitis leading to the disorder not being treated in a consistent way (Riddle & Schappert, 2004). Lack of consistency can lead to longer rehabilitation and/or disability periods, meaning more time and money is being spent. Data that Riddle and Schappert gathered over two years in a post hoc analysis found that 65% of their subjects made multiple revisits to a clinic or physician for the same problem (Riddle & Schappert, 2004). Plantar fasciitis symptoms are considered to resolve on their own within 12 to 18 months (Davies, Weiss, & Saxby, 1999). Davies et al. (1999) approximated that 5% will have persistent and even disabling symptoms, while Tong and Furia (2010) suggests that 20% to 30% of patients will develop chronic plantar fasciitis. Despite the expectation the condition will supposedly run its course, the costs to treat its symptoms during that time frame are still significant. Tong and Furia (2010) factored the national economic burden of plantar fasciitis to be on average \$284 million (minimum \$192 million and maximum \$376 million) with 80% of that cost to be from medication.

In order to find effective treatment methods a randomized clinical trial was performed by Cleland et al. (2009) to determine the effectiveness of two types of conservative treatment approaches; manual therapy and exercise as opposed to therapeutic modalities and exercise. Sixty subjects, each having been diagnosed as having plantar fasciitis, were assigned into one of two groups manual physical therapy and exercise or electrophysical agents and exercise (Cleland et al., 2009). Based off outcome measures completed at baseline, four-weeks, and six-months an analysis of variance (ANOVA) suggested that both groups experienced improvement with time (Cleland et al., 2009). However, the manual physical therapy and exercise group demonstrated greater benefits in terms of function (Cleland et al., 2009). These results support the use of manual therapy along with therapeutic exercise as an effective treatment option.

Since plantar fasciitis is a chronic degenerative condition regaining the strength in the intrinsic muscles of the foot is an important component of rehabilitation. Concentric strengthening is often recommended. However, because much of our activities throughout the day are performed during the muscles' eccentric phase of loading, focusing on that type of strengthening could be beneficial.

In the study by Wasielewski and Kotsko (2007) a database literature search of randomized controlled trials was performed, focusing on the effectiveness of eccentric exercise for lower extremity tendinosis, a chronic degenerative tendon injury. The systematic review consisted of eleven studies that were compared to one another. A PEDro criterion assessed the trials for methodologic quality. Specific data was extracted and assessed from each trial involving pain and strength outcomes, characteristics of the treatments, the amount of physical activity allowed during rehabilitation, and variables involved with the eccentric exercise protocol (Wasielewski & Kotsko, 2007). The results suggested eccentric exercise would improve strength and decrease pain, however the authors state the evidence is currently insufficient to provide a definite answer regarding superiority of treatment options (Wasielewski & Kotsko, 2007).

One of the reasons why the plantar fascia develops microscopic tears along its length and causes pain is due to the fascia being stretched passed its limit after a prolonged period of rest. What occurs is that as an individual rests or is non-weight bearing the plantar fascia relaxes into a shortened positioned because the normal resting position of the foot is plantar flexion. Once that individual stands up and places weight on the extremity the foot moves into dorsiflexion which puts the fascia on stretch creating stress and tension. Due to the fascia being chronically shortened, a sudden stretch can disrupt the normal layout of the fascia resulting in microscopic tears.

Based off of this background information, stretching should be incorporated into a rehabilitation protocol. Sweeting et al. (2011) published a systematic review of literature regarding the effectiveness of manual stretching for the treatment of plantar heel pain. From the six studies reviewed there were 365 symptomatic subjects, and the PEDro scale was utilized to evaluate the methods quality for the studies (Sweeting et al., 2011). The results from the study with the highest PEDro rating found that stretching did not provide any additional benefit than a controlled intervention (Sweeting et al., 2011). However, according to a particular study comparing stretching techniques, stretching the plantar fascia in a non-weight bearing position was significantly more effective than Achilles tendon stretching in weight bearing (Sweeting et al., 2011). The inclusion of plantar fascia specific stretching into the treatment protocol for plantar fasciitis may elicit better pain relief than only performing Achilles tendon stretching (Sweeting et al., 2011).

Similar to the trial performed by Sweeting et al. (2011), DiGiovanni et al. (2006) conducted a randomized, prospective clinical trial which took a sample size of 82 subjects through either a plantar fascia stretching protocol or an Achilles tendon stretching protocol. All subjects entered into an eight-week program, after two years a follow-up evaluation occurred. The follow-up evaluation consisted of a questionnaire of the Foot Function Index to assess outcomes related to pain, function, and satisfaction with

treatment (DiGiovanni et al., 2006). Next, the data collected from the 66 subjects that completed the study was analyzed using a mixed-model analysis of covariance (DiGiovanni et al., 2006). What was found was that the study supported a tissue-specific plantar fascia stretching protocol for chronic plantar fasciitis (DiGiovanni et al., 2006). The long-term benefits that were found with this treatment were its ability to decrease pain and functional limitations while receiving a high patient satisfaction rate (DiGiovanni et al., 2006). Furthermore, it can be seen that subjects in both research trials, by Sweeting et al. (2011) and DiGiovanni et al. (2006), had significantly greater benefits with a stretching protocol focused primarily on the plantar fascia.

The conservative therapy options for treating plantar fasciitis are numerous and the results of the treatment can vary. Treating this condition can be a trial and error process with a lack of consistency of results for treatments and can have no set protocol defining the treatment path. A relatively new treatment option called Astym is rapidly gaining popularity as a form of conservative therapy for chronic, overuse, and degenerative tissue disorders by its ability to decrease the time a patient is affected by the condition and increase success rates (What is Astym?, 2012).

ASTYM

With a high prevalence of plantar fasciitis and many individuals seeking medical treatment the costs for these treatment options and its burden on third-party payers is significant. This significance makes it imperative the management of the condition be cost effective. However, managing plantar fasciitis can encompass a wide range of therapy options with varied success rates and no standardized treatment protocol. Astym, a relatively new treatment option, is rapidly gaining popularity for treating soft tissue problems because it is able to decrease the time a patient is affected by the condition and increase success rates.

Astym is an augmented soft tissue mobilization technique that has been growing in popularity over the past several years. It is a noninvasive technique that uses specific instruments ran firmly along the skin following the direction of the muscle, tendon, and/or ligament to mobilize the soft tissue by disrupting abnormal scar tissue (Wilson, Sevier, Helfst, Honing, & Thomann, 2000).

Astym is used for treating soft tissue problems involving scarring, fibrosis, and degeneration (What is Astym?, 2012). It is often employed when other conservative methods fail to effectively eliminate or reduce pain. A certified Astym provider will utilize specifically designed instruments to apply pressure along the direction of the underlying tissue (McCormack, 2012). The instruments will break apart the abnormal tissue adhesions to stimulate healing at the cellular level secondary to increased fibroblast recruitment and activation (McCormack, 2012).

Stretching and strengthening are incorporated with Astym treatment. Stretching will aid in aligning the soft tissue fibers, to avoid re-occurrence of trauma (What is Astym?, 2012). Strengthening will make the fibers stronger and decrease risk of re-injury (What is Astym?, 2012). Remaining active throughout therapy is recommended to encourage tissue remodeling to support the client in their activities (What is Astym?, 2012). Studies have demonstrated manual physical therapy combined with exercise had greater functional benefits than electrophysical agents with exercise and that eccentric exercises would improve strength while reducing pain (Cleland et al., 2009; Wasielewski & Kotsko, 2007). The conservative method involving Astym with eccentric exercises demonstrated the two therapies combined could elicit improvement of the condition in a shorter time frame than traditionally seen (McCormack, 2012).

The Astym protocol has been shown to decrease the required visits needed to treat musculotendinous injuries. In a study performed by McCormack (2012) utilizing Astym and eccentric exercises to treat Achilles tendinopathy, the patient recovered in less than half of the time that is commonly seen for this condition. Wilson et al. (2000) performed a randomized clinical trial comparing traditional

rehabilitation methods versus Astym therapy for treatment of patellar tendinitis. The Astym group not only improved functionally, but had less therapy visits (Wilson et al., 2000). The Guide to Physical Therapy Practice anticipates that 80% of those suffering from plantar fasciitis could expect three to 36 visits in order to achieve their anticipated goals (American Physical Therapy Association, 2003). The average number of visits for those receiving Astym treatments is only ten (What is Astym?, 2012).

According to the Astym website those that are treated for plantar fasciopathy-heel pain experience an 89.9% pain improvement, 91.5% functional improvement, and their overall satisfaction is 88.6% (APTA, 2003). Comparatively, those treated with traditional methods were found to have a wide range of success with anywhere from 46% to 100% (Tong & Furia, 2010). The patient's functional success seen with the use of Astym suggests this technique could also reduce the amount of pain medication that is prescribed. Pain medication, primarily NSAIDs, was prescribed at nearly half of physician visits (Tong & Furia, 2010). The projected annual cost of medication associated with treating plantar fasciitis was \$224 million (Tong & Furia, 2010). However, the amount of pain medication used amongst patients can decline with Astym because of the correlation of decreased therapy visits secondary to quicker recovery.

DISCUSSION AND IMPLICATIONS FOR FUTURE STUDIES

Plantar fasciitis is a prevalent condition found across the United States and because of its multifactorial nature it makes it difficult to define its etiological cause. Additionally, new research is unearthing in that it is a degenerative condition as opposed to an inflammatory one. This etiological unknown can leave the clinician treating a patient by means of a trial and error process. Typically conservative methods for treating the condition are attempted before advancing to surgery as a last resort. However, what is lacking is a defined conservative treatment protocol for rehabilitating the patient that elicits positive results. The undefined treatment protocol can lead to ineffective and inefficient treatments resulting in a prolonged rehabilitation period for the patient. Thus, focus of this literature review was to determine potential components of a treatment protocol for those with plantar fasciitis and assess the benefits resulting from a standardized protocol.

In the study performed by Cleland et al. (2009) it was found that manual physical therapy and exercise would provide those subjects with plantar fasciitis greater benefits in terms of function. However, the electrophysical agents and exercise group demonstrated to have experienced improvement with their plantar fasciitis with time too, although it was at a less significant level compared to the manual physical therapy and exercise (Cleland et al., 2009). Taking these results of utilizing manual physical therapy and exercise and applying it into a protocol for plantar fasciitis could be a possible way to manage the condition. But because the results of both groups showed an improvement a placebo effect may need to be factored into future studies to determine its implications.

The results found by Wasielewski and Kotsko's (2007) database literature review were lacking in evidence to support their hypothesis that eccentric strengthening is superior to concentric for treating Achilles tendinosis. While both groups showed patient improvements the eccentric exercise protocol had slightly greater results suggesting that it was better at improving strength and decreasing pain (Wasielewski & Kotsko, 2007). The problem with this is that only eleven studies were compared and the authors did not have sufficient evidence to confidently state the superior option secondary to the limited amount of research. However, what can be surmised from the study is concentric strengthening can be beneficial for treating plantar fasciitis, and the addition of eccentric strengthening may result in even greater benefits.

Research by DiGiovanni et al. (2006) and Sweeting et al. (2011) both assessed a plantar fascia specific stretching protocol for treating plantar fasciitis verses Achilles tendon stretching. What both research trials found was that plantar fascia stretching decreased the subject's pain resulting in an increase in their function and overall treatment satisfaction (DiGiovanni et al., 2006; Sweeting et al., 2011). There is a limited amount of research covering plantar fascia stretching and its benefits whether that be short- or

long-termed as well as, what rehabilitation methods paired with stretching techniques will elicit a quicker recovery response for patients.

The lack of standardizing treatment for plantar fasciitis is still missing from the puzzle even though potential beneficial treatment options have been discussed. Astym could help to fill in the missing gaps. Astym has a typical protocol that is followed involving first a warm-up, stretching, administration of Astym by a certified provider, followed by stretching again and strengthening exercises, and finally treatment ends with stretching. Since it is a soft tissue mobilization technique it is utilizing the manual physical therapy component of the study done by Cleland et al. (2009) to break apart adhesions which restrict the function of the fascia and create pain (What is Astym?, 2012). The stretching portion of the protocol should involve plantar fascia specific stretching along with eccentric exercises since it was found that those two components proved to have improved outcomes compared to other techniques. With this proposed protocol a major limiting factor would be that the clinician is required to be a certified Astym provider. Future studies regarding the efficiency of incorporating these variables into an Astym protocol should be performed. The future studies should look at the time frame for rehabilitation and note if there are decreased visits required when returning back to a prior level of function.

In the studies performed by McCormack and Wilson et al. Astym therapy for the treatment of overuse soft tissue injuries was assessed (McCormack, 2012; Wilson et al., 2000). What was found was that patient's were healing at an advanced rate when compared to traditional rehabilitation methods. The Astym website, <http://www.astym.com/Patients/Research> (2012), provides a list of many other peer reviewed research articles that support the same findings as of McCormack (2012) and Wilson et al (2000). A limitation is that none of those research articles focus on the treatment of plantar fasciitis. Additionally, Astym is a relatively new treatment technique and research is limited with only a few handfuls of articles having been published.

Despite these limitations certified Astym providers send in information regarding the treatments' effects on their patient population. What was found was that the average number of visits for those receiving Astym was ten while on average using traditional treatment methods the visits could range from 3 to 36 (APTA, 2003; What is Astym?, 2012). Since patient's are recovering faster with Astym treatments less pain medication is being used because they are experiencing an average of 89.9% pain improvement (What is Astym?, 2012).

Astym has proven effective in treating musculoskeletal conditions throughout the body decreasing patient symptoms and enabling them to return to their prior level of function. By utilizing Astym another advantage that could be seen is improvement of patient compliance, partly due to the Astym philosophy believing that the patient should remain active throughout rehabilitation time (What is Astym?, 2012). Research has shown that it is not a temporary solution but that it will stimulate the body to properly heal (What is Astym?, 2012). It is because of these advantages that it can be speculated that a standardized treatment protocol incorporating Astym with plantar fascia specific stretching and eccentric exercises would decrease the rehabilitation time for plantar fasciitis.

The future management of plantar fasciitis could potentially be changed by utilizing Astym. The first step to this process would be to implement an Astym based protocol. The protocol could be used to aid in the standardization of treatment in order to reduce the number of therapy visits by eliminating some of the variability of treatment options, thus creating quick and effective treatment methods in order to decrease burden on clinicians, consumers, and third party payers. Reducing the number of patient visits reduces the amount of money spent by the patient and the third party payers. A second implication that would be felt by Astym used for treatment would be patients experiencing a decrease in pain at an accelerated rate compared with a traditional conservative treatment. This in turn would decrease the costs of associated with prescription medications. Positives associated with Astym treatment include its ability to decrease the need for patient visits to physical therapy clinics, medical doctor's offices, and to other

healthcare professionals. Its ability to decrease medication costs and needs. It increases patient's compliance because of fewer visits, less pain, and still allows patients to remain active. Overall, it elicits a decrease in time spent injured causing a faster recovery rate and return to a prior level of function creating money saved from all parties.

CONCLUSION

Plantar fasciitis can affect millions of individuals each year for various reasons causing them to seek healthcare treatment. The lack of research regarding efficient treatment methods is limited. A defined protocol for treating the condition has yet to be set and without this protocol the treatment is more likely to become a trial and error process. This process can often lead to an increase in patient visits for therapy or increased use of pain medicine to treat symptoms. By utilizing an Astym based treatment protocol including manual physical therapy, eccentric exercises, and plantar fascia specific stretching the efficiency of treating plantar fasciitis could improve. Subsequently, with this improvement it could result in a quicker recovery rate and save money. When over two million patients are being treated for plantar fasciitis each year it creates a significant financial burden, especially to third-party payers (Tong & Furia, 2010). This makes finding quick and effective treatment methods important in order to lessen the burden associated with this condition. Future research is needed to assess whether these outcomes are possible with a standardized plantar fasciitis treatment protocol.

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SAFE PATIENT HANDLING PRACTICES IN LONG TERM CARE FACILITIES

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ABSTRACT

The practice of safe patient handling has been a concern among healthcare institutions for many years. In the past few years, a renewed emphasis has been placed on these practices due in part to the rises in the numbers of overweight/obese patients and the focus on decreasing overall healthcare costs. Overexertion injuries in healthcare workers are among the highest compared to all other industries. These injuries can result from unsafe patient handling practices including the use of manual lifting for maximum assist, dependent and bariatric patients.

The implementation of safe patient handling practices in long-term care facilities is vital to increase safety and reduce injuries among patients and staff in the facility. Safety of patients is paramount in this environment due to the high risk of falls and the large number of injuries among staff from manual lifting practices. Additionally, the financial impact from injuries include not only the treatment to patient and staff, but also the cost of lost time and retraining of new employees as necessary.

This research paper includes a study of incidents of falls and breaches in safe patient handling in a sub-acute rehabilitation & long-term care facility in Kansas. Regulations and protocols that have been established at the facility are part of the evaluation. The methodology for this research project is based on a questionnaire completed by staff during interviews. The assessment of staff from various departments throughout the facility provides comprehensive data on safe patient handling techniques and practices that are currently in place. The information obtained and evaluated is for the purpose of identifying the numbers of incidents of breaches in safe patient handling, financial impact on the facility and any safe patient handling practices which are currently in place. Outcomes and recommendations are being provided to the administration and staff so that they may use it as a tool for improvement.

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THE TREATMENT AND MANAGEMENT OF ENDOMETRIOSIS IN AFRICAN-AMERICAN WOMEN: A LITERATURE REVIEW

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ABSTRACT

Endometriosis is a leading cause of hysterectomy in premenopausal African-American women. It has been suggested that genetic and socio-economic differences affect the disease severity. The symptoms of endometriosis range from mild-moderate painful periods to severe chronic pelvic pain. Treatment focuses on pain reduction and routinely relies on a historical assessment and physical examinations aimed at establishing disease severity. Since the cause of endometriosis is unknown, patients are often referred to many different specialties prior to receiving an accurate gynecological assessment; whereby, the disease has increased in severity, the options for treatment have been reduced, and patients face long-term side effects.

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TRACK

ETHICAL and LEGAL ISSUES

THE IMPACT OF THE PATIENT PROTECTION AND AFFORDABLE CARE ACT ON PHYSICIANPATIENT RELATIONSHIPS

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ABSTRACT

The established physician patient relationship plays a crucial role in dictating the direction and efficiency appointments as well as the quality of care and the successful healing process of patients. Specifically, primary care physicians strive to establish a level of comfortability and dependency with each patient included in their practice through consistent visits and inquiry into both the medical and personal history. The Patient Protection and Affordable Care Act, a United States federal statute signed into law by President Barack Obama on March 23, 2010, aims to increase the quality and affordability of health insurance, lower the uninsured rate by expanding public and private insurance coverage, and reduce the costs of healthcare for individuals and the government. Various reforms implemented by Patient Protection and Affordable Care Act raise concern that the patient physician relationship may be compromised by health care reform. This presentation examines the specific reforms that pose this threat and discusses the research results reflecting the projected influence of the Patient Protection and Affordable Care Act on the patient physician relationship from the perspective of primary care physicians of Northeastern Pennsylvania.

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CONSCIENTIOUS OBJECTION AND HEALTH CARE PROFESSIONALS

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CONSCIENTIOUS OBJECTION AND HEALTH CARE PROFESSIONALS

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ABSTRACT

Health care is a value based helping profession. The public expects the health care professionals to be moral people with strong character. On the other hand, certain politicians and patients expect health care workers to ignore their personal values in providing services. This paper looks at importance of moral integrity of health care professionals and their right to conscientious objection to certain procedures they deem immoral.

INTRODUCTION

The aim of healthcare is to protect the life and health of human beings within their whole lifespan through the means of prevention, diagnostics, therapy and rehabilitation. For centuries healthcare workers have been expected to be people with positive values, good character and high moral standards. When asked in admission interviews why they chose to study medicine or healthcare, a typical answer is that the students want to help others, to save lives and to cure people.

Society expects doctors and other health care professionals to respect the dignity of the patients, the human rights of their patients, and to have the well-being of their patient as their main responsibility (Ethics manual, 2012). This includes protecting the patient from harm, but respects a patient's autonomy

and her/his decisions based on comprehensive information. Obviously it implies that the healthcare worker knows about the positive outcomes of interventions and the frequency and severity of potential side effects and complications; and that (s)he can distinguish between benefits (good) and harms (bad) for the patients. Such duties and responsibilities are written in professional ethics codes of healthcare workers.

On the other hand, certain politicians, activists and some patients expect the healthcare workers to provide healthcare as a commercial service, without ethical considerations and limits. Based on their opinion, conscience is used by doctors to avoid doing their duty. They go so far as to say that people who listen to their conscience and refuse to perform legally permitted procedures because it conflicts with their values, should not be doctors (Savulescu, 2006).

CONSCIENTIOUS OBJECTION

Berlinger defines conscientious objection as a refusal to perform a legal role or responsibility because of personal beliefs (Berlinger, 2008).

We prefer a definition by Slovak constitutional lawyer Drgonec: Conscientious objection is a right to refuse a legal duty because of a higher duty given by one's conscience (Brencic, 2001).

Wicclair provides conditions for qualifying an act as conscience-based refusal: "An agent's refusal to provide a good or service is a conscience-based refusal if and only if: (1) the agent has a core set of moral (i.e., ethical or religious) beliefs; (2) providing the good or service is incompatible with the agent's core beliefs; and (3) the agent's refusal is based on those core moral beliefs." (Wicclair, 2011) This is a valuable definition except for the word „good“. If a professional conscientiously objects to provision of a service, obviously s/he would not consider it good. For example, if a doctor refuses to perform an abortion it is because s/he considers it bad for the patients.

Magelssen gives a longer list of criteria to be met for conscientious objection to be accepted. But later he admits that conscientious objection may be valid in a specific situation even when not all of them are met. One of the important conditions he states is that the burdens to the patient are acceptably small (Magelssen, 2012). We agree that the decision not to perform a certain procedure should not endanger a patient's life.

Most of the procedures that health care professionals refuse to do because of their moral beliefs are not emergencies. Even more, the refusal to perform them is based on the priority of protecting life in its vulnerable phases, the beginning and the end. The most commonly refused procedures are euthanasia, surgical or chemical abortion, and reproductive technologies that manipulate the human embryo. The problematic question is whether the doctor is obliged to refer a patient to another doctor or institution that would perform the procedure. We do not think the obligation to such a referral has a valid ground. As was described earlier, most conscientious refusals are based on the physician's conviction that the procedure is not good for the patient. How can s/he advise the patient of an alternative way of getting the procedure without compromising her/his moral integrity?

MORAL INTEGRITY

Savulescu claims that a doctors' conscience has little place in the delivery of modern medical care (Savulescu, 2006). Wicclair disagrees by claiming that taking part in a procedure which is against one's belief is a type of self-betrayal and could lead to the loss of self-respect (Wicclair, 2011). Magelssen emphasizes the importance of protecting a physician's moral integrity, because it benefits the possessor and

the people with whom he interacts. The decisions we make shape our characters. Performing procedures that one does not morally approve of can lead to psychological distress, fatigue and burnout (Magelssen, 2012), which would have negative impacts on our future patients.

Providing health care not just for the privileged, but also for poor and vulnerable populations is an important public health issue. The study of Curlin et al. showed that physicians who were highly spiritual, those whose religious beliefs influenced their practice of medicine and those who reported as being raised in a family which emphasized service to the poor were more likely to report practice among the underserved (Curlin, 2007).

CONSCIENTIOUS OBJECTION AS A HUMAN RIGHT

Freedom of conscience is a basic human right. Article 18 of the Universal declaration of human rights states: Everyone has the right to freedom of thought, conscience and religion (Universal Declaration of Human Rights, 1948).

Article 24 of the Constitution of the Slovak Republic guarantees to all citizens without discrimination: "Freedom of thought, consciousness and religion are guaranteed... Everybody has a right to publicly express his/her opinion." Based on Article 12 of this Constitution: "nobody can be deprived of his/her rights because s/he exercise her/his basic rights and freedoms." This includes exercising freedom of conscience, which can be expressed as a conscientious objection (Slovak Constitution, 1992).

Conscientious objection is most commonly raised to avoid participating in military operations or training that can lead to the killing of human beings. It is typically guaranteed in democratic countries and often violated in totalitarian regimes, which was the case in Slovakia before 1989 during the communist regime. Conscientious objection is also important in health care provision.

CONSCIENTIOUS OBJECTION IN SLOVAK HEALTHCARE

Slovak Ethics code of healthcare workers states: Healthcare worker can not be required to preform or participate on a procedure, which conflicts with his/her conscience, except for cases to save the life, health or rights of the patient (Law about healthcare, 2004).

Ethics code of Slovak medical association (1998) confirms: "A physician can freely refuse to perform such a medical intervention or can freely refuse to participate on such a medical intervention, which is in conflict with his/her conscience, except for cases of immediate risk to life or health."

METHODOLOGY

We performed a survey of postgraduate students of MHA at St. Elisabeth University of Health and Social Work using a Google supported questionnaire. It contained multiple choice questions, checking list questions and open questions about their opinions on conscientious objection. The questionnaire was sent to 107 students, only 24 people responded.

RESULTS

Because of the low response rate, we should only list the results for main questions. 60% of respondents stated that health care workers should be allowed to not participate on abortions. 33% were in

favor of conscientious objection for participating in artificial insemination. A somewhat surprising finding was that 37% stated that professionals should be allowed not to participate in certain research studies and 16% agreed with refusals to participate in transplantations.

DISCUSSION

In 2011 Strickland published results of an internet based survey about conscientious objection. Medical students at Cardiff University, King's College London, Leeds University and St George's University of London were contacted with a question: "Do you think that doctors should be entitled to object to any procedure for which they have a moral, cultural or religious disagreement?" 45.2% respondents agreed with the statement, 40.6% students disagreed, and 14.2% were unsure. The numbers for Catholics were 46%, for Protestants 51%, for Muslims 76%, and for atheists 35%. The objections were strongest for performing abortion for congenital abnormalities before 24 weeks and especially after 24 weeks. In the survey some students objected to treating patients with alcohol or drug intoxication. Muslim students objected to intimately examine a person of the opposite sex (Strickland, 2012).

Nordstrand et al. performed a questionnaire study among Norwegian 5th and 6th year medical students. Students objected to perform procedures such as abortion (up to 19%), euthanasia (62%), ritual circumcision for boys (52%), assisted reproduction for same-sex couples (9.7%) and ultrasound in the setting of prenatal diagnosis (5.0%). 55% would tolerate conscientious refusals of others to abortion, 89% for euthanasia and 72% ritual circumcision for boys (Nordstrand, 2013).

In our limited study the proportion of students accepting conscientious objection for abortion was slightly higher than in the Nordstrand study (60 vs. 55%). Strickland study can not be easily compared, since it dealt only with abortion for congenital anomalies. 33% of students in our study approved of refusal to perform artificial inseminations. In the Nordstrand study the number was 9.7%, though this was limited to same-sex couples.

CONCLUSION

Health care professionals should have equal rights as other human beings. Protection of their moral integrity in performing medical procedures should not be ignored or dismissed by health care organizers. Therefore their right to conscientious objection should be guaranteed. Most procedures that professionals refuse to perform because of moral grounds are not life saving emergencies. The clause that conscientious objection should not override a doctor's obligation to save life is still a reasonable safeguard.

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AGING AND THE RISING COSTS OF HEALTHCARE IN THE UNITED STATES: ARGUMENTS FOR AND AGAINST AGE-BASED RATIONING AS A SOLUTION

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AGING AND THE RISING COSTS OF HEALTHCARE IN THE UNITED STATES: ARGUMENTS FOR AND AGAINST AGE-BASED RATIONING AS A SOLUTION

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ABSTRACT

The paper begins by demonstrating that healthcare spending in the U.S. is on the rise, and, as projected, it will continue to rise such that by 2040 it will amount to 34% of GDP – an amount neither sustainable nor desirable.

Several factors explain this continuing rise in healthcare spending, aging of American population being a very important cause, since older individuals require much more health services and more expensive ones. To reduce this continuing rise of healthcare costs, as discussed, some writers have proposed the rationing of medical services on the basis of age, which has also met much opposition. As demonstrated, both sides of the debate utilize utilitarian/Kantian ethical arguments in defense of their positions. Alternatively, the paper also discusses Alan William's "fair inning", and its four characteristics, according to which every person has the right to certain quality-adjusted life expectancy. Additional suggestions are also made for non-rationing means of healthcare cost reductions.

INTRODUCTION

Total health care spending in the United States is on the rise and, as projected, it will continue to rise in the future. While healthcare spending was 5 percent of the gross domestic product in 1960 and is about 19 percent today, it "would lead to 34 percent of GDP by 2040, a third of the economy". (J.S.

Robert, N.Y. Times, 2009). Regardless of who pays for health expenditures in the United States, and whether or not the Affordable Care Act gets implemented, it is safe to say that these costs are spiraling out of control, since this level of spending is neither desirable nor sustainable. Obviously, various factors cause this rapid increase in healthcare costs. Among these we can include the routine utilization of high tech but expensive devices such as MRI, the practice of defensive medicine to avoid law suits on the part of physicians, heroic efforts to save lives, the higher rate of inflation in the United States for health- related goods and services as compared to other goods and services, and, of course, the aging of U.S. population.

The aging of the population is an import cause of the continuing rise of healthcare expenditure, since older adults require much more healthcare than those who are younger, and the care they receive is much more expensive. While the U.S .life expectancy was 47.3 years in the year 1900, according to a new report from the Center for Disease Control, it reached 78.7 in 2013. Obviously, it will continue to rise in the future. What is important is that people who are older utilize a great deal more of health- related services than those who are younger. For example, people aged 65 and older consume four times more than those who are less than 65. Matters are even worse for the oldest of the above 65 years old group, in particular those who are 85 and older. (Jones, 2001) .This growing and vulnerable subset of the population will require more and more expensive medical attention. In fact, the fastest growing age group in the United States is 80 years and older, which according to C. Andre and M. Velasquez, is “the very segment of the population that tends to require expensive and intensive medical care.” (1990, pp. 1-2). No wonder that the AARP Bulletin Today, in one of its 2007 issues, published an article by physician Binstock who stated that “... to be sure, the doubling of our older population between now and 2030 presents substantial policy challenges.”

As a result of the allocation of an increasingly large portion of the country’s GDP, including the devotion of a disproportionate size of federal government’s budget (through Medicare) to the healthcare of the very old, various writers, including various medical ethicists, have found it alarming and even unjust. For this reason, during the last few decades, some writers, as a solution, have advocated the rationing of healthcare on the basis of age (obviously, some rationing of health care is already taking place due to income and class differences, access or lack of access to health insurance , or other causes). For example, the above two medical ethicist- C. Andre and M. Velasquez- by asking the following two questions, advocated the rationing of healthcare as follows: “... has the time come when we decide that prolonging the lives of the elderly who no longer serve the land is truly a burden o the youth of a society? Is the day of rationing our nation’s health services on the basis of age close at hand”? (1990, p. 1). Or, in a 2006 open letter to the Los Angeles Times, well-known health economist H.Aaron advocated that to reduce healthcare costs government should ration healthcare on the basis of age, thus forcibly prevent very old adults from getting certain expensive treatments. Or, in a 2005 paper, A. H. Douglas and D. P. Paul demonstrated their implicit advocacy of the rationing of healthcare on the basis of age by stating that as the population ages the number of beneficiaries of healthcare services rises while the number of productive / tax paying citizens drops. As a result, as they argued, government, through Medicare, etc., will become responsible for the increased costs of healthcare. Thus, the decrease in the number of taxpayers: “will increase the burden on the remaining wage earners. This is a formula for financial and political disaster”. The same type of argument is made by Herb Rubenstein and Leon Masiewicki who argue that the American society cannot afford the practice of : “ spending too much public money treating chronic ailments of old age as if they were acute diseases”. (2004). The implication of the arguments by such authors is that every dollar spent on healthcare is a dollar not spent by the government or individuals on other private or public goods- food, housing , transportation, education, defense, environmental protection and other private or public goods.

As the paper demonstrates, writers such as Daniel Callahan advocate the rationing of healthcare on the basis of age , there are also others, like Cassel and Etzioni , who oppose it. As the paper demonstrates,

both sides use ethics in support of their arguments, which demonstrates the presence of an ethical dilemma. Both sides of the debate think ethics and justice is on their side, including former Colorado Governor Richard Lamm who once, in an insensitive sounding statement said that : the very sick elderly “ have a duty to die and get out of the way”, or ancient Greek poet and playwright Euripides (when Greek life expectancy was less than 30 years) , who advocated rationing of healthcare on the basis of age in the following poem.

I hate men who prolong their lives
By foods and drinks and charm of magic art
Preventing nature’s course to keep off death
They ought, when they no longer serve the land
To quit this life and clear the way for youth

The paper will present, objectively, arguments made by various proponents and opponents of the rationing of healthcare on the basis of age and the ethical arguments made on the basis of utilitarianism, Kantian ethics or other egalitarian ethical principles by both sides of the debate. The paper also includes a section entitled Concluding Remarks: How to Deal with the Dilemma.

In this last section, attempt is made to relate the debate that concerns age-base rationality of health care to Alan William’s notion of “fair innings”. In this last section, suggestions are provided for ways to reduce healthcare costs absence of the acceptance of age-based rationing or fair innings.

Arguments In Favor of Rationing Health Care For the Very Old

Because of the skyrocketing cost of health care, and the fact that a disproportionate share of it is allocated to the elderly, various authors and thinkers have come to advocate some sort of age-based rationing for societal health care expenditures. Perhaps the most prominent advocate of this type of rationing is Daniel Callahan, the author of *Setting Limits: Medical Goals in An Aging Society* (1987) and other books on the subject. Callahan, in whose view medicine should have the goals of relieving pain and suffering, curing diseases when possible, providing rehabilitation and other forms of assistance when diseases burden people, and perhaps even enabling people to have peaceful deaths, proposes that the government should only pay for routine care of the very old, aimed at relieving their suffering (1987). To Callahan, the future goal of medical science should be to improve the quality of people’s lives, not to lengthen them. To this advocate of health care rationing and his followers, attempting to maintain and extend the lives of the very old requires exorbitantly expensive research and technology. Of course, Callahan is not alone in making such arguments. According to Stanford University economist Victor Fuchs, “the United States spends about 1% of its Gross Domestic Product on health care for the elderly persons who are in their last year of their lives” (2001). The same point was made during a Senate hearing by Rutgers University’s Donald Hoover. “Our nation spends substantial amounts of medical care for persons in their last years of life. This will increase as our population ages” (U.S. Senate Hearings and Testimony, 2003). To Callahan, higher healthcare costs due to aging has led to what he calls the infinity model, as a result of which there is no limit to the amount of medical care provided . To him, a very long life does not necessarily guarantee a better life. To seek the greatest amount of health care for the greatest number of people, Callahan suggests limits and boundaries. To him, while the health of the young can be ensured by relatively cheap preventive measures, such as exercise programs and health education, the medical conditions of the elderly are often complicated, requiring the use of expensive technologies and treatments. And, in his view, these treatments of the elderly are often ineffective in providing any tangible benefits for either patients or society. Generally speaking, to the advocates of age-based rationing of health services, society benefits from the increase in economic productivity that results when medical resources are diverted from an elderly retired population to those younger members of society who are more likely to be working.

The advocates of age-based rationing emphasize that the government spends a great deal more on the health of the very old than that of the very young. To them, the skewed distribution of health care resources is not only detrimental to the overall health of the society, it is also unjust. For, they argue, the elderly receive a disproportionately large piece of the health care pie while a far greater number of younger people are deprived of an equal share of the nation's economic resources. For these advocates of age-based rationing, need should not be a fundamental criterion for determining how much health care to the elderly (or others) is allocated.

Advocates of rationing also support Callahan's contention that the draining of health care resources to prolong the lives of elderly violates the rights of the young to live out a normal life span. To them, elderly persons, who have lived a natural life span, should be entitled to receive only the types of treatments that relieve pain and suffering. Thus, given the scarcity of resources available to society, they should not receive the types of (expensive) treatments that extend and prolong their lives at the expense of those who have not yet lived out a normal life span.

Advocates of age-based rationing believe that withholding treatment from the elderly should not be regarded as inhumane. For, to them, everyone grows older. In the words of Andre and Velasquez, "If we treat the young one way and the old another way, over time each person is treated the same" (1990). In a 2003 debate with Dr. Christine Cassel, a geriatrician and opponent of rationing, Callahan argued that the young should not impose the limits on the old. Rather, it should be decided collectively on the basis of two conditions. Callahan explains the two conditions as follows: "[A]s my particular proposal, let me stipulate two important conditions. One is the elderly have to accept this. It is not something to be imposed by the young on the old. [The second is] this is to be democratically achieved. The elderly themselves decide..." (2003).

The idea that patients should not be forced to do things against their will is not new; it goes back at least to Plato some 2500 years ago. Plato believed that each patient knew what was "good" for him or her. In *Statesman*, Plato even accused physicians who force a patient to accept what the physician thought was best instead of using persuasive argument of making an "unscientific and baneful error" (Lidz, 1995). Plato also discussed the concept of persuasion in his *Gorgias*, where he emphasized that a trained rhetor would have better results in persuading a patient. According to Lidz, Plato believed that consent should be obtained prior to any treatment (1995).

The Arguments against Age-Based Rationing

The arguments presented by the proponents of age-based health care rationing have provoked strong disagreements among opponents. In a 2003 debate about age-based rationing with Dr. Daniel Callahan, Dr. Christine Cassel presented various difficulties that exist in deciding this type of rationing. She argued that because life expectancy is on the rise, and the aging of society is a byproduct of human progress, it is difficult to decide a normal age and an age limit for imposing age-based rationing of health care. In other words, this type of rationing requires the selection of a "normal age," which is difficult to decide.

To Cassel, another difficulty with setting such a limit is that, in terms of health, older people are not a homogeneous group. In her words, as a physician who cares for the older people, she believes that "people at the age of 80 or 90, or...even 100, are very different from one another. The degree to which they can benefit from any degree of medical care is also very different" (Callahan & Castle, 2003).

Writers such as Sandra Lipsitz Bem, author of *The Lenses of Gender: Transforming the Debate on Sexual Inequality* (1993) have reminded us of gender inequality in general. According to Cassel, an age-based rationing method would also lead to a lack of fairness for women, because “women still have a survival advantage of six to seven years over men” (2003). In her eyes, if we were to choose a particular age after which life-prolonging medical care would no longer be provided, women would face an unfair disadvantage. Would we then “pick a different age for women and a different age for men” (Callahan & Cassel, 2003)?

Cassel agrees with Callahan that “we have to figure out some way to ration health care,” and that there are infinite potential demands for health care (2003). However, to her, this is “not so much related to age as it is related to new technologies and to enhancement technologies – techniques that “don’t necessarily improve health but that are desirable for a range of other reasons” (2003). Cassel also blames the problem on the fact that, in the United States, “we have a very high-priced health care system compared to health care systems around the world” (2000). The statistics surrounding the health care system in the United States are very troubling. It is well known that the U.S. spends more on health-care than any other nation in the world, which is also increasing at a rate more than twice as fast as incomes. Yet, the nation ranked a lowly 16th in a study of 22 industrialized countries, in terms of medical outcomes (Saporito, 2005). Furthermore, according to Princeton economist Paul Krugman, “U.S. health care is so expensive that our government spends more on health care than the governments of other advanced countries, even though the private sector pays a far higher share of the bills than anywhere else” (2005).

Cassel disagrees with Callahan and his supporters that there is a tension or inequity between the young and the old. To support her argument she maintains that those who most strongly advocated for Medicare in 1965 were not the elderly. Instead, they were the grown children of those older people who were responsible for paying their parents’ medical bills (2003).

While for Cassel, establishing an age-based health system as proposed by Callahan would be difficult, to other opponents the situation would be much bleaker if the system were actually developed and put into practice. Many critics dispute the claim that rationing could strike the best balance of benefits among all members of society by arguing that any policy of rationing that deprives the elderly of potentially life-saving medical care would actually result in few benefits, and give rise to tremendous costs. Specifically, a rationing policy could lead to increased anxiety among young people thinking ahead to and dreading their futures, and despair among elderly people who do not wish to die and feel cast aside by society.

Besides, as some opponents argue, even if financial savings were achieved by rationing health care by age, there is no guarantee, given our present political system, that any savings on the old would actually be passed on to the young, or that they would result in real improvements in the overall health of citizens. The actual benefits, in the view of those opponents, would depend on what kinds of resources were applied to what sorts of treatments.

To the opponents of age-based rationing, people should be treated similarly unless there are morally relevant reasons for treating them differently. In the words of Ralph Ellison (*The Invisible Man*, 1952), the elderly should not be viewed as invisible. Instead, in determining who should or should not receive health care, it is relevant to consider a person’s need for health care, the likelihood of recovery, and/or the likelihood of improving a person’s quality of life. Age, however, reveals little about a person’s medical need or prognosis, and thus should have no more influence on the distribution of health care than race or gender. It is the medical liabilities we often associate with old age, and not age itself, that should count as relevant and legitimate reasons for treating people differently. If our aim is to use costly resources

more effectively, then we ought to deny treatment to all patients whose prognosis indicates a short life span, chronic illness, or little likely improvement in the quality of life, rather than denying treatment simply on the basis of age.

Ethical Dimensions of the Dilemma

According to Gregory Rutecki, no medically advanced society can provide all people with every medical intervention and actually survive. To him, this principle “is the basis of any discussion which considers the rationing of medical care” (1992). Our concern here, of course, is age-based rationing of medical care. We want to know the ethical implications of this type of rationing. This inquiry requires the application of the principles of medical ethics. According to physician/ethicist Kenneth Prager (2002), there are four relevant principles of medical ethics. The first of these is the principle of beneficence and non-maleficence which, to him, “basically means do good and don’t do bad” (2002). The second of these principles is that of autonomy, according to which patients who have the capacity, and are in a suitable state, to make health care decisions should have the final say on their own treatment, regardless of whether those decisions are approved by either family members or the physician. The third principle is respect for the sanctity of life. The fourth is the notion of justice. To Prager, there are two (even opposing) sides to the notion of justice that lead to different consequences. The first of these two is the strictly utilitarian ethical notion of justice, which advocates the greatest good (in this case healthcare) to the greatest number of people, and the second is the idealistic ethical viewpoint that Prager (2002) describes as that of giving “help to people who need it the most”. Tom Beauchamp and James Childress (2001) introduce us to various theories of justice. And, John Rawls, in his 1971 *Theory of Justice*, discusses two principles of justice. These are the liberty principle, which emphasizes equality of rights for each person, and the difference principle, which justifies social and economic inequalities only if they exist with the greatest benefit to the least advantaged in society.

Among the above-mentioned ethical principles, the principles of justice and sanctity of life seem to have been invoked the most in the literature dealing with age based rationing of medical resources. For example, to Callahan and his followers who invoke the utilitarian notion of justice, scarce health care resources should be allocated in a manner that would bring the most good to the greatest number of people. This scheme would limit public medical expenditures for the very old whose medical needs and expenditures far exceed those of the young.

While for Callahan and others the utilitarian notion of justice can be applied to age-based rationing of health care, to Prager it is problematic. Holding a position similar to that of Cassel, Prager contends that this utilitarianism will lead to problems because men and women have different life expectancies. To him, the application of utilitarian ethics to age-based rationing “will be disproportionately felt by women” (Prager, 2002). Prager, however, is more in agreement with the application of the idealistic notion of justice and with allocation on the basis of need (2002).

Many health care entities have applied the notion of justice to age-based rationing. For example, several years ago the state of Oregon confronted its medical shortages with a rationing plan that engages a “just standard” through a program based on the “what” and not the “who” that gets covered. To accomplish the “what,” Oregon began with a list of 709 disease entities, later pared down to a list of 587. The diseases were ordered in a hierarchy, according to a valuation of certain care methods (such as prenatal) over less favored and more expensive technologies. Of course, we are conscious of the fact that the Oregon Medicaid experiment has had nothing to do with age-based rationing of healthcare.

Some writers, like Rutecki and Geib (1992), find the utilitarian concept of justice as applied to age-based rationing of health services to be consistent with the Bible. According to Rutecki and Geib (1992), the application of the Scriptures leads to the following conclusion about such rationing: Paradigms for rationing medical care to the elderly seem essential because the use of money for the medical care of the elderly potentially compromises the care of those of younger and functional age. In other words, applying a biblical interpretation supports the Callahan utilitarian view.

Another physician, F.E. Payne, has utilized biblical passages to develop what he calls efficacy-futility criteria, which is also consistent with the utilitarian notion of justice emphasized by the likes of Callahan (1992). And, Ludwig Edelstein (1967) finds this concept consistent with Hippocratic tradition in ancient Greece. For, to Edelstein, prudent Greek physicians had an obligation not to treat incurable diseases.

However, using Kant, Martin Buber's philosophy about establishing a meaningful I-thou relationship, and the third principle of ethics discussed by Prager (2002), we can argue that all individuals should be respected and regarded as ends in themselves. As such, then, every person, young and old, must have unlimited access to the best that the health care system can offer. To Rutecki (1992), biblical passages, too, can be utilized to prove the sanctity of life.

As the above-mentioned demonstrate, ethical principles have been used to support both sides of the debate/dilemma. Although because of scarcity, aging, and other problems discussed above some type of age-based rationing seems logical or even ethical, an age-based rationing may also lead to "slippery-slope" problems. Let us illustrate three such scenarios.

Proponents of age-based rationing want to limit the health care expenditures of the very old. Even if such limits are acceptable to the very old, as Callahan suggests, we still have to come up with a clear definition of what the very old is. Is it 65, 70, 80, 90, or 100? What do we do when life expectancy rises as it usually does? Would an age we decide for the limit be the same in all countries when life expectancies are different? If so, how can we ethically justify this inconsistency, particularly from a Rawlsian justice point of view?

If we limit health care services to the very old on the grounds that they are unproductive, then what do we do in the case of other unproductive members of society who are much younger? Where do we stop?

If we decide age is the criterion for limiting health care services, what do we do in the case of the very old who are sick but are also very productive members of society?

Concluding Remarks: How to Deal with the Dilemma

Given the aging of American society, the greater increases in the cost of medical services in comparison to other components of the GDP, and the rise in the utilization of more expensive technologically advanced medical devices, various experts find the current rate of increases in health care costs as unsustainable. Particularly because of government's involvement in the financing of Medicaid and Medicare, the nation and policymakers (i.e., agents of change) must work to find a solution. We must remember that, because of the scarcity of resources, we are faced with societal tradeoffs. For, every dollar spent on health care is a dollar that society (private individuals, corporations, or governments) could have spent on some other private public good or service. If we do not attempt to find a solution to the problem of health care discussed above, we may face other societal problems. For example, we may become a society of medical "haves" and "have-nots." Or, we may become a society in the future that affords less and less housing, transportation, education, and other important necessities.

To resolve this dilemma, various solutions have been proposed. The solutions proposed by Callahan were discussed above. In his 2004 *The Brave New World of Health Care*, former Colorado Governor Richard Lamm also provides a solution. To fix the system, Lamm envisions a comprehensive

solution that has various dimensions. In terms of its ethical dimensions, he proposes to reexamine the ethics of medical care and reject the view that it is right to give to each individual in the system all the health care that could benefit them or extend their lives. To Lamm, moral standards must coincide with economic reality. As a result, he argues, every medical decision paid for by pooled funds (such as Medicare, Medicaid, or even insurance) should withstand a careful cost-benefit analysis test that economists use to evaluate the feasibility of any policy or project. He also proposes a reduction in what he believes is an excessive reliance on the use of technology; he points to the fact that more MRIs are performed in Colorado than Canada, a rich country with several times the state's population. Lamm wants government to ask which funding strategy results in the most health. Based on that, Lamm wants government to: raise retirement/eligibility age for full social security benefits to 70; provide limited health and retirement benefits to people ages 62 to 65; reduce health and social security benefits to the non-poor elderly; limit cost of living adjustments for the non-poor elderly; restore the 50/50 individual/government balance to pay for Medicare Part B; index premiums for Medicare Part B to costs; add 20% co-payment for all clinical tests and at home tests ordered through Medicare; add extra premiums for non-poor elderly for Medicare Part A; and create an incentive system for employers to retain their employees after 65 years of age while encouraging workers to continue to work after that age. For the medical profession Lamm also proposes the following: limit the number of specialists; limit the access to specialists through the use of gatekeepers; increase the number of family doctors; limit medical malpractice suits; and reduce bureaucracy and administrative costs, including billing challenges (2004).

What, then, is our choice? Should society accept no age-based rationing whatsoever, or should it adopt the type of solutions proposed by people like Callahan and Lamm? Obviously, because we are facing a dilemma, we cannot accept or reject either side outright, for both sides of the debate have merits as well as shortcomings. While the ideal may be to provide health care to all members of society, regardless of their age and other circumstances, the merits of some of the arguments and suggestions made by Callahan, Lamm and others should also not be ignored. Thus, the long run solution, a more plausible and yet humane solution is a compromise solution that requires drastic changes (a paradigm shift). Notwithstanding the recently-passed health care reform bill which hopefully will improve the problems faced by American health care system. A possible compromise seems to be the notion of "fair innings" which was proposed by professor Alan Williams of the University of York, UK, in 1997. According to this thesis, every person in society has a right to certain quality-adjusted life expectancy and we should favor intervention to achieve it. To Williams, anyone failing to achieve it is cheated, and anyone getting more than this is living on borrowed time. Williams identifies four important characteristics of what he called "fair innings". Firstly, it is outcome based, not process or resource based. Secondly, he views it as being based on a person's whole life experience, not about their state at any particular time. Thirdly, it reflects an aversion to inequality. And, fourthly, it is quantifiable. Being a compromise, both the quality of the person's life as well its length he views as important. As a result, Williams acknowledges that: "this analysis suggests that this notion of intergenerational equality requires greatest discrimination against the elderly than would be dictated simply by efficiency objectives". (Summary, 1997).

Since Williams' fair innings may not be achieved very easily, the following suggestions may prove helpful in the meantime. We should emphasize prevention. To do this, specifically, we should emphasize the prevention of chronic diseases. Several steps can help us in accomplishing this goal. This can be done through: the establishment of school-based health clinics, oral health prevention campaign, eliminating of copays or deductibles for annual wellness visits, 100% coverage of Medicare prevention services, increased federal Medicaid match if state covers immunization and prevention, Medicaid coverage for counseling and drug therapy for pregnant women for cessation of tobacco use, state Medicaid grants for incentives for healthy lifestyles, etc. Even if, as suggested in the writings of Cohen and Louise Russell, it is a myth that prevention leads to a reduction of healthcare costs, we cannot ignore its benefits to society.

One possible way to reduce the scarcity problem is to lower the cost of health care. In general, to lower cost, we should start cutting waste out of the health care system. This can be done in various ways.

We can lower cost by putting a stop to all expensive medical interventions for which there is no hard evidence of effectiveness. The public funding of such interventions should be halted and their private use should be discouraged. Another strategy should be to shift the resources used on expensive but unnecessary procedures toward more urgent and life saving operations and interventions. By lowering such extravagant costs, society (public or private) will have more resources at its disposal.

Even before the so-called Obamacare, some writers complained that the U.S. health care system is over-regulated, contributing to higher health costs (Nelson, 2004). If we establish a uniform set of rules, simplify regulations and forms, and establish electronic, straightforward, openly-shared billing codes, the cost of “doing business” in medicine should drop. In the words of Douglas and Paul, “Cutting out the multiple middleman in the system will return more of the health care dollars to actual services” (2005).

There are other ways to lower health care costs in the United States. For example, for decades various writers have proposed the limiting of malpractice claims, restricting malpractice legal fees, may ease the pressure to over-treat, and decrease the number of diagnostic tests and procedures performed in the cause of defensive medicine, the cost of which was recently estimated to be \$50 billion alone (Douglas and Paul, 2005).

It is well known fact that prescription drugs in the US are extremely expensive, a great deal more expensive than other industrialized countries. Thus, we can also lower health care costs by lowering costs of prescription drugs. To lower drug costs we should make the industry much more competitive. For example, this can be done by allowing international competition, because drugs manufactured in other industrialized countries are often much less expensive. We can also lower the costs of drugs by making generic drugs more available, which would become possible if the Food and Drug Administration (FDA) would speed up its approval of generic drugs. The supply and availability of drugs will also be enhanced if the FDA and other relevant federal agencies made patent laws more relaxed and less monopolizing.

Making the health care system more efficient can also minimize medical costs. One way to do this is to improve the quality of medical services. Specifically, we should prevent: overuse or the provision of a health service when its risk of harm exceeds its benefits; underuse, the failure to provide effective service when it would have produced favorable outcomes; and misuse, which results in the occurrence of avoidable healthcare complications. Quality improvements can lower health care costs substantially (Hosseini, 2005). Notwithstanding the Affordable Act, we should also improve the Medicare program. In fact, even some of Lamm’s proposals are relevant to this point today. For example, we can limit Medicare and Social Security benefits to non-poor elderly while also limiting cost of living adjustments to these individual

Taking Donald Schon’s decades old advice from *The Reflective Practitioner*, the health care system should view “the patient as a universe of one” (1983). Given the high cost of medical care it might be beneficial, through a long campaign and education, to guide medicine and medical professionals away from a strict profit motive. We should emphasize that the health and medical industry is the provider of a non-typical commodity/product, which is extremely essential. Notwithstanding the Affordable Care Act, moving away from a strictly profit-oriented industry would make health care more accessible compared to what is presently available. There is no logical justification for the extremely high prices of drugs, or the very high incomes and profits of various health-related individuals, professionals, and companies.

These proposed solutions, although not perfect by any means, could be implemented to make the health care system more sustainable, reducing the urgency and need to adhere to the types of age-based rationing solutions proposed by the likes of Callahan.

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CIVILITY IN THE HEALTH CARE WORK PLACE

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ABSTRACT

The purpose of this paper is to explore the negative impact of incivility and the inappropriate behavior in the work place environment. Incivility is contagious epidemic with fast spreading throughout the work place that affects employees on all levels. Where more than 60 percent of employees were directly exposed. to work place incivility where the rest affected indirectly (Leekley, 2012) With the advance in technology, and the growing use of social networking such as Facebook and Twitter a new dimension has been added to the incivility behavior in work place which negatively impacts the productivity, retention, satisfaction and employees morals. Health care managers should address this issue using education and be handled immediately to reduce the incidents and the damaging effect of such behaviors.

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TRACK

PUBLIC HEALTH

WHAT IS DISTRACTING YOU? A FIELD STUDY OF DISTRACTED DRIVING TO IMPROVE PUBLIC SAFETY IN THE CITY OF RIVERDALE

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ABSTRACT

Texting, cell phone calls, and other distractions cause 10 percent of automobile crashes in the U.S. Eleven percent of drivers under 20 years of age involved in fatal crashes are distracted. Clayton State University students partnered with the City of Riverdale Police in conducting an observational study to detect the number of distracted drivers, their distracted behaviors, and the number passengers at risk during the most dangerous times of day and at the most dangerous intersections and stretches of road. These results together with a review of Georgia laws produced recommendations for the Police to improve public safety in the city of Riverdale.

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GRADES REALLY ARE EVERYTHING— RESTAURANT INSPECTIONS AND YOUR FAMILY’S SAFETY

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ABSTRACT

Restaurant food inspections are required to prevent foodborne outbreaks. They are rigorous; identify infractions that are addressed by restaurants; and trigger a re-inspection to confirm compliance. Clayton State University graduate students completed a literature and undergraduates completed the field study. Students visited 77 fast food, buffet, and seated/waited restaurants, confirmed that posted inspection scores are current, and analyzed infractions by type of restaurant. There were no significant differences in the mean scores or in the rank order of infractions by type of restaurant. Recommendations focus on engaging the public as social media collaborates in safeguarding the health of the public.

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ORGAN TRANSPLANTATION RATES IN CENTRAL EUROPE: CULTURAL AND BIOETHICAL CONSIDERATIONS

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ABSTRACT

Organ transplantation rates vary amongst every nation in the world, including countries in Central Europe and the European Union. Healthcare systems are faced with many discrepancies regarding the number of deceased versus living donors in all countries. This article focuses on examining the current cultural and bioethical considerations in the organ transplantation system of Central Europe, specifically Slovakia, Czech Republic, Austria, Hungary, and Poland. Current discussion and research data show the need to consider these implications as a healthcare system in order to increase promotion within the area of organ transplantation. The European Commission supports the need for these specific countries, along with the whole European Union, to increase their organ transplantation rates and promote public awareness of this issue. EurActiv (European Union Information Website) continues to promote European Parliament's legislation that set common EU quality and safety standards for transplants. However, the push to promote efficiency and accessibility of transplantation systems will not come without problems due to cultural and bioethical dilemmas. The issues presented in this article seek to address these concerns, as well as to explore donation rates, transplantation practices, and the varying acceptability of donation across Central Europe.

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APPROACHES TO ENGAGING LOW-INCOME COMMUNITIES IN IMPROVING THEIR DIABETES HEALTH: A REVIEW OF THE LITERATURE PUBLISHED IN THE 21ST CENTURY

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APPROACHES TO ENGAGING LOW-INCOME COMMUNITIES IN IMPROVING THEIR DIABETES HEALTH: A REVIEW OF THE LITERATURE PUBLISHED IN THE 21ST CENTURY

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ABSTRACT

Diabetes is a serious health condition and can lead to a variety of health complications and increased morbidity. For this reason, it is imperative that individuals with diabetes understand the seriousness of their condition and learn to self-manage this chronic disease. There are a number of diabetes interventions that can help individuals manage this condition; however, there are not many diabetes interventions specifically aimed at diabetics who live in low-income communities. The purpose of this paper is to review such interventions and to discuss the impact that these interventions have had on this population.

INTRODUCTION

Diabetes is the catapult from which other disease occurs such as heart disease (Almdal, Scharling, Jensen, & Vestergaard, 2004). Diabetes is more prevalent within low socioeconomic and minority communities (Kanaya, et al., 2012); Blacks and Latinos often experience a greater burden of diabetic complications than Whites (Spencer, et al., 2011). Since many people are living with diabetes, it becomes extremely important that they learn how to manage this chronic disease appropriately, especially to prevent diabetic complications. This is why disease self-management is so important (Ryan, Schwartz, Jennings, Fedders, & Vittoria, 2013). Community-based interventions that engage diabetic patients to control diabetes through education, self-management, and lifestyle changes have been implemented to address the issues and burdens caused by diabetes (Renders, Valk, Griffin, Wagner, & Assendelft, 2001). The purpose of this paper is to review extant literature published during the 21st century, to determine some of the approaches to engaging low-income-communities in improving their diabetes health.

Previous literature reviews or meta-analyses focused on a variety of specific diabetes interventions varying from exercise (Boulé, Haddad, Kenny, Wells, & Sigal, 2001), education (Ellis et al., 2004), and diet (Carter, Gray, Troughton, Khunti, & Davies, 2010), to overall self-management (Norris, Engelgau, & Narayan, 2001). Another literature review examined interventions that have taken place in a variety of settings such as within the primary care setting, community environment, and outpatient care services as well as in different countries (Renders, et al., 2001). Another review has also looked at diabetes in conjunction with other diseases such as cardiovascular disease, hypertension, and obesity (Jenum, et al., 2006). Other reviews included randomized-controlled trials only (Norris et al., 2001), or cost-effectiveness analyses only (Loveman et al., 2003). Our study differs from previous reviews in that it reviews interventions with a major focus on diabetes. It reviews studies conducted in the US only, but it considers all the different community-based interventions, for a low-income diabetic population, that were published from January 2001 until August 31st 2013 .

METHODOLOGY

Identification of interventions

The search for published community-based interventions, from January 2001 until August 31, 2013, that addressed diabetes among a low-income population in the United States, was conducted using electronic databases PubMed, CINAHL, and ABI Inform. We originally used additional data bases such as ProQuest, EBSCO, Academic Search Premier and Google Scholar, but we found duplicated articles across all the databases. Therefore, it was deemed necessary to use PubMed, CINAHL, and ABI Inform. We used keywords “diabetes”, “low-income communities”, and “interventions”. Using keyword “diabetes” pulled up all the articles related to diabetes.

Study selection

We gathered a total of 199 articles, of which 53 articles were removed because they were duplicates. From the remaining 146 articles, 98 articles were removed because they did not meet our inclusion criteria. We excluded interventions that were not intended for low-income communities, interventions implemented in other countries, articles that reported only the process of subjects' recruitment, interventions that did not directly address diabetes, studies that used secondary data and did not involve community intervention, and literature reviews. As a result our final sample consisted of 48 articles.

RESULTS

Of the 48 articles included in this review, 27 studies (56%) were published during the last three to four years of the study period (2010-2013), which might suggest a growing trend in the publication of community-based interventions related to low-income diabetics. These 48 articles were categorized according to the following variables: (1) purpose of the intervention, (2) target population, (3) type of intervention, (4) techniques used in the intervention, (5) healthcare providers involved in the intervention, (6) number of diseases addressed in the intervention, (7) geographic location of the intervention, (8) facilities used for the intervention, (9) study design to evaluate the effectiveness of the intervention, and the (10) results of the intervention.

Purpose of the intervention

The purpose of the intervention falls into three categories: interventions to prevent diabetes among populations at risk, interventions to treat and care for diabetics, and interventions that addressed diabetes complications such as amputation and depression. A total of 14 interventions were aimed at preventing diabetes, 31 interventions were aimed at controlling and caring for diabetics, and four interventions were aimed at preventing diabetic complications (McKee, 2011; Scollan-Koliopoulos, 2004; Spencer, 2013; Walker, 2001). One of these interventions combined both diabetes prevention and care (McCloskey, 2009). For the sake of saving space, we did not include in-text citation strings with more than six authors; however, tables with all the authors are provided to summarize our findings. The summary of this finding is presented in table 1.

Table 1. Purposes of the Interventions and Subjects' Race/Ethnicity

AUTHOR	PURPOSE OF THE INTERVENTION			SUBJECT'S ETHNICITY								
	Preven- tion	Treat- ment, care	Prevention of Complications	Hispanics		African American			Asian	All Races	All Races	Multiple Races
				Women	Men and Women	Women	Men and Women	Childre n	Adults	Elderly	Children	Adults
Mayer-Davis et al. (2001)		X										X
Walker, et al. (2001)			X									X
Auslander, et al. (2002)	X					X						
Fanning (2002)		X			X							
Lorig et al. (2003)		X			X							
Scollan-Koliopoulos (2004)			X				X					X
Vetter et al. (2004)		X					X					
Rosal et al.(2005)		X			X							
Lujan (2006)		X			X							
Seliger, et al. (2006)	X				X							
Lujan et al. (2007)		X			X							
Batik, et al. (2008)		X								X		X
Culica, et al. (2008)		X			X							
Fischer, et al.(2008)		X			X							
Rust et al. (2008)		X										X
Sekhobo, et al. (2008)		X										X
Gary et al. (2009)		X					X					
McCloskey (2009)	X	X			X							
Merriam (2009)	X				X							
Rosal et al. (2009)		X			X							
Whittemore et al.(2009)	X											X

Delgadillo et al.(2010)	X											X
Ell et al. (2010)		X			X							
Otero-Sabogal et al. (2010)		X			X							
Parikh et al. (2010)	X											X
Samuels et al. (2010)	X									X		
Allen et al. (2011)	X											X
Egede, et al. (2011)		X										X
Fischer et al. (2011)		X										X
McKee et al. (2011)			X		X							X
Millard et al.(2011)	X				X							
Philis-Tsimikas, et al. (2011)		X			X							
Rosal et al. (2011)		X			X							
Ruggiero, et al. (2011)	X				X							
Spencer et al. (2011)		X										X
Welch et al. (2011)		X			X							
Brown et al. (2012)		X			X							
Gerber et al. (2012)		X										X
Huckfeldt et al. (2012)		X										X
Kanaya et al. (2012)	X											X
Ockene et al. (2012)	X				X							
Peek et al. (2012)		X					X					
Seto, et al. (2012)		X							X			
Sharma & Fleming (2012)	X							X				
Ryan, at al. (a) (2013)		X										X

Ryan, et al. (b) (2013)		X										X
Sorkin et al. (2013)		X		X								
Spencer et. al. (2013)			X									X

Target population

The target population was divided into sub-categories such as race, gender and age. A total of 22 interventions were implemented for the Hispanic population, of which, 21 involved both males and females, and one intervention was targeted toward diabetic women (Sorkin, 2013). A total of six interventions targeted the African American population, of which, one intervention was aimed at African American women and another intervention was intended for African American children (Auslander, Haire-Joshu, Houston, Rhee, & Williams, 2002; Peek, 2012; Scollan-Koliopoulos, 2004; Sharma, 2012; Vetter, 2004). One intervention was for a low-income Asian American community based in California including men and women (Seto, 2012). In addition, regardless of race, we found another intervention aimed at the elderly population (Batik, 2008) and another intervention for all the children in the community. We found 20 interventions that targeted more than one race. Summary of the target population is found in Table 1.

Types of interventions

Our review found several interventions including weight management, diet, case management, self-care and lifestyle, physical activity, medication adherence, and process redesign. Some studies included more than one intervention. We found a total of four interventions on weight management (Mayer-Davis, 2001; Ockene et al., 2012; Parikh et al., 2010), 12 interventions on diet, nine interventions on case management, 24 interventions on self-care, 13 interventions on physical activity promotion, four interventions on medication adherence (Allen et al., 2011; Ell et al., 2010; Gerber et al., 2012; McKee et al., 2011), and one intervention focused on the redesign of point-of care HbA1c testing for glycemic control and diabetic regimen intensification rate (Rust et al., 2008). The summary of the interventions is found in table 2.

Techniques used in the interventions

Some techniques used in these interventions included one or a combination of the following: education and counseling, phone calls, report card, home visits, clinic visits, diabetes, and the Internet. A total of 23 interventions included education and counseling, five interventions used phone calls (Ell et al., 2010; Kanaya et al., 2012; Peek et al., 2012; Rosal et al., 2011; M. S. Spencer et al., 2011), one intervention used report cards to monitor the health status of patients (H. H. Fischer et al., 2011), two studies used home visits (Sorkin et al., 2013; M. S. Spencer et al., 2011), one study used clinic visits (M. S. Spencer et al., 2011), two studies used the diabetes registry to reach diabetic patients, and one study used the Internet whereby subjects posted and monitored their daily health metrics (Mayer-Davis, 2001; Seto, Turner, Champagne, & Liu, 2012). One study used group meetings for peer support (Sorkin et al., 2013), and one intervention was aimed at changing the environment to improve children's health lifestyle (Samuels et al., 2010). The summary of techniques used is found in table 2.

Health care providers involved in the interventions

Our review found interventions that included one or more of the following health care providers: community health workers or health promoters (12 studies), lay community workers (3 studies) (Lujan, 2006; Lujan, Ostwald, & Ortiz, 2007; Seliger, Simons, & Maida, 2006), and clinicians including physicians, nurses, pharmacists, dieticians, and specialists (12 studies). The summary of the healthcare providers involved in the intervention is found in table 2.

Table 2 – Types of Interventions and Human Resources Used

Authors	Weight Management, Diet	Case management	Community Health Workers, Lay Workers	Self-management, Services utilization, Health behaviors	Physical activity	Clinicians-physicians, nurses, pharmacists, specialists, dietician	Counseling, Education
Mayer-Davis et al. (2001)	X						
Walker et al. (2001)							X
Auslander et al. (2002)	X						
Fanning (2002)		X					
Lorig et al. (2003)				X			
Scollan-Koliopoulos (2004)							X
Vetter et al. (2004)		X	X				
Rosal et al.(2005)				X			
Lujan (2006)			X	X			
Seliger et al. (2006)			X	X			X
Lujan et al. (2007)			X				X
Batik et al. (2008)					X		X
Culica et al. (2008)			X	X			X
Fischer et al. (2008)				X		X	X
Rust et al. (2008)							
Sekhobo et al. (2008)		X					X
Gary et al. (2009)		X	X				
McCloskey (2009)			X				
Merriam (2009)	X				X		X
Rosal et al. (2009)				X	X		X
Whittemore et al.(2009)	X				X	X	X
Delgadillo et al.(2010)	X				X		X
Ell et al. (2010)		X		X		X	X
Otero-Sabogal et al. (2010)			X	X		X	
Parikh et al. (2010)	X			X	X		X
Samuels et al. (2010)	X			X	X		
Allen et al. (2011)			X	X	X		
Egede et al. (2011)		X				X	
Fischer et al. (2011)							
McKee et al. (2011)				X		X	X
Millard et al.(2011)	X				X		
Philis-Tsimikas et al. (2011)				X			X
Rosal et al. (2011)	X			X	X		X
Ruggiero et al. (2011)			X	X			
Spencer et al. (2011)			X	X			X
Welch et al. (2011)		X				X	

Authors	Weight Management, Diet	Case management	Community Health Workers, Lay Workers	Self-management, Services utilization, Health behaviors	Physical activity	Clinicians-physicians, nurses, pharmacists, specialists, dietician	Counseling, Education
Brown et al. (2012)			X	X			
Gerber et al. (2012)	X		X		X	X	
Huckfeldt et al. (2012)		X				X	X
Kanaya et al. (2012)	X		X				X
Ockene et al. (2012)	X			X			
Peek et al. (2012)				X		X	X
Seto et al. (2012)		X		X		X	
Sharma & Fleming (2012)					X		
Ryan et al. (a) (2013)				X		X	X
Ryan et al. (b) (2013)				X			
Sorkin et al. (2013)	X				X		X
Spencer et. al. (2013)			X	X			

Number of diseases addressed in the interventions

While the majority of the interventions were exclusively for diabetes (44 studies), another intervention was not age- or health-status specific as it was related to diabetes screening (Seliger et al., 2006), and three interventions involved diabetes and other chronic diseases such as lung disease, heart disease, cardiovascular disease, and hypertension (Allen et al., 2011; Lorig, 2003; McKee et al., 2011).

Geographic locations of the interventions

Among the interventions that specified their respective geographic locations, we found three studies located in rural areas (Egede, Strom, Fernandes, Knapp, & Rojumbokan, 2011; Mayer-Davis, 2001; Millard et al., 2011) and 13 studies in urban areas.

Facilities used for the interventions

We found a total of 13 interventions administered at community health centers and 10 interventions at primary care facilities or clinics. In addition, two interventions were church-based (Lujan, 2006; Scollan-Koliopoulos, 2004), three interventions were home-based (McKee et al., 2011; Peek et al., 2012; Vetter, 2004) and two interventions were administered at public health departments (Delgadillo et al., 2010; Kanaya et al., 2012).

Study designs used to evaluate the interventions

The majority of intervention evaluations used randomized controlled trials (28 interventions). Eight studies used non-randomized pre-post design, two studies used cost-effectiveness analysis (Brown et al., 2012; Fanning, 2002), one study used effectiveness analysis (H. Fischer, Mackenzie, McCullen, Everhart, & Estacio, 2008), and another study used retrospective design (Sekhobo, Wang, & Ferrari, 2008). In addition, four studies used surveys (H. H. Fischer et al., 2011; Otero-Sabogal et al., 2010; Parikh

et al., 2010; Scollan-Koliopoulos, 2004) and another four studies were qualitative using case studies, interviews, or focus groups (Huckfeldt et al., 2012; McCloskey, 2009; Merriam et al., 2009; Peek et al., 2012). Among these studies, we found seven pilot studies, three feasibility studies (Culica, Walton, Harker, & Prezio, 2008; Rust et al., 2008; Ryan, Schwartz, Jennings, Fedders, & Vittoria, 2013), and one observational study (Fanning, 2002). The summary of the study designs is in table 3.

Results of the interventions

A total of 36 interventions reported significant improvement on their variables of interest, three interventions reported partially significant improvement, two interventions generated partially significant results (McKee et al., 2011; Millard et al., 2011; Sharma & Fleming, 2012). The intervention that used a report card to monitor diabetes did not have a significant impact on the subjects (H. H. Fischer et al., 2011) and one intervention did not evaluate its effect on the subjects (Sorkin et al., 2013). A mid-point review of the intervention on changing childhood environment suggested some improvement in children's lifestyle, but no statistical analyses were performed (Samuels et al., 2010). We could not get the results from eight interventions because they are not yet completed.

Of the 22 completed interventions that used randomized controlled trials, 18 reported significant results (81%). In addition, seven of the eight non-randomized pre-post interventions reported significant results (Auslander, Haire-Joshu, Houston, Rhee, & Williams, 2002; Otero-Sabogal et al., 2010; Ruggiero, Oros, & Choi, 2011; Rust et al., 2008; Ryan, Jennings, Vittoria, & Fedders, 2013; Samuels et al., 2010; Seto et al., 2012). The intervention for the prevention of diabetes among African American children found that the intervention made a significant difference in the reduction of energy and fat intake between the boys in the intervention and control groups. No significant difference was found in the energy intake between girls in the intervention and control groups (Sharma & Fleming, 2012). The authors, Sharma and Fleming (2012), recommended future interventions to design a special study for girls only. The internet-based intervention produced significant results in terms of low-density lipoprotein (LDL) decrease but the levels of triglycerides increased among people who were more active using chat messages. The authors suggested that an Internet-based intervention might be effective but costly to manage (Ryan, Schwartz, et al., 2013).

Some interventions focused on one or a combination of the following: weight management, diet, case management, self-management, and counseling or education yielded significant results. In addition, interventions that used community health workers only or community health workers coupled with clinicians also had significant results. The combination of phone calls and education also yielded significant results. Regardless of race, gender or age all the completed interventions that targeted the entire community or a certain group of the community produced significant results, except for the study on the use of a report card to control diabetes among adult diabetics which did not yield a significant effect (H. H. Fischer et al., 2011) and three studies that yielded partially significant effects (McKee et al., 2011; Millard et al., 2011; Sharma & Fleming, 2012).

Some authors who implemented interventions targeted toward Hispanic communities suggested that to be effective, the interventions need to be tailored to match the culture of the community (Lujan, 2006; Lujan et al., 2007; Rosal et al., 2011). In addition, they suggested that the use of community health workers or lay community workers were highly effective on interventions for the Hispanic population (Lujan, 2006; Lujan et al., 2007; Rosal et al., 2011; M. S. Spencer et al., 2011). Oftentimes it is difficult for a patient to spend a sufficient amount of time with a doctor and get all of their questions answered. Having a community health worker spend time with patients might help to alleviate this problem. Community health workers do a variety of things including patient education, identifying resources for patients, and providing case management (Spencer, et al., 2011). Thus, health care workers including doctors, nurses, and community health workers must be trained and culturally competent in order to relate to Latino individuals and to understand the patient's circumstances which may have a great bearing on their adherence to treatment (Sorkin, et al., 2013). Additionally, in order for some interventions to be successful,

the entire family has to be involved. This is especially true with the Hispanic/Latino culture (Sorkin, et al., 2013).

Furthermore, in order to have successful interventions in a low-income community, there must be a sense of trust between the workers and community members. Community members should be involved to help design the intervention. There must also be collaboration among community organizations, and a way to track the progress of the intervention so that changes can be made if necessary (Parra-Medina, et al., 2004).

In general the interventions had significant impact on the target populations. With respect to the purpose of the intervention, 9 of 11 completed interventions to prevent diabetes or reduce diabetes risk levels generated significant results. In addition, 26 of 27 completed interventions towards diabetes control and care yielded significant outcomes and 3 of 4 of the completed interventions that focused on diabetes complications provided significant results (Scollan-Koliopoulos, 2004; Michael S. Spencer, Hawkins, Espitia, Sinco, & et al., 2013; Walker, 2001). The summary of the results of the interventions is in table 3.

Table 3. Study Design and Outcomes

	RCT ^a	Pre-Post	CEA ^b	FBS ^c	OBS ^d	Surveys	QS ^e	RD ^f	Pilot study	Significant Outcomes	Partial Outcomes	No significant outcomes	Ongoing study
Mayer-Davis et al. (2001)	X								X	X			
Walker et al. (2001)	X									X			
Auslander, et al.(2002)	X	X								X			
Fanning (2002)			X		X					X			
Lorig et al. (2003)										X			
Scollan-Koliopoulos (2004)						X				X			
Vetter, et al. (2004)	X									X			
Rosal et al.(2005)	X								X	X			
Lujan (2006)	X									X			
Seliger et al. (2006)										X			
Lujan et al. (2007)	X									X			
Batik et al. (2008)	X									X			
Culica et al. (2008)				X						X			
Fischer et al. (2008)													X
Rust et al. (2008)		X		X					X	X			
Sekhobo et al. (2008)								X		X			
Gary et al. (2009)	X									X			
McCloskey (2009)							X			X			
Merriam (2009)	X												X
Rosal et al. (2009)	X												X
Whittemore et al.(2009)	X								X	X			
Delgadillo et al.(2010)	X												X
Ell et al. (2010)	X									X			
Otero-Sabogal et al. (2010)		X				X	X			X			

Parikh et al. (2010)						X			X	X			
Samuels et al. (2010)		X								X			X
Allen et al. (2011)	X												X
Egede et al (2011)	X												X
Fischer et al. (2011)	X					X						X	
McKee et al. (2011)	X								X		X		
Millard et al.(2011)		X							X		X		
Philis-Tsimikas et al. (2011)	X									X			
Rosal et al. (2011)	X									X			
Ruggiero et al. (2011)		X								X			
Spencer et al. (2011)	X									X			
Welch et al. (2011)	X									X			
Brown et al. (2012)			X							X			
Gerber et al. (2012)	X												X
	RCT	Pre-Post	CEA	FBS	OBS	Surveys	QS	RD	Pilot study	Significant Outcomes	Partial Outcomes	No significant outcomes	Ongoing study
Huckfeldt et al. (2012)							X			X			
Kanaya et al. (2012)	X									X			
Ockene et al. (2012)	X									X			
Peek et al. (2012)							X			X			
Seto et al. (2012)		X								X			
Sharma & Fleming (2012)	X										X		
Ryan et al. (a) (2013)		X								X			
Ryan et al. (b)(2013)				X						X			
Sorkin et al. (2013)	X												
Spencer et. al. (2013)	X									X			

^aRCT = Randomized Controlled Trials

^b CEA = Cost-Effectiveness Analysis

^cFBS = Feasibility Study

^dOBS = Observational Study

^eQS = Qualitative Studies including interviews, case studies and focus groups

^fRD = Retrospective Design

DISCUSSION

Our review showed that a significant amount of research has been conducted in the United States over the past 13 years that focused on diabetes, but far fewer have been conducted in low-income communities. Our review focused on 48 eligible studies - which represent approximately 25% of the number of articles originally identified for review. This percentage emphasizes the need for more studies of low-income populations with diabetes because the engagement of those populations will be important for better understanding how they are managing diabetes and whether or not effective strategies are being employed to decrease incidence rates.

Several techniques were found in this review to be successful from the standpoint of engaging diabetic patients. First, the use of intervention techniques including self-management, frequent utilization of health services and adoption of a healthy behavior using weight management, diet, and physical activities showed evidence that greater engagement of the subjects generates significant results. These findings suggest that practitioners may wish to use these types of engagement techniques with diabetic patients given their association with successful outcomes. Second, the review showed that approaches using community health workers and clinicians were associated with more successful outcomes. There is evidence in the literature supporting the use of community health workers in diabetes intervention. Jenkins, et al., (2010) reported that Racial and Ethnic Approaches to Community Health (REACH) community health workers ensured that people were linked with health professionals in community sites who taught people how to correctly use glucose monitoring meters.

Similarly, Andrews, Felton, Wewers & Health (2004) provided evidence indicating that community health workers are effective in increasing access to health services, increasing knowledge, and promoting behavior change among ethnic minority women as well as providing social support and culturally competent, cost-effective care. Third, the review indicates that a focus on the culture of the community made a significant difference in effectiveness of interventions, particularly in Latino communities. This finding is consistent with that found in the literature. Osborn, Amico, Cruz, O'Connell, & Perez-Escamilla, (2010) report that the use of the “information – motivation – behavioral skills” model when culturally tailored to diabetes interventions in Puerto Rican patients enhanced patients' knowledge, motivation, and behavior skills needed for self-care. Likewise, Deitrick, Paxton, Riviera, Gertner, & Biery (2010) articulated the importance of culture in diabetes education via the use of a “Promotora de Salud” (health educator) who was Latina and conducted diabetes education in the community in Spanish, resulting in program participant satisfaction, increased ability to self-manage diabetes, and strengthened connections with other Latino diabetics.

Technology is another factor worthy of consideration in this review. It has become an increasingly important part of healthcare services delivery (Chen, Chen, Weng, Shang, & Yu, 2012; McBride, Delaney, & Tietze, 2012), patient education (Alexander, Frith, O'Keefe, & Hennigan, 2011; Chiu, 2011; Theroux, 2009) and patient interventions (Gesler, Hayes, Arcury, Skelly, & Nash, 2004; Rockefeller, 2008). Increasingly, technology is also being used in the healthcare field for patient engagement (Graffigna, Barelo, & Riva, 2013; Perna, 2012; Shapiro-Mathews & Barton, 2012).

In this review one intervention, Ryan, Jennings and Fedders (2013) used the Internet as a tool for self-management with the finding that LDL level decreased but triglyceride levels increased among people who used chat messages more frequently. However this study did not determine what other contributing factors may be responsible for this finding. Also, two studies, Mayer-Davis et al. (2001) and Seto et al. (2012), in this review noted the use of a diabetic registry. Disease registries are databases used to identify a patient population, track the disease process and coordinate care for that population, and using a diabetic registry can assist healthcare providers in coordinating care needed for individual patients (Halvorson, 2009). In a study conducted by Seto, et al. (2012) of a community center in California serving primarily low-income Asian American immigrants, the authors found that the center's use of a diabetic registry resulted in 59% of patients achieving controlled diabetes – outperforming the average control rate reported by commercial carriers (43.3%), Medicare (43.4%) and Medicaid (32.9%).

Furthermore, other studies of diabetics have included the use of technology as a patient engagement component providing additional evidence of the role of technology in diabetes patient engagement (Grant et al., 2006; Jethwani et al., 2012; Warrise Turner et al., 2013). Given the prevalence of technology use in the healthcare field in the area of patient engagement, its use in engagement of diabetics and the aforementioned examples of the use of diabetic registries, it is surprising that more studies in this

review did not include technology as a means of engaging diabetic patients. Perhaps the expense of such technologies is a factor. Adler-Millstein et al. (2007) found that an application service provider-based stand-alone diabetes registry with clinical reminders ranged from \$35,900 for a small practice to \$68,700 for a large practice and these costs do not include annual fees to maintain the software. Such costs can be prohibitive. Additionally, the level of technological literacy among low-income communities may explain the lack of technology in studies in this review as some studies in the literature have shown lack of computer literacy in low-income communities (Mehra, Merkel, & Bishop, 2004; Shafir, Sinai, & Yuan, 2012). Perhaps the combination of both factors (technological expense and low technological literacy) explains these results.

While some studies focused on women, we did not find any studies specifically targeting men; however, men usually do not participate in regular provider check-ups (Courtenay, 2000). We were unable to find any interventions aimed at men's diabetic health. Since Native Americans, in general, and African American men are less likely to trust the medical institution (Shavers, Lynch, & Burmeister, 2002), a community-based intervention might offer a less intimidating environment in which they may be encouraged to participate.

Limitations

This review has some limitations with respect to the generalization of the interventions, the information from the studies, the community engaged in the interventions, and the conclusion from the studies. Since all the interventions in this review were implemented at community level, generalization is only possible towards the community in which the interventions were implemented. Implementing an intervention that was successful in a county in rural Alabama might not get the same results if it is implemented in another county in rural Oregon because of differences in the macro environment. In addition, while ten variables pertinent to the interventions were presented here there are other areas related to engagement that were not included because they were not available. These include the total cost of each intervention and the source of funding. Given the scarcity of financial resources, knowing the cost of each intervention and the source of funding might help other communities to realize if an intervention is worth trying or not.

In addition, it is possible that culture may be a factor leading to the lack of interventions towards other ethnic communities. Because of past negative experiences with outside researchers, American Indian and Native Alaskan communities, for example, do not always view health research favorably (Tom-Orme, 2006); they might be reluctant to participate in a community-based intervention. This may have contributed to the lack of published interventions on these populations. Finally, another limitation is that not all interventions are published, thus we can only report on what has been published in the literature. It is possible that other studies have been conducted, which were not published, giving us only a partial view of the total number of studies conducted on diabetes engagement techniques in low-income communities and the conclusion with respect to the effectiveness of these studies.

Recommendations for future interventions

Based on our review we offer several recommendations for the research and health practitioner communities. First, while there was ample representation of the Latino communities in our study (46%), there is a paucity of studies in our review focusing on other ethnicities such as African American, Asian, American Indian /Alaskan, or Native Hawaiian/Pacific Islander, including men. The age-adjusted percentages of diabetes among persons 18 and over in 2010 in these communities are 12.9, 9.1, 17.5, 23.7, respectively (CDC, 2010) thus offering support for the need for more diabetes research in these communities.

Second, the use of technology as a twenty-first century approach for engaging low-income communities must be further explored. The evidence shows that health information technology interventions have been shown to be helpful in improving provider-patient communication and care in general but the cost of these interventions can be cost-prohibitive in settings focusing on care for low-income patients (Ngo-Metzger, Hayes, Chen, Cygan, & Garfield, 2010). But as the prices for technologies decrease over time and as the rest of the population's use of technology increases, practitioners should selectively determine which technologies are affordable enough to incorporate into practice. Failure to do so may widen the digital divide – a concept defined as “the gap that exists between individuals advantaged by the Internet and those individuals relatively disadvantaged by the Internet” (Rogers, 2002).

Finally, in engaging diabetic patients there may be a role for tailoring therapies (based on income), personalization of educational materials, and/or feedback from patients. Research by Gilmer et al. (2007) shows the cost-effectiveness of Project Dulce – a culturally specific diabetes case management and self-management program administered in low-income populations. Additionally, Bosma, Lamers, Jonkers, & van Eijk, (2011) found positive effects on depression, health-related quality of life and self-efficacy in diabetes self-management based on education level. The evidence from these studies suggests that tailoring interventions may be associated with positive outcomes.

CONCLUSION

Diabetes is a chronic disease that can lead to early death or trigger the onset of other health issues and complications. Some community-based interventions have been conducted to address this epidemic. The purpose of this study was to review low-income community-based interventions to reduce diabetes risk, control diabetes, and prevent diabetes complications based on literature published during the 21st century. The majority of the interventions focused on diabetes control through self-management, education, and lifestyle change and the use of community health workers and/or clinicians. We also found that interventions for Hispanic/Latino communities outnumbered those intended for African American and other race/ethnic minorities. Most of the interventions resulted in significant improvement, from base-line, of the variables of interest; randomized controlled trials were the most used study design. Future interventions should consider the use of technologies, customization of the interventions to fit the specific profiles of the subjects, and target other race/ethnic groups.

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The Topeka El Centro Community Health Project: The Impact of Education

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ABSTRACT

The purpose of this study was to bring to light the importance of education in a medically underserved area such as El Centro. The research was conducted using the COACH Mobile Health Clinic from Washburn University in a central location in the community. A total of twenty-nine participants took part in the study. Based on the findings, it was determined that the majority of the participants were Hispanic, had a genuine concern for their health, and were eager to become more informed about their health concerns. The study concludes that education alone can have a positive impact on health.

INTRODUCTION

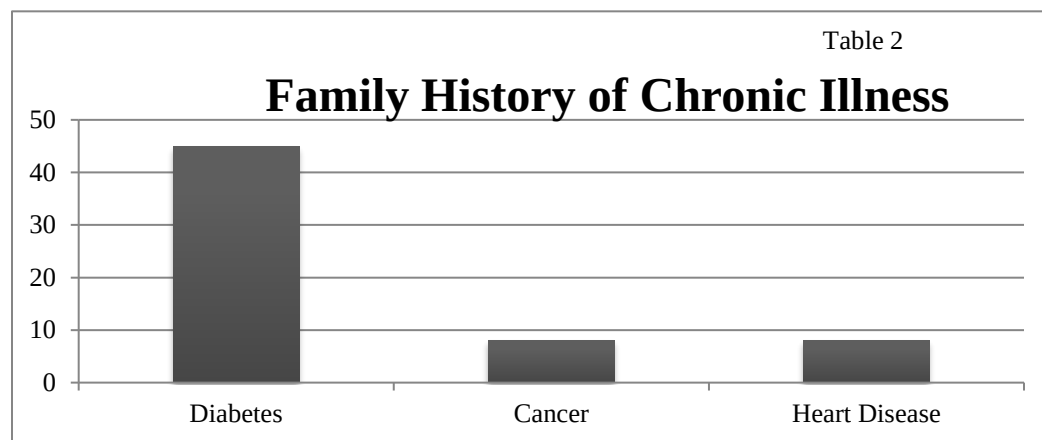
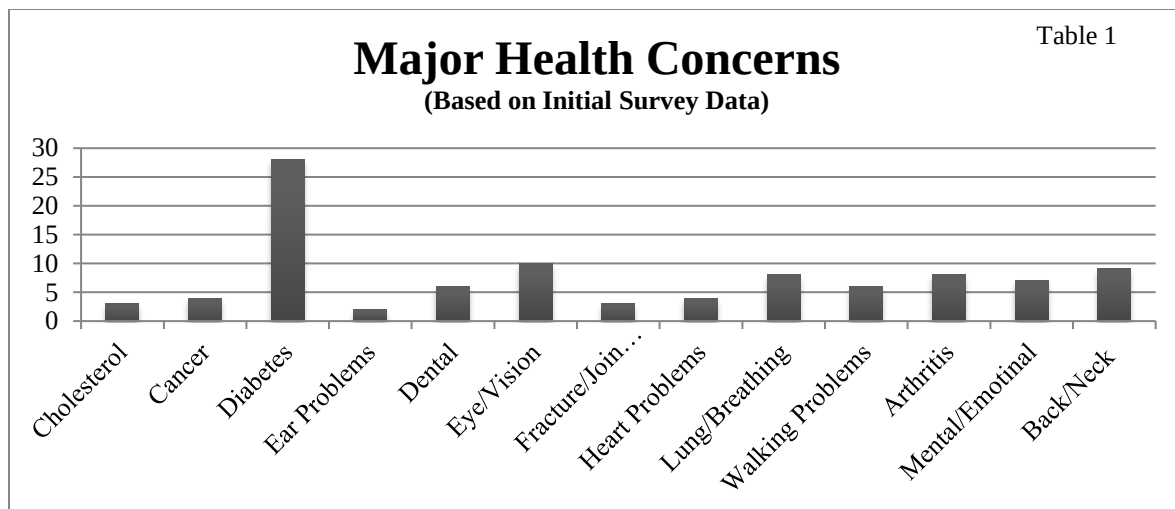
There is a large community of Hispanic people living in the Oakland area of Topeka, KS. So large in fact, that on Seward Avenue, most of the stores advertise in Spanish only, and there are two Catholic churches within several blocks of one another. There is one for the English speaking community and one that is mostly claimed by the Hispanic community. Hispanics are one of the fastest growing populations in the United States, increasing by 13.2% in the last decade of the 20th century (Galanti, 2003, p.180). Educational levels among Hispanics vary, although they are generally low according to the National Health Interview Survey (1992-1995), with the lowest found among Mexican Americans: only 8.6% graduated college, whereas more than half did not finish high school. Only 22% of Mexican American families earn \$35,000 a year or more, whereas 27% live below the poverty line. Because many of the jobs held by Mexican Americans do not provide health insurance, more than a third of the population was uninsured in 1999 (Galanti, 2003, p.180). Accessing high quality healthcare for Latinos is an expanding concern across the nation. Multiple barriers limit access to healthcare for the majority of Latinos. Identified barriers include lack of health insurance, level of naturalization, acculturation, health literacy, language and cultural differences, socioeconomic status and lack of provider and patient relationship. These barriers are most prevalent among new immigrants that have lived less than five years in the US. Health-based community clinics and government agencies across the US have made attempts to develop programs and health education to overcome these barriers (Cangiani, 2013, p.1).

Initially in October of 2012 a survey was conducted in an area of Topeka known as Oakland. The survey was conducted using the framework from the University of Kansas Community Action Plan toolkit; it was then translated by the Modern Language department at Washburn University. The El Centro community team members then conducted the survey by telephone. The point of the survey was to identify some basic demographic information in this area regarding health. The survey included basic information such as: number of children in household, household size, emergency room visits in the past year and why, insured status, barriers to healthcare, and general health concerns. For the purpose of this study the data regarding the barriers to healthcare and general health concerns was used.

The resulting data from this survey addressed that most of the health concerns of the Hispanic community in the Oakland area of Topeka could be addressed and possibly resolved by education. According to the survey the most prevalent health concern was diabetes (see Table 1), which can typically be managed through lifestyle modifications. The survey also reported that the top barrier to receiving care is lack of insurance or a language barrier. With this data in mind as well as the prevalence of certain diseases in the Hispanic ethnicity, the need for a mobile clinic was established and a pilot program began that summer.

Over the course of four weeks in the summer of 2013, one Washburn School of Nursing instructor and one student opened a mobile health clinic in the Oakland area of Topeka. They were invited by the community's El Centro, which seeks to help the Hispanic community with their concerns and to provide education, and health and social services when needed. Washburn School of Nursing was asked to provide free health screenings and patient education to this medically underserved population. This community is one that is largely Hispanic, and many of them do not have insurance, see a doctor for regular care, or speak English. The instructor and student were very surprised by what they discovered; they found that the people of this community were interested in receiving health care, and very receptive to the education provided. They found that a significant portion of the patients had at least one major health problem such as diabetes or hypertension, and that most of them were able to significantly improve their health just with the health management education offered to them. Our hypothesis is that if the mobile health clinic were to become a regularly scheduled service, not only would we perhaps see a vast increase in the number of people visiting the clinic, but we might also see an overall improvement in the health of this population.

As seen in tables 1 and 2, diabetes affects a vast majority of the patients seen in the mobile health clinic and their family members. In fact, nearly 12% of all Hispanics have diabetes, compared with 7.1% of non-Hispanic whites. Comorbid depression affects 15-30% of all adults with diabetes and is associated with more diabetes-related symptoms, worse glycemic control, poorer self-management (worse adherence to dietary and medication recommendations, less physical activity, and less frequent glucose monitoring and foot care) (Eduardo, Aida, LaShawn, Guadalupe, & Leonel, 2013 p.43). In terms of diabetes treatment, Hispanics seek medical care from traditional healers (curanderos) or employ home remedies or over-the-counter medications, particularly when they experience financial or cultural and linguistic barriers to accessing the health and mental health system (Eduardo et al. 2013, p. 44). These findings, combined with our very personal experiences in treating people of Hispanic ethnicity, are very powerful support for why services such as the mobile coach are so profoundly important. With all the barriers this population has to healthcare, it is important that we bring the healthcare to them, that we do not charge for basic screening procedures or educational disease management and health related education, and that we provide a comfortable atmosphere and an interpreter to make sure that they are getting the best, and most accurate care possible. Every one of those factors is an important part of the recipe for success. For instance, if free screening and education is provided, but instead its provided across town and not within the community, then the chances of many of these people showing up significantly dwindles. Likewise, if we provide the mobile health clinic with free screening and education, but no one who fluently speaks Spanish, again we will not see the people who really need to be receiving these services and for whom these services are meant for. Under the new Patient Protection and Affordable Care Act (ACA), there are many new tools to aide in the fight against diabetes that will benefit the Hispanic population. For example, under the ACA, screening for depression is a now a preventive service covered at no cost for adults. This means that people with diabetes who may have undiagnosed depression can be screened without having to pay a copayment, have co-insurance, or meet an insurance deductible. Once the law is fully implemented, people with diabetes and depression will no longer be legally denied insurance or forced to pay a higher premium because of a preexisting condition. As stated before though, that is only one piece of the puzzle in providing desperately needed care to the Hispanic population.



METHODOLOGY

Data for this study was collected in several ways. In initiating this project, the COACH Mobile Health Clinic was parked at the church for four hours on Monday afternoons, providing health care accessibility to the Oakland area which is served by the El Centro community organization. During the four week summer program, one undergraduate nursing student and an advisor were present to provide free health care. Additionally, a translator was on location to provide assistance with Spanish-speaking clientele. Participants in this study were community members of varying ages who signed consent forms, allowed health screening tests to be performed, and had their progress tracked throughout the program. There were twenty-nine participants total; seventeen females and twelve males. Twenty-six of the participants classified their ethnicity as Hispanic, two did not provide this information, and one participant classified themselves as "non-Hispanic."

Upon the initial visit to the COACH Mobile Clinic, the nursing student and advisor distributed consent forms to the clients for them to read over and sign after answering their questions. This gave the practitioners consent to administer health screenings and health education. After signing the consent form, clients were asked to provide basic demographic information such as age, ethnicity, employment status, and whether or not they had health insurance coverage. Next, participants were asked what health concerns they had, and what they were hoping to learn from visiting the COACH clinic. Routine health screenings were then performed if appropriate for the patients, including: blood glucose levels, cholesterol (including HDL, LDL and triglyceride levels), blood pressure, heart rate, and blood oxygenation percentage. In addition,

height and weight readings were recorded for every client and their body mass index (BMI) was calculated as well. After the health screenings were completed, clients' other health questions were answered, and their concerns were addressed. Patient education was provided to ensure that clients knew the appropriate reading or level for each screening test, as well as ways in which they may be able to improve their levels in order for optimizing their overall health.

In the following weeks, the clients that returned to the COACH were provided the same screening tests, with the exception of the cholesterol test which was performed every two to four weeks. While consents did not need to be signed again, patient information was recorded on a card for the clients to keep as well as on the consent form for data collection purposes. Based on the findings from the repeated screening tests, further education was provided to the patient, including the importance of diet and exercise, and various questions were answered.

At the end of the four weeks, the recorded data was interpreted and conclusions were drawn based on the information and relationships presented in the data. Several weeks later, the COACH resumed service operation in the same location, this time with five nursing students, one student physical therapist assistant, and one advisor to provide interdisciplinary health care and education.

RESULTS

The data collected from the COACH Mobile Health Clinic from June to July 2013 included twenty-nine participants over a four week period, 59% were female, 41% were male, 90% self-identified as Hispanic, and the patients' mean age was 44.36. When asked about employment status, 65.5% did not respond, 13.7% reported that they were, 6.9% denied employment, 6.9% were retired, and 6.9% were children. Only 20.7% of the participants that visited had health insurance. It was discovered that five clients made two visits, two clients made three visits, and one client made four visits to the COACH.

The primary health service most frequently performed was health screenings, which accounted for 55%. The second most prevalent health issue addressed was nutrition and diet education at 21%, followed by diabetes management education (17%), high cholesterol education (17%), medication review (10%), chest pain (10%), breast exam (6%), well-child screening (6%), mental health (6%), pregnancy (3%), and plantar fasciitis (3%).

Blood pressure and blood glucose were the most performed health screens. Blood pressure was assessed in twenty-seven of the patients; or 93%. Of those twenty-seven, 63% had a blood pressure reading that was within normal limits; which is considered 120/80 mmHg or lower, and 37% of the evaluated patients had a blood pressure of 120/80 mmHg or higher. Blood glucose was assessed in 72% of the patients. For fasting participants, 4% had a blood glucose that measured 126 or above, and 48% had a measurement of 126 or less. For non-fasting participants, 48% had readings above 100, and 0% were within a normal range.

From the repeat clients, Patient A's blood pressure decreased from initially 120/90 to 100/70, fasting glucose dropped from 116 to 104, and total cholesterol dropped from 113 to 105, Patient B was able to lose 6 pounds over a three week period, and Patient C's blood pressure initially was 132/92, and it had decreased to 118/82.

DISCUSSION

In trialing the COACH Mobile Health Clinic as a summer 2013 pilot program, it was demonstrated that providing free screenings and health management education to a medically underserved population produced positive effects on the clients. Over the course of four weeks, twenty-nine participants received medical services from the clinic; twenty-six of whom self-identified as Hispanic. The Hispanic community in Topeka, Kansas consists of approximately 17,000 individuals; representing the largest minority in Topeka with continual growth. Unfortunately, this particular minority population has demonstrated decreased access to medical resources. On a national level, it was determined by the U.S. Department of Health and Human Services (n.d.) that “Hispanic health is often shaped by factors such as language/cultural barriers, lack of access to preventive care, and the lack of health insurance.” By contacting eleven supporting community agencies, it was determined that the primary barriers for the Latino population in Topeka for accessing health care were cost, legal status, and a lack of health insurance. In the sample population seen at the clinic, six individuals had health insurance, twelve did not, and eleven did not respond to the question. In implementing the COACH clinic, these barriers were eliminated as the medical services provided did not require payment or insurance, and offered a convenient location for the local residents. In addition, to address the language barrier, an interpreter was provided on-site to translate as needed.

Although there were several health issues addressed by the clinic, the primary medical needs and concerns expressed by these individuals were general health screenings, diet education, diabetes, and education for lowering high cholesterol. Escarce et al. (2006) determined that diabetes, hypertension, cardiovascular disease, and cancer are among the more prevalent chronic diseases presented in this minority population. From the data collected in the COACH, it was concluded that 23.5% of the clients mentioned a family history of diabetes. In addressing diabetes as a primary concern for this population, it can be noted that Hispanic Americans have a higher incidence of diabetes as compared to other ethnic groups; affecting 11.1% of this population (Welch et al., 2011). Complications that can arise from diabetes include: cardiovascular disease, kidney disease, blindness, and peripheral nerve damage (Escarce et al., 2006). This chronic condition often progresses to result in impairments in functionality, and a diminished quality of life in those impacted. In financial terms, more than 218 billion dollars are spent nationwide on diabetes every year (Welch et al., 2011). In implementing the COACH clinic, it was demonstrated that blood glucose levels improved in the patients who returned for follow-up testing by relying only on diabetes management education as their treatment. This concludes that the free services provided by the COACH have the potential to lead to health improvements as well as decrease health care expenditures in the treatment of chronic conditions.

Currently, the mobile COACH clinic is still in operation on Monday afternoons from 1:00-5:00 at the church. However this semester, an interdisciplinary health care team was implemented; consisting of nursing students and a student physical therapist assistant. This expansion of the health care team has offered patients different perspectives on chronic disease management, as well as several interdisciplinary treatment options. An example of an interdisciplinary approach to chronic disease management can be illustrated in a patient seen with several comorbidities. Among the first visits patient (X) made to the COACH, a diagnosis of atrial fibrillation with pitting edema and osteoarthritis were noted. As a team of students, we were able to provide education on these conditions, and suggest interventions to promote future health. For atrial fibrillation specifically, lifestyle changes such as proper nutrition, reading food labels, and incorporating physical activity were recommended. For the severe pitting edema observed in this patient’s ankles, the nursing students advised the patient to monitor sodium intake and elevate the lower extremities. Interventions for the osteoarthritis diagnosis included strengthening and range of motion exercises provided by the student physical therapy assistant (SPTA) to help manage joint pain. Additionally, our team was able to teach this client how to use an at-home blood pressure cuff; in order to monitor blood pressure changes on a daily basis. After a few consecutive visits and the implementation of suggested lifestyle modifications, we observed a significant decrease in the amount of edema present in the patient’s ankles. Having this opportunity to actually observe the team assisting an individual in making critical lifestyle changes to improve health proved rewarding, and demonstrates the effectiveness that organizations like ours make a difference in the community.

CONCLUSION

The focus of the pilot program for the COACH Mobile Health Clinic is an ongoing study with more data being collected every week. As data increases the ability to analyze the correlations and trends will also increase. The impact being made through education is a significant finding that can be replicated in similar medically underserved populations. The progress made with just a single nursing student and a single advisor has impacted 29 clients in improving their health and wellbeing. In order to continue to promote positive outcomes in this population, taking the next steps for developing the COACH clinic are necessary. In incorporating a nurse practitioner, more comprehensive and diagnostic care will be provided; benefiting the residents by offering an accessible primary care option. It will be essential for the practitioners to establish relationships with the Latino community leaders in order to build trust within the residents to facilitate increased utilization of the services. Also incorporating students in the modern language department and psychology students the interdisciplinary team can be broadened even further, allowing not just physical wellbeing but mental wellbeing. These things together will provide a holistic approach to this underserved population. Additionally, implementing a culturally sensitive patient-centric approach to chronic disease management and health promotion will lead to increased patient participation, compliance, and more positive outcomes. This study confirms that with education alone, positive impacts on health can be made. Hopefully in the future the incorporation of a nurse practitioner, psychology students, modern language students, and a liaison in the Latino community can form an affordable and trusting interdisciplinary health professional relationship.

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OVERWEIGHT AND OBESITY AMONG CHILDREN: AN EVALUATION OF A WALKING PROGRAM

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ABSTRACT

The purpose of this study was to identify the prevalence of overweight and obesity among 5,158 school-age children and to evaluate the effectiveness of a walking program to encourage physical activity among children in Western Pennsylvania. According to the National Health and Nutrition Examination Survey (NHANES), obesity in school-age children affects approximately 19% of children ages 6-11 in the United States (Centers for Disease Control and Prevention, 2010c). Data were collected over 6 years. The results of the study revealed the prevalence of obesity and overweight was higher than the national averages; 36% versus 20%. The results also revealed the walking program to be beneficial in reducing students' prevalence of obesity and overweight and keeping them moving.

INTRODUCTION

Obesity is a worldwide epidemic and the fight against obesity requires changes in many areas of life. Global trends point to increasing prevalence in 97 countries and approximately 65% of the world's population live in countries where obesity kills more people than underweight (Harris, Pomeranz, Lobstein, & Brownell, 2009; Rabbitt & Coyne, 2012). For example, the magnitude of chronic health problems such as overweight and obesity in China is escalating (Griffiths, 2010). Two-thirds of the American adult population and almost a third of children are overweight or obese and the progress to stop the epidemic has been too slow (Cusi & Ocampo, 2011; Sherwood, Senso, Fleming, & Roeder, 2013). Results of the 2007-2008 National Health and Nutrition Examination Survey (NHANES) indicate that obesity in school-age children has almost doubled in the past two decades, affecting approximately 20% of children ages 6-11 in the United States, and approximately 18% of adolescents (Centers for Disease Control and Prevention, 2010c; Lueke, 2011).

Other countries throughout the world, including Switzerland (Lasserre, Chiolero, Paccaud, & Bovet, 2007), Italy (Lazzeri et al., 2008), Hong Kong, Brazil (Cole, Bellizzi, Flegal, & Dietz, 2000; Wang, Monteiro, & Popkin, 2002), Great Britain, the Netherlands, Singapore (Education Law Center, 2012), and Russia (Wang et al., 2002) are showing similar increases in childhood obesity, making this an emerging global concern. Many authorities consider children as obese when their body mass index (BMI) is greater than the 95th percentile BMI of an age and sex-specific reference population; BMI's of overweight children are in the 85th – 95th percentiles of the reference population (Centers for Disease Control and Prevention, 2011).

Childhood obesity is of particular concern because a number of studies shows that the risk for adult obesity is 2-6.5 times higher for this group of children (Thomas, 2006). Researchers are beginning to realize that this relatively new phenomenon of widespread childhood obesity is a complex issue involving differences in parenting styles, cultural influences, socioeconomic and psychological considerations, as well as genetic predisposition (Regber, Berg-Kelly, & Marild, 2007; Singhal, Schwenk, & Kumar, 2007). Additionally, a new study reports that approximately 22% of children with the highest levels of bisphenol A (BPA; a chemical found in water bottles and food packaging) were obese, compared to only about 10% of children and adolescents with the lowest levels of BPA (Trasande, Attina, & Blustein, 2012).

Overweight and obesity is high on the list of Healthy People 2010's Leading Health Indicators, which highlights the major public health concerns within the United States, and includes problems such as tobacco use and substance abuse (Chrvala & Bulger, 1999). Obesity rates are expected to increase dramatically in every state of the country. Approximately 50% of U.S. adults will be obese by 2030, with average medical costs of up to \$66 billion per year (Wang, McPherson, Marsh, Gortmaker, & Brown, 2011). Adult obesity is a major contributing factor of many preventable causes of death and the estimated costs in terms of medical care and lost productivity are as high as \$99 billion dollars per year (Chrvala & Bulger, 1999). Obesity is also proving to have extremely detrimental health effects during childhood. Overweight children have an increased risk of high blood pressure, heart disease, depression, hyperlipidemia, musculoskeletal disorders, early sexual maturation and psychosocial issues such as low self-esteem, bullying, social isolation, poor body image, and discrimination (Centers for Disease Control and Prevention, 2008; Franks et al., 2010; Lueke, 2011; National Association of School Nurses, 2003; Rabbitt & Coyne, 2012).

If obesity rates continue in the trajectory expected, chronic conditions such as Type 2 diabetes, coronary heart disease and stroke, and hypertension could increase 10 times between 2010 and 2020, and again double by 2030 (Centers for Disease Control and Prevention, 2010a). Additionally, some studies show a significant relationship between childhood obesity, asthma and Type 2 diabetes mellitus. A meta-analysis of 12 studies that met strenuous inclusion criteria, revealed that "high body weight among school aged children increases the risk of future asthma by approximately 50%" (Flaherman & Rutherford, 2006, p. 337). The prevalence of asthma is steadily increasing, both in the United States and globally, and is a major cause of morbidity and mortality in children (Flaherman & Rutherford, 2006). A recent study shows that school-age children in a rural town in Pennsylvania have much higher asthma rates than the national rural population, specifically 17% versus 8.5% (Zuraikat, Kuzneski, & Plamer, 2006). Another study revealed that 35% of obese children and adolescents were asthmatic (Al-Shawwa, Al-Hunuti, DeMattia, & Gershan, 2007).

The first lady, Michelle Obama, recognizing schools should be a national focus, led a revamp of the way American children eat and play with the "Let's Move" campaign. This campaign brought the introduction of healthier food options and the American Academy of Pediatrics called on doctors to measure body mass index in children (Obama, 2010). Healthy habits, including physical activity, can lower the risk of becoming obese and developing related diseases (Centers for Disease Control and Prevention, 2012). Schools play a particularly critical role by providing opportunities for students to learn about and

practice healthy physical activity behaviors (Centers for Disease Control and Prevention, 2012). In response to the increase in childhood obesity, school programs have begun to provide education about obesity, more nutritious food choices and physical activity within the school environment. Despite implementation of these programs, the results of decreasing childhood obesity have been both modest and mixed (Thomas, 2006).

The purpose of this study was to determine the prevalence of overweight and obesity among children, ages 6-11, in a rural area in Western Pennsylvania. In addition, this study evaluated the effectiveness of a pilot program developed to encourage physical activity in all school-age children through walking. The results of this study will help establish baseline statistics prior to implementation of programs that address prevention and treatment of childhood obesity.

METHODS

Measurement

This study was an evaluation of a walking program, utilizing existing BMI data. BMI is the calculation of weight in kilograms divided by the squared height in meters and, in most cases, is a reliable screening tool for childhood obesity. This data is public information and was available from the school upon request. To maintain confidentiality, the participants remained anonymous; no names or personal information were shared with the researcher. No comparison group was used in the evaluation of the walking program.

Participants

The study included a total of 5,158 students, ages 6 to 11 years, from three schools in a rural area in Western Pennsylvania to determine the prevalence rate of overweight and obesity among school age children. In response to the growing incidence of childhood obesity, the Pennsylvania Department of Health has mandated that school nurses calculate body mass index (BMI) levels on all students and submit the results to parents or guardians. Since 2005, schools in the surrounding area collected the data and communicated results to parents without any comprehensive intervention plan. The data were never analyzed in-group or aggregate to determine the magnitude of overweight and obesity among the school population. The primary investigator for this research project approached all school nurses and offered to assist with the analysis of the raw data of BMI and compare the prevalence with the other school districts as well as with the national data on overweight and obesity. Only the raw data were provided. This walking program was voluntary and children had the option to not participate, although they were encouraged to participate in order to improve their health.

Procedures

The study was coordinated with school nurses and school administrators, whom announced the walking program at the beginning of the academic year to encourage children to participate in the program. A social event was also provided for the children, featuring healthy snacks. The project provides baseline data intended to assist in the development of effective educational programs that aid in the prevention and treatment of overweight and obesity in school-age children.

The walking intervention required that participants walk the perimeter of the playground during

recess. During rainy days, the children walked in the gym to maintain continuity of the program. Teachers were responsible for supervising students and marking their individual cards for each lap walked. The goal was to reach 5 miles and 10 miles each semester, respectively. Children who met the goals received a gift reward and a certificate of recognition. BMI data were measured and collected by the school nurse at the beginning of the academic year in compliance with the Department of Health regulations, and again at the end of the academic year. Data were analyzed to see if there was any significant difference in body weight and BMI index before and after the pilot program. Data were also compared with other school districts to find out the impact and effectiveness of the pilot walking program.

This project was replicated in three different institutions in Western Pennsylvania for six years. There was not a fixed design across the three projects, thus they were examined individually using pre- post quasi -experimental design. Data collected the first year served as baseline data for the walking project, and those years after the implementation of the walking program were utilized as post data. Data were collected at the first school during the 2005-2006 and 2006-2007 academic years, whereas data were collected at the second school district during four academic years (i.e., 2006-2007 school years to 2009-2010 school years). Lastly, data were collected at the third school during the 2009-2010 and 2010-2011 academic years (Table 1).

RESULTS

Pre-Program Data

Prior to the intervention at school one (n = 724), 2% of children grades kindergarten through fourth grade were considered underweight (< 5% BMI); 19% of children grades kindergarten through fourth grade were considered overweight (85-95% BMI); and 20% of children grades kindergarten through fourth grade were considered obese (>95% BMI). Thus, 39% of children, kindergarten through fourth grade were overweight (Figure 1).

Prior to the intervention at school two (n = 603), 3% of children grades kindergarten through fourth grade were considered underweight (< 5% BMI); 16% of children grades kindergarten through fourth grade were considered overweight (85-95% BMI); and 21% of children grades kindergarten through fourth grade were considered obese (>95% BMI). Thus, 37% of children, kindergarten through fourth grade were overweight (Figure 2).

Prior to the intervention at school three (n = 462), 1.3% of children grades kindergarten through fourth grade were considered underweight (< 5% BMI); 66% of children grades kindergarten through fourth grade were considered to be in the “healthy” range (5-84%); 12.8% of children grades kindergarten through fourth grade were considered overweight (85-95% BMI); and 19.8% of children grades kindergarten through fourth grade were considered obese (>95% BMI). Thus, 32.6% of children grades kindergarten through fourth grade was overweight (Figure 3).

Post-Program Data

The prevalence of overweight and obesity decreased overall among participating children of school one (n = 1051) at the end of the follow-up period when compared to baseline. Prevalence of overweight dropped by 7 percentage points among children kindergarten through fourth grade. Post-intervention, 2% of children grades kindergarten through fourth grade were considered underweight (< 5% BMI); 17% of children grades kindergarten through fourth grade were considered overweight (85-95%

BMI); and 15% of children grades kindergarten through fourth grade were considered obese (>95% BMI). Thirty-two percent of children grades kindergarten through fourth grade was overweight or obese, indicating the walking program may be beneficial (Figure 4). Results of the 2005-2006 school year were stratified by grade level, indicating an increase in percent overweight from 3rd to 4th grade (i.e., 15% to 20%) and a decrease in percent overweight from 5th to 6th grade (i.e., 19% to 12%). Similar results were found in the data from the 2006-2007 school year. An increase of percent overweight occurred from 3rd to the 4th grade (i.e., 13% to 17%) and a decrease of percent overweight occurred from 5th grade to 6th grade (i.e., 17% to 14%).

The prevalence of overweight and obesity decreased overall among participating children of school two (n = 653) at the end of the follow-up period when compared to baseline. Reductions in the prevalence of overweight dropped by 1 percentage point among children kindergarten through fourth grade. Post-intervention, 3% of children grades kindergarten through fourth grade were considered underweight (< 5% BMI); 61% of children grades kindergarten through fourth grade were considered to be in the “healthy” range (5-84%); 16% of children grades kindergarten through fourth grade were considered overweight (85-95% BMI); and 20% of children grades kindergarten through fourth grade were considered obese (>95% BMI). Thirty-six percent of children grades kindergartens through fourth grade were either overweight or obese (Figure 5).

Lastly, the prevalence of overweight and obesity increased overall among participating children of school three (n = 462) at the end of the follow-up period when compared to baseline. The prevalence of overweight increased by 3.4 percentage points among children kindergarten through fourth grade. Post-intervention, 1.76% of children grades kindergarten through fifth grade were considered underweight (< 5% BMI); 62% of children grades kindergarten through fifth grade were considered to be in the “healthy” range (5-84%); 17.3% of children grades kindergarten through fifth grade were considered overweight (85-95% BMI); and 18.7% of children grades kindergarten through fifth grade were considered obese (>95% BMI). Thirty-six percent of children grades kindergarten through fifth grade were either overweight or were obese (Figure 6).

DISCUSSION

The walking program was beneficial in reducing the students’ prevalence of obesity and overweight and keeping them moving. However, the results of the study revealed the prevalence of overweight and obesity among school age children in three rural areas of Pennsylvania were much higher than the national average of 20%. Specifically, 36% of both school two and school three students were at-risk or overweight, and 32% of school one students were at-risk or overweight (Figure 7). These findings were not surprising taking in to consideration that the three areas included in this study are classified as underserved areas with this high levels of poverty, unemployment, and lack of health insurance (U.S. Department of Agriculture, 2012). Poverty has been shown to be associated with poor nutritional habits, combined with lack of exercise, which increase the incidence of overweight (American Academy of Child and Adolescent Psychiatry, 2012; Centers for Disease Control and Prevention, 2008).

School one data showed a large increase in 4th grade and a decrease in 6th grade. Therefore, it is possible that this fluctuation may be due to the “natural” growth spurt that begins primarily in girls at this age (Rogol, Clark, & Roemmich, 2000). No data were collected on sex and future studies would benefit from such demographic information. Overall, school three findings showed a slight decrease of 1% in the overweight group (i.e., >95% BMI). The “at risk” group (i.e., 85-95% BMI) and the underweight group (i.e., <5% BMI) increased by 4.5% and less than 1%, respectively. Lastly, the healthy category (i.e., 5-84% BMI) fell by 3.8%.

Limitations

It is important to acknowledge the limitations of this study. First, this pilot study included all participants from the chosen schools and only included an experimental group. There was no control group. Participation was voluntary; however, students from all three schools were invited to participate. Secondly, the walking program was not well structured. The students were asked to walk during their recess. Therefore, it was the students' responsibility to complete the physical activity. Lastly, there was no immediate reinforcement for the students' participation. They received a certificate of completion at the end of program; however, no reward was given for daily completion. If the researchers were to duplicate this study, a control group would be included, allowing for a more in-depth pre- and post-walking program analysis. In addition, it would be beneficial to construct different groups that involve different levels of age-appropriate activity (i.e., further distance or jogging for older students).

IMPLICATIONS

This study is unique in that it demonstrates the effectiveness of a simple walking program. The program was implemented during a designated recess, making this program both cost effective and feasible. The participants were asked to partake in basic exercise, walking. Increasing physical activity helps to improve children's health and psychological wellbeing (Ben-Sefer, Ben-Natan, & Ehrenfeld, 2009; Rabbitt & Coyne, 2012). Current health conditions of American children and adults are declining. A recent report on the myths of obesity reported that "physical education, as typically provided, has not been shown to reduce obesity;" multifaceted programs that include changes in diet and nutrition are likely more beneficial (Casazza et al., 2013). Unfortunately, the United States has failed at providing adequate health and nutritional education in schools and federally mandated programs have been unsuccessful so far. Changes need to occur in order to recover from the increase in obesity across the nation. One-third of American children and adolescents visit a fast food location at least once a day, while the portion size has significantly increased over the last 20 years (Lueke, 2011). In addition, children and adolescents have easy access to vending machines filled with sugary beverages and high-calorie foods. Children may benefit from changes such as removing vending machines from schools, integrating exercise into the curriculum, and improving the nutritional quality of school lunches. For example, New York has already discussed approving a 16-ounce limit on sodas and other sugary drinks at restaurants, delis, and movie theaters (Grynbaum, 2012). American children are eating as much salt as adults and those children who are overweight or obese are at three times greater risk of having higher blood pressure (Centers for Disease Control and Prevention, 2010b; Yang et al., 2012). The U.S. Department of Agriculture began implementing school meal standards on July 1, 2012. Under the federal Health Hunger-Free Kids Act, school meals must include more fruits, vegetables, and whole grains, and requires limits on saturated fat, trans fat, and sodium (U.S. Department of Agriculture Food and Nutrition Service, 2012).

Gym, recess, and after school programs have been reduced in many schools because of reductions in school budgets (Hardman & Marshall, 2000). For example, the poorest school districts in Pennsylvania lost approximately \$538 million since 2008 school budgets (Education Law Center, 2012). Therefore, cost-effective and feasible implications are crucial for aiding our youth in combating the obesity epidemic. Such implications and recommendations include (1) increasing the amount of physical activity among children in Kindergarten through 6th grade to 30-60 minutes, (2) setting goals throughout a physical activity program (i.e., weekly goals, goals for the end of the semester), (3) empowering children to make healthy lifestyle choices through participation in physical activities such as sports, (4) actively involving school teachers, administrators, school nurses and family members in children's physical activities such as walking programs and gym classes, (5) educating children, family members and school personnel about health and healthy lifestyles (i.e., exercise and nutrition), and (6) empowering school nurses to have a more active role as a change agent to combating childhood obesity.

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Table 1

Data collection years for three participating schools

Year of data collection	School 1	School 2	School 3
2005-2006	X		
2006-2007	X	X	
2007-2008		X	
2008-2009		X	
2009-2010		X	X
2010-2011			X

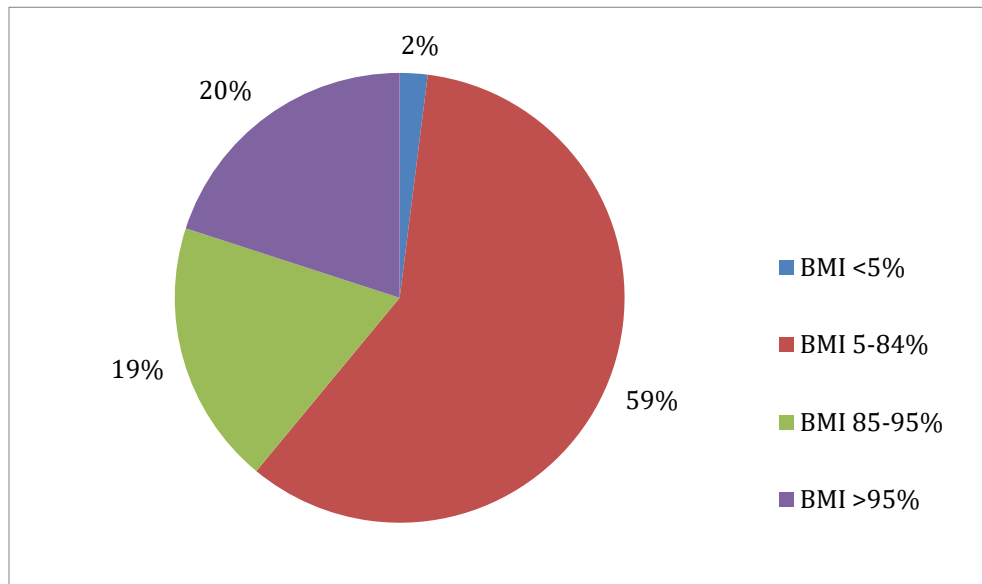


Figure 1. School One Pre-Walking Program BMI Data. This figure illustrates BMI percentages prior to the implementation of the walking program.

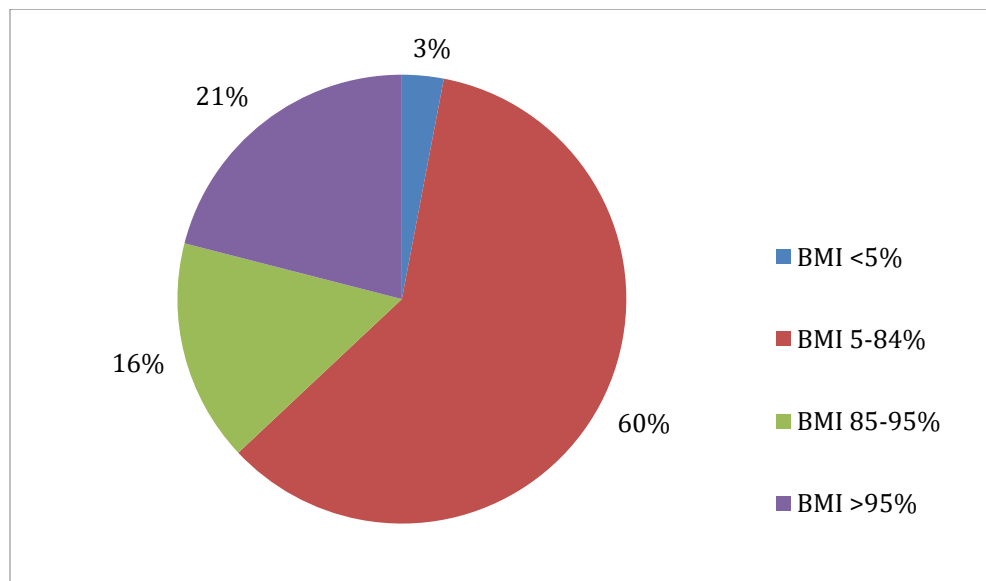


Figure 2. School Two Pre-Walking Program BMI Data. This figure illustrates BMI percentages prior to the implementation of the walking program.

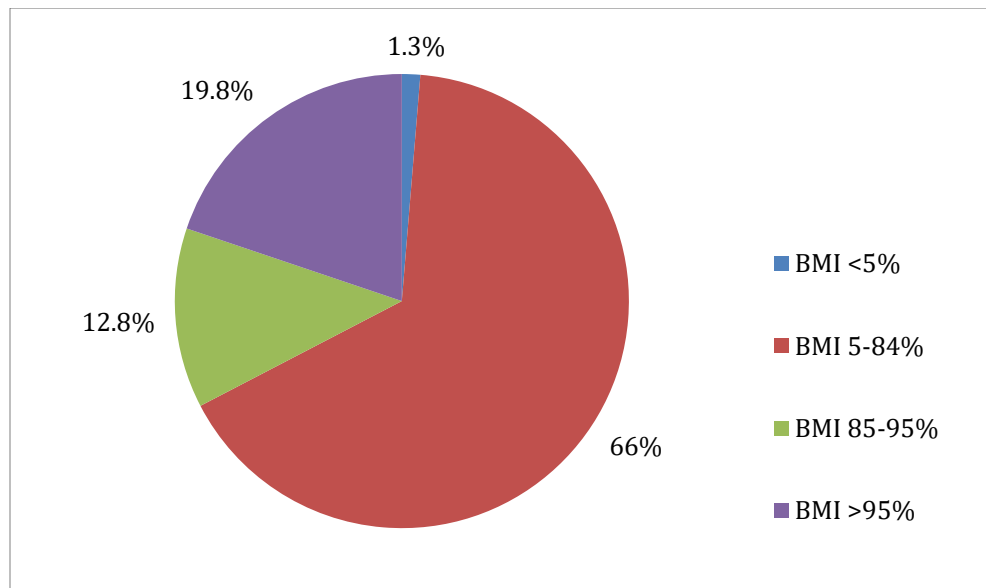


Figure 3. School Three Pre-Walking Program BMI Data. This figure illustrates BMI percentages prior to the implementation of the walking program.

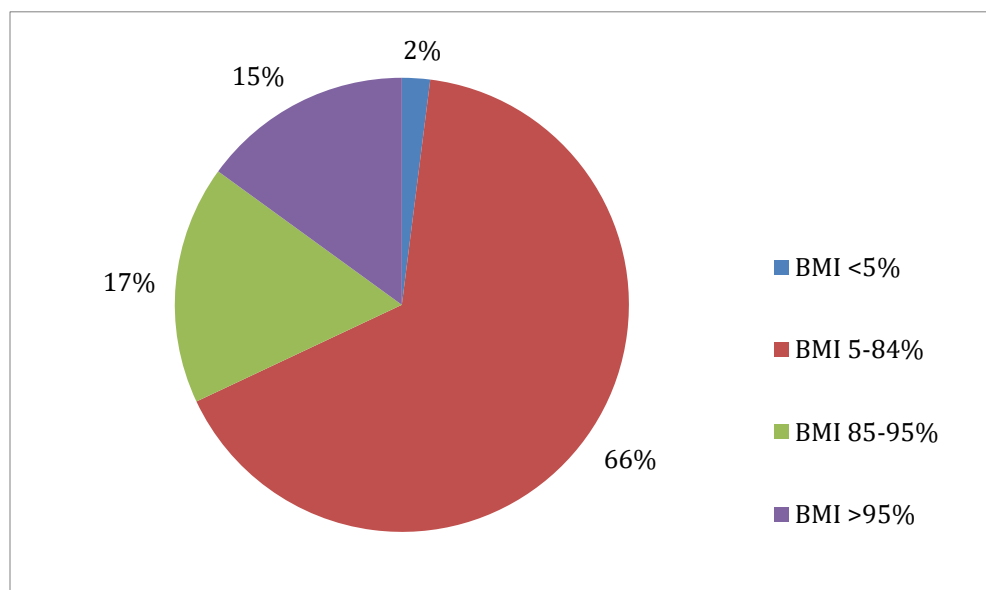


Figure 4. School One Post-Walking Program BMI Data. This figure illustrates BMI percentages after the conclusion of the walking program.

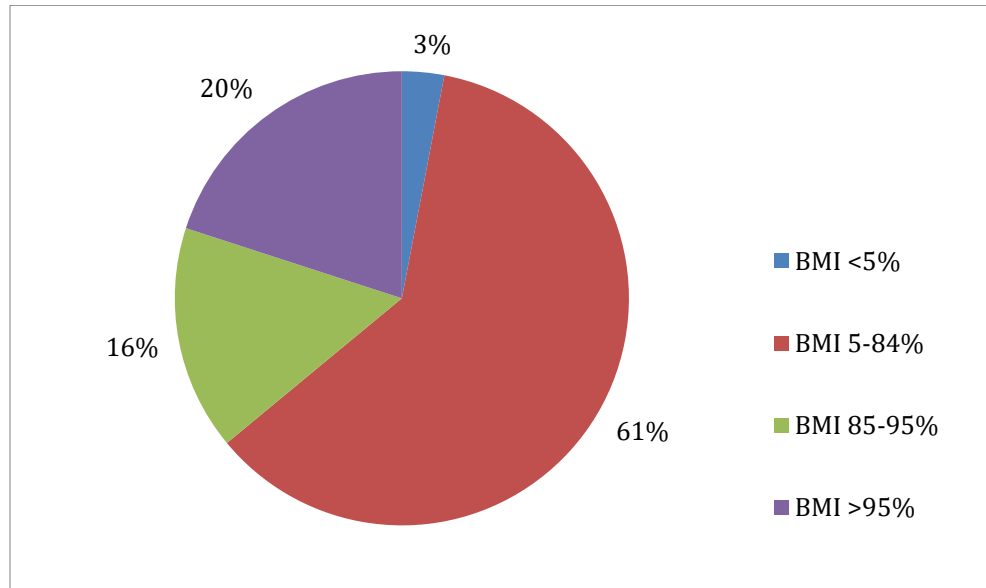


Figure 5. School Two Post-Walking Program BMI Data. This figure illustrates BMI percentages after the conclusion of the walking program.

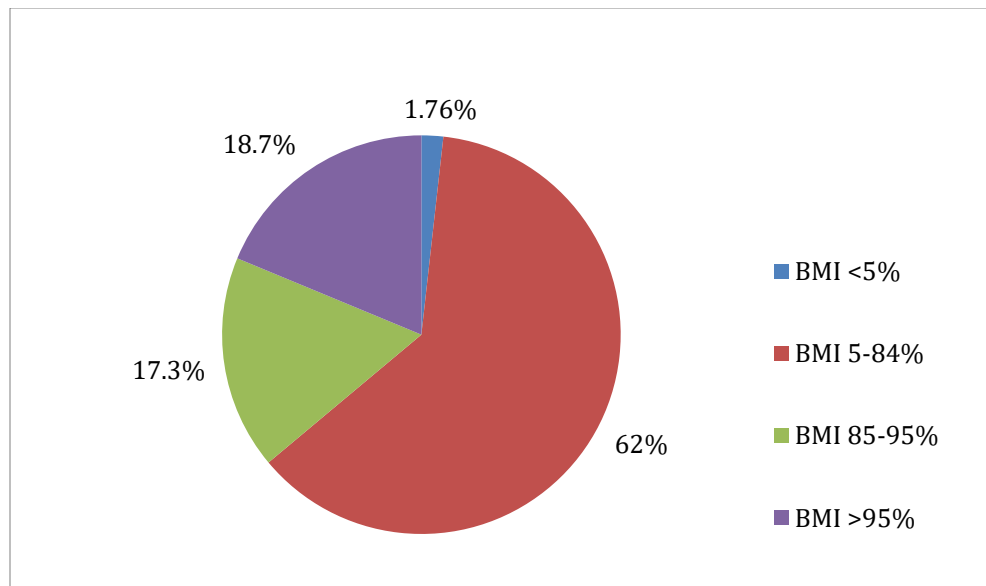


Figure 6. School Three Post-Walking Program BMI Data. This figure illustrates BMI percentages after the conclusion of the walking program.

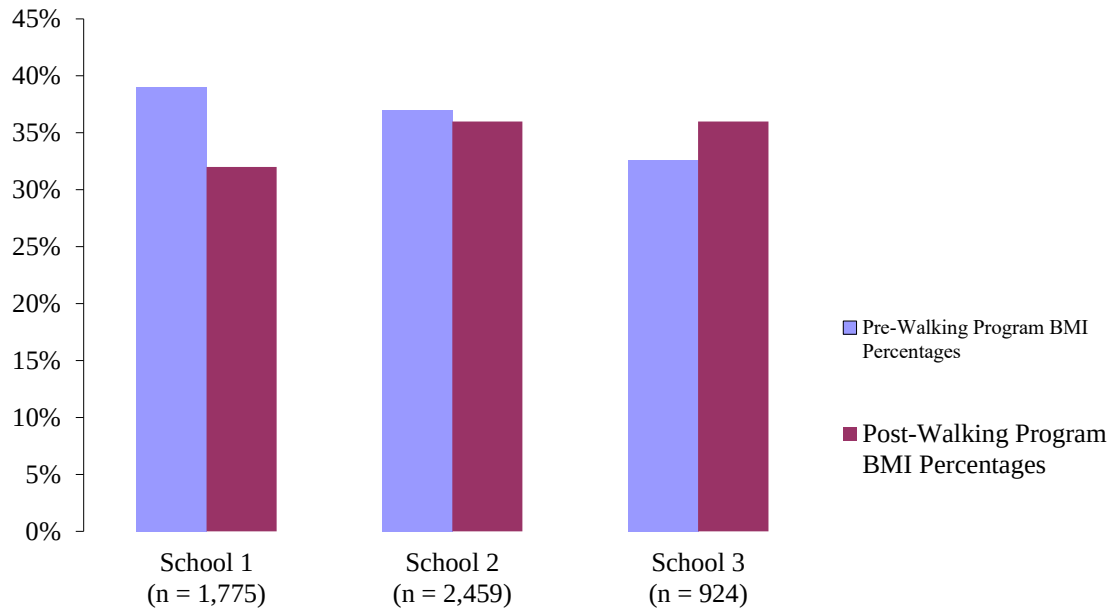


Figure 7. Pre- and Post-BMI Data for Three Schools. The percentage of children, grades kindergarten through fourth, who were overweight and obese both prior to and upon completion of the walking program.

OUT OF POCKET SPENDING AND IT'S EFFECT ON PUBLIC HEALTH IN THE SLOVAK REPUBLIC

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ABSTRACT

The purpose of this paper is to evaluate Slovakia's healthcare payment structure reforms over the past decade in regards to co-payments. The research seeks to answer whether co-payments for healthcare services have any effect on public health. Out-of-pocket spending plays a significant role in the financing of healthcare services in the Slovak Republic. In 2010, out-of-pocket expenditure represented 27% of total expenditure on health – well above the OECD average of 19.4% Pharmaceutical costs are a major driver for increased out-of-pocket expenditures for healthcare; 70% of out-of-pocket expenses are for pharmaceuticals. Co-payments are continually rising for healthcare services. Yet macro public health indicators, namely mortality rates, seem to be steadily improving. It is important for policy makers to be aware of impact co-payments have on healthcare utilization patterns, public health, and the equity.

Key Words: Healthcare Expenditure, Co-payments, Out-of-Pocket, Pharmaceuticals, Public Health

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IS THE NFL PROTECTING THE SHIELD? COLLEGE STUDENT PERCEPTIONS OF THE NFL'S EFFORTS TO PREVENT CONCUSSIONS

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ABSTRACT

Over the past five years, the National Football League (NFL) has come under public scrutiny because of criticisms they have not done enough to deal with the numerous cases of head trauma and concussions suffered by people who play for the league. The NFL has been challenged for not addressing concerns about concussions when they first became aware of the issue, for not doing enough to compensate their players who became seriously injured while playing the sport, and for not doing enough to make the game more safe for current participants and children who will play the game in the future. Such health concerns attached to the most popular sport in the country could potentially impact consumer perceptions towards the sport, the brand, and the merchandise, as well as consumer willingness to engage in and promote the sport. From a sport marketing perspective, the NFL is renowned for its extraordinary efforts to protect its sterling reputation (commonly referred to as "The Shield"). This paper will present results of a recent survey of undergraduate students at a university in the Northeastern United States to measure their perceptions about the extent to which the NFL concussion scandal has affected their perceptions of the NFL and its brand and their behavior as fans. The study delves into such controversial questions as (among other things) whether these students will stop watching the NFL on TV, whether they will develop negative attitudes towards the NFL's brand, and whether they will stop playing football altogether and will encourage their friends to stop playing it. The study is timely and provides interesting starting points for discussions about such critical marketing issues as social contagion theory and reputational risk.

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TRACK

GLOBAL HEALTHCARE REFORM

A COMPARATIVE STUDY OF RECIPROCITY IN INTERNATIONAL PHYSICIAN LICENSING

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ABSTRACT

This is a comparative study of the regulations governing the practice of foreign physicians in ten countries: China, India, Mexico, the Philippines, the U.K., Germany, Denmark, Brazil, Israel, and Australia. Their requirements are then contrasted with the United States' requirements for foreign physician licensure to evaluate the extent of reciprocity among these countries. The results indicate that licensure for U.S. physicians to practice in these nations ranges from impossible (India), to difficult (Mexico, China, Brazil), to moderately difficult (U.K., Germany, Denmark), to easy and completely reciprocal (Australia, Israel, Philippines). We conclude the paper by outlining some recommendations to increase the international mobility of physicians in the future.

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HEALTHCARE REFORM: HOW WE MIGHT MAKE PROGRESS THROUGH TRANSLATIONAL RESEARCH

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HEALTHCARE REFORM: HOW WE MIGHT MAKE PROGRESS THROUGH TRANSLATIONAL RESEARCH

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ABSTRACT

This paper examines the issue of healthcare reform from a perspective of translational research. Expenditures on health care account for more and more of the GDP. Several attempts have attempted to reduce the costs, electronic medical records, the Affordable Care Act, and translational research. None of these has provided the reductions that were expected. A different type of research is required. This research is directly concerned with patient care and its effect on better service and lower costs. This research will require collaborative teams, clearinghouse for results, and changes in reward systems for universities and hospitals.

INTRODUCTION

Healthcare reform is a topic that has been around for numerous years. The first major attempt at reform was by Hillary Clinton during her husband's first term in office. This attempt was largely unsuccessful. The topic continued to be debated with little success. The Affordable Care Act was passed during the first term of President Obama. This was touted as a healthcare reform bill, but has little reform in it. It really is only a bill to aid in insuring the uninsured.

In most people's opinions, healthcare reform means reducing the cost of hospitals procedures, reducing stays in hospital, making pharmaceuticals more affordable. The cost of healthcare in the United States accounts for 17.9% of its GDP in 2011, the highest in the world (WHO, 2011). The cost is expected to rise, reaching 19.5% of the GDP by 2017 (Centers for Medicare and Medicaid Services, 2008). The Commonwealth Fund ranked the United States last in the quality of health care among similar countries (Roehr, 2008).

Americans spend \$2.1 trillion on health care. This is nearly \$650 billion above expected when adjusting for the relative wealth of the U.S. economy (Farrell et al., 2008). Outpatient care is by far the largest and fastest-

growing part of the U.S. health system and accounts for \$436 billion, or two-thirds of spending above expected (Farrell et al., 2008).

This trend towards higher and higher costs and higher percentages of GDP being spent on health care has to stop. This is especially true, when one sees that the quality of care is lower than other similar countries. The United States is spending more and more and getting less and less. This paper examines several attempts to lower health costs and suggest another avenue for cost reduction.

ALTERNATIVE METHODS FOR COST REDUCTION

In the past several years, there have been many attempts to reduce costs in the United States. Some of these have been successful and others have met with less than stellar results. This paper examines three of these methods.

Electronic Medical Record (EMR)

The first attempt to save costs was the Electronic Medical Record (EMR). With everyone switching from paper files to electronic records, it was believed that this would actually save money. The electronic transfer of information between health care providers and health care payers would be more efficient and thus save money. The same could be said about the transfer of information between different health care providers. The result would be a function a smoother transfer with less possibility of error. Hochstadt and Keyt (2009) state the EMR will go a long way in preventing health care inflation. They also state that the cost reductions will come from increasing drug prescription compliance, reducing gaps in care, and provide safe redirection from the emergency room to other more appropriate care settings.

It has been found in some studies that EMR often leads to higher billings and that the efficiencies of provider productivity have not been substantiated (Sldorov, 2006). DesRoches et al.(2013) state that using EMRs as replacements for paper records will not achieve the efficiencies that they have potential to achieve. Many have complained about the ease of use of these tools.

While there may be cost savings associated with using EMR, many believe that these savings have not been realized. This may do to many factors, including ease of use of the tools, lack of training of those using the tools, etc. Whatever the reason, these tools have not produced the savings once envisioned. There is still reason to pursue this avenue.

Affordable Care Act (Obamacare)

The Affordable Care Act was enacted by Congress as a mechanism to reform health care. While it does not directly address reform, it has the potential to control costs. The Affordable Care Act creates a new infrastructure which has the potential to improve care quality and contain costs (Gardner, 2012). Silvers (2013) is less positive in stating that the Affordable Care Act has changed the health system in the United States and will have an impact in the future. He is unsure of whether we will see the more efficiently provide health care at a fair competitive price. Silvers (2013) also states the following,

"Market forces exploiting information asymmetry, may continue to drive drug and specialty care utilization beyond what new competitive effectiveness information and reorganized accountable care organizations might suggest would be more appropriate. The ability of hospitals, specialty physicians, and even primary care groups to negotiate collectively and threaten to withhold services can continue be used a lever to extract higher payment in spite of pressure from the ACA"

Silvers (2013) that, at worst, the ACA will change the insurance industry for the better, but leave unchanged the basic delivery system.

The Affordable Care Act has been touted as a mechanism capable of reforming the health care industry, including reducing costs through eliminating the inefficiencies in the system. Whether this will be fact or fiction is yet to be determined. Most experts suggest some improvement, but probably not enough to keep the costs in check.

Translational Research

A new term in the health care landscape is translational research. This is a new wave in attempting to provide better service and lower costs. The National Institute of Health (NIH) has made translational research a priority by establishing Clinical and Translational Science Centers (Woolf, 2008). By 2012, NIH expects to fund sixty such centers with a budget of \$500 million per year (Woolf, 2008).

Woolf (2008) suggests that there are two definitions of translational research. The first is bench-to-bedside enterprise of going from basic science, to new drugs, devices, and treatment options. The second definition is translating research to practice. This means that the new treatments actual reach the patients and are implemented correctly. McGlynn et al. (2003) stated that U.S. patients receive only half of recommended services.

Of the two definitions, the first seems to be what most people think of as research. This type of research gets the bulk of the research dollars. The NIH budget in 2002 included \$9.1 billion for applied and developmental research, \$13.0 billion for basic research, and only \$787 million for health services research (Moses et al., 2005). The Clinical and Translational Research Award program encourages community involvement.

"Rather than promoting the efferent process of exporting research findings to the community and facilitating their implementation in practice, CTSA often portrays community engagement as an afferent process for researchers; i.e., a way to "foster collaborative research partnerships and enhance public trust in clinical and translational research, facilitating the recruitment of research participants from the community." (NIH, 2007).

Each of these methods above has some capability of reducing health care costs. Is there a type of research that could reduce and improve quality of care. Basic research has the potential to improve health outcomes, but the timeframe may be quite long. Is there a way to accomplish this in the near future? If we are to continue with the second definition of translational research and expand it, then the answer is yes. The next section shows some examples of research that can improve quality of care and reduce costs.

EXAMPLES OF RESEARCH

Each health care center (hospital) has a wealth of information available. These warehouses of data are ripe for finding or suggesting new standards of care, etc. All that is needed are individuals who can identify potential problems and are able to analyze the data. This can be done as a cooperative endeavor by different parties.

Our university has a cooperative program with a hospital in educating nurse anesthetists. Each student is required to do a research project on some aspect on nurse anesthesia. There are about twenty-five students each year. Not all of these projects are worthy of publication, but all of them add something to the body of knowledge in this area. Below are the conclusions of three of these projects.

Postoperative Respiratory Failure has been identified as a prevention quality indicator by The Agency for Health Research and Quality (AHRQ). Postoperative Respiratory Failure is associated with increased length of stay, increased costs and increased morbidity and mortality. Current research is limited regarding scoring methods which are predictive for postoperative respiratory failure. This retrospective case control study was conducted to determine if the various tools of evaluation of risk currently available are predictive of the risk of developing postoperative respiratory failure. A logistic regression analysis found a statistically significant relationship between respiratory failure and 12 and 24 hour MEWS (Modified Early Warning System) scores and also Morphine PCA used postoperatively for pain control. The available risk assessment scoring systems used today, ASA score and Surgical Apgar Score are not specific enough to predict postoperative respiratory failure. In addition, neither is the diagnosis of obstructive sleep apnea or elevated BMI. MEWS is a useful tool to identify the deteriorating patient and allow appropriate interventions to take place in a timely fashion to prevent respiratory failure. MEWS scoring should be incorporated in the nursing documentation to give nurses a tool to alert the medical staff of the deteriorating patient condition preventing respiratory failure (Henley, 2011).

Another study (Anderson, 2013) revealed that post-operative cardiovascular patients who received dexmedetomidine experienced a reduction in the incidence of delirium compared to those patients who received other sedatives. This should help guide anesthesia providers, as well as other physicians, in the selection of a sedative for cardiovascular patients. Dexmedetomidine can safely reduce the incidence of delirium, in turn reducing ICU length of stay, overall hospital length of stay, hospital charges, and mortality rates. This provides high quality of care while reducing hospital costs

Pullins (2013) studied the effects of laryngotracheal lidocaine in reducing the extubation times in surgery. Laryngotracheal lidocaine can be used at the time of intubation to help alleviate negative side effects during emergence from anesthesia such as coughing and hypertension. Although research has shown that laryngotracheal anesthesia (LTA) decreases negative side effects during emergence and extubation, there is minimal research on the affect that LTA has on extubation times. Proficient use of the operating room (OR) is essential to maintain cost-efficient surgical services. If the use of LTA shortens or prolongs extubation times, the time spent in the OR will be affected. Hence, this study is important to make anesthesia providers aware of how the use of LTA affects extubation times, and thus total OR time. The results of this study revealed that the use of LTA 360 Kit™ with induction of general anesthesia for elective laparoscopic cholecystectomy procedures with a duration of less than 120 minutes decreased extubation times by 4.6 minutes; this was a significant finding.

The three studies above are only an example of what has been done and could be done. Many more studies are being done and will be done in the future. This is only one small program in one setting. This same hospital has a medical school, where residents are conducting research. Similar situations are occurring throughout the country.

CONCLUSIONS AND RECOMMENDATIONS

There is a need for more research in this area and a sharing of research being done. There are at least three things that need to take place to aid in this process.

1. Development of Collaborative Teams - many health care providers have knowledge of potential problems or potential changes in protocol that if changed would provide higher quality of care and possible lower costs. These same individuals do not have the expertise to research these problems. There are individuals in universities and other agencies that have the ability to perform the research, but do not have the expertise in the medical fields. This requires that the two entities develop a collaborative network to link medical experts with research experts. Many larger hospitals have this network. While they have some potential, there is much more that could be done. NIH is funding centers for translational research. This is a great first step in the right direction. One hospital in our area has some ability to work with doctors and others on research, but it is primarily clinical trials, etc. In order for collaboration to occur, hospitals must be willing to allow access to data by individuals outside the hospital. Many hospitals are unwilling to do this because of HIPAA (Health Insurance Portability and Accountability Act). There are ways to get around this. One is to offer a temporary appointment to the hospital; such as, Adjunct Professor of Research.
2. Development of Clearinghouse of Research Studies - Many of the studies that will be done by the collaborative teams will not be published in research journals. However, these studies may be important for people doing similar studies. If there were a clearinghouse for these studies, then one could go there and find out what had been done. This could cause the investigator to change the study, include other variables, etc. For example, one of the studies above (Pullins, 2013) discussed the use of LTA in one kind of procedure. Another researcher want to examine the effects of LTA might look at this study and determine what implications this had on the present study. The clearinghouse would not have to have the complete studies, but a synopsis. There could be links to original work, similar to library databases.
3. Changes in Tenure Policy for Universities – If a professor in a health care program or health services school were to perform these studies, some credit should be given in the tenure process. Some of the studies may be publishable, while others will not be. If faculty members are to engage in this endeavor, then the promotion and tenure process must reward them. For example, one may do numerous projects with the nurse anesthetists receive little credit for this. The only credit that one may receive is if the project is published and even then, some members of the faculty do not feel that, this is within the faculty member's field or study.

This type of research is vital to helping reduce costs and providing better care. It cannot be done by health care providers alone. The items above are crucial to accomplishing this endeavor. This will not be an easy task. Many barriers will have to be removed. Values will have to change. The bottom line is that this may be as essential as basic research in providing better, more affordable health care.

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NEW SOCIAL REFORM IN THE MARGINALIZED ROMA COMMUNITIES IN SLOVAKIA (I.E. ROMA REFORM)

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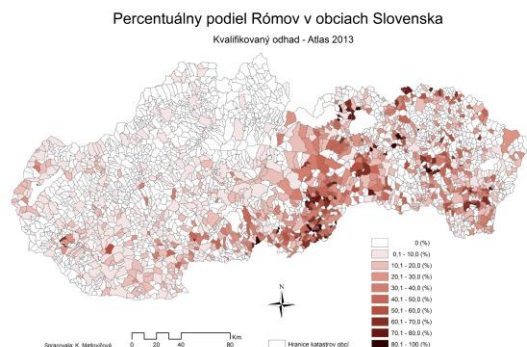
ABSTRACT

The new social reform in marginalized Roma communities in Slovakia has been developed as a strategy to solve the extreme marginalization of Slovak Roma, mostly for their poverty. The main thesis of „Roma reform – the right path“ deals with the solution of social exclusion of this community from the majority. However, the essential problem is structural, related to the poverty of Roma, caused primarily by the lack of work opportunities. Reform aims to impact the economic policies of the state in order to create new jobs for Roma in the standard labor market in line with the biblical „nothing for free“ for those able to work:

- *to initiate positive social-economic changes in the life of citizens living in complicated life situations who are threatened by extreme poverty, initiate the improvement of citizen coexistence*
- *good education and ability of children and youth from non-stimulating social background to assert themselves on the labor market*
- *implementation of a more reasonable system of social benefits payment*
- *implementation of arrangements to assure no delinquency immunity for socially dependent individuals.*

INTRODUCTION

The Roma social reform represents a complex system reform including more than 90 arrangements in the fields of education, law enforcement, accommodation, social system, employment and supporting politics. System arrangements are focused on solutions to the extended problem of populace groups, citizens in danger of extreme poverty, including the socially inadaptatable. Proposed arrangements are referred mainly to risk families, identified by combination of following factors: parents' education level, income level, parent long-term unemployment level, material background, indebtedness, truancy and assumption that a child doesn't understand the tuition language at the beginning of elementary school attendance

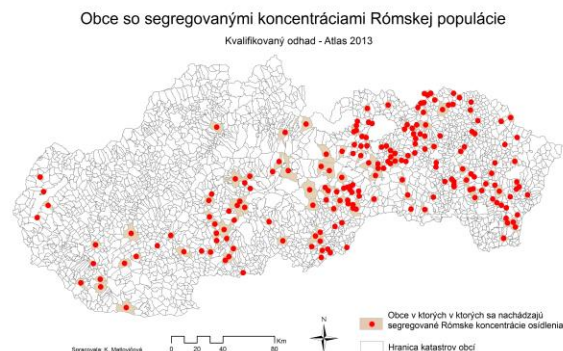


The percentage of Roma communities in Slovakia (Pollák et al., Atlas 2013)

METHODOLOGY

Reform relates to all inadaptatable inhabitants of SR. In democratic countries, it is impossible to legislate based on ethnical or national reference. The aim of the reform is to enable the improvement of the life situation to those citizens who behave responsibly and actively towards their family, society, and state. In case a family is identified as risk, competent authorities will deal with it. If a positive change in behavior of individual or family is not achieved, following repressive actions will be established:

- change in form and level of social benefit payments will be applied to entire families
- implementation of parent responsibility for delinquency and criminal acting of their children
- accommodation benefit and a right to be integrated to an activation work system will be additionally conditioned depending on whether a person commits a delinquency or a criminal act, and whether a person obeys legal duties.



Municipalities segregated concentrations of Roma (Pollák et al., Atlas 2013)

RESULTS

This new social reform in the marginalized Roma communities of Slovakia primarily focuses on a reform of the social system, covered in 10 points:

1. The social system does not make any difference between those individuals who try to live honestly, are interested in work, take care of their children, obey the law, and those who do the complete opposite. All the dependent people are put together and treated as items that only need to be paid out their monthly benefit.
 - 1.1 Problem: An anonymous social system is ineffective, unjust, not motivating, and therefore it doesn't help with the integration and elimination of dependence on state social aid
 - 1.1.1 Solution: form and level of state social aid as well as the approach of state towards the citizens will consider the approach of citizens towards society and state
2. A system allowing a benefit for a newborn baby, not bound to a specific purpose, to be paid in cash to risk parents, is questionable. In case of these parents, the benefit is not used to saturate the child's needs but their own.
 - 2.1 Problem: cash payment of a benefit and an extra bonus on the occasion of child birth to parents from risk families is not an effective tool on behalf of the child.
 - 2.1.1 Solution: to use the resources meant as a benefit and extra bonus on the occasion of child birth to cover the costs related to the integration of a child from risk family into compulsory pre-school attendance
3. A socially dependent parent receives 17 EUR per month for the child's school attendance. This benefit is not purposefully bound; it can be arbitrarily spent, and so usually is.
 - 3.1 Problem: Cash payment of a school attendance benefit to parents is not an effective tool on behalf of the child and it unnecessarily raises other parents' feelings of injustice
 - 3.1.1 Solution: to use the resources meant as school attendance benefit for children from socially dependent family to cover the costs related to establishment of an all-day education system for this child
4. A one-time monthly payment of social benefits which can be arbitrarily spent by risk parents causes many children from these families to starve for major part of a month.
 - 4.1 Problem: A one-time monthly payment of social benefits causes unnecessary financial shock in risk families which usually are not able to handle it responsibly. This results in ineffective distribution of costs, lower resistance towards usury, bigger temptation to give in to hazard, etc...
 - 4.1.1 Solution: to pay the financial part of social benefits to risk parents weekly to their bank account. Parents would use bank credit card with no debit possibility. The bank account would ideally be administered by State treasury, with the maximum cost of bank service controlled by state.
 - 4.2 Problem: social benefits payment that occurs in a period of a few days in the entire community or everywhere in Slovakia causes time-centered shock in the entire local community with massive elements of crowd behavior. The community experiences days of plenty, as well as the following days or weeks with a lack of resources together. This fact enhances the negative behavior in times of plenty and doesn't enable mutual aid in times of lack of resources.
 - 4.2.1 Solution: to arrange social benefit payment schedule of community members into different days throughout the month
5. A system which rewards children for giving birth to children doesn't lead towards education to responsible parenthood
 - 5.1 Problem: with parent rights given to parents of an underage mother, these parents also acquire the rights to benefits and an extra bonus on the occasion of child birth

- 5.1.1 Solution: no legal possibility to receive benefit and an extra bonus on the occasion of child birth in case of a child born to an underage mother
- 5.2 Problem: to obtain a parental benefit can be, in some cases, an attractive way for an underage mother how to increase her incomes.
- 5.2.1 Solution: Reduce the parental benefit to underage mothers in half
6. The system of examination of family members together financially motivates socially dependent parents not to contract marriage so that they have a higher social benefit ensured.
- 6.1 Problem: The system of examination of family members together allocates more resources to parents who stay formally out of marriage, or more precisely to parents who divorce for that purpose.
- 6.1.1 Solution: To examine material need of a grown-up person separately from family status.
7. The system arrangement of activating works and small public services that leaves their organization to the local government causes these works to mainly be performed only formally and local government leaders use them to establish their power and de facto to buy votes for state money.
- 7.1 Problem: Organization and control of activating works and small public services is led by local government representatives, who usually are in family or other relationship to their administrators.
- 7.1.1 Solution: transfer the organization and especially control of activating works and small public services to the Labor Offices
- 7.1.2 Solution: to oblige municipalities to partly cover the costs for activation benefit
- 7.2 Problem: The capacity of activation works and small public services per municipality is defined by an officer, which unnecessarily creates a bribery environment.
- 7.2.1 Solution: Maximum number of jobs for activation works and small public services offered in municipality by local government or other state authority is set by Government Order as a percentage rate related to all the socially dependent in the municipality
- 7.3 Problem: The real numbers of jobs for activation works and small public services are insufficient, resulting in insufficient activation of the socially dependent
- 7.3.1 Solution: To allow the private sector, church, non-profit organizations, etc. to create low qualification jobs for activation works, with the responsibility to pay the activation benefit for being transferred from the state to the new provider of activation
- 7.4 Problem: Many beneficiaries provide various ancillary operations to other citizens
- 7.4.1 Solution: To allow other citizens to do activation works, this would lead to the de facto legalization of the status quo and improvement of neighbor relationships, with responsibility to pay the activation benefit being transferred from the state to the new provider of activation.
- 7.5 The decision of who will get the opportunity of activation via activation works and small public services lies on the coordinator, who is named by mayor. Usually it concerns members of the local government or employees of the municipal office and therefore activation is allowed also to people who don't perform their legal duties or even commit delinquency or criminal acts.
- 7.5.1 Solution: The opportunity to get the activation job and enhance the family budget will be given only to those socially dependent who perform all their legal duties, with special emphasis on regular attendance and behavior of their children in school, and who don't commit delinquency or criminal acts
8. The system of accommodation benefit is easy to misuse and not motivating
- 8.1 Problem: The right for benefit is acquired also by an individual or family with asocial behavior
- 8.1.1 Solution: The right for accommodation benefit paid in cash is acquired only by an individual or family in the lower risk category. Benefits in other than cash form (cashing allowed to energy providers) will be acquired by an individual or family in middle risk category, while an individual or family in the highest risk category will have no right to this benefit

- 8.2 Problem: A child's return from compulsory pre-school education, or an all-day education system, to a shack of 1 square meter of floorage per person highly increases the likelihood that the expensive socialization of the child will fail.
- 8.2.1 Solution: Enable families with a low to middle risk rate, without accommodation of their own, to receive advance payments of accommodation benefits, which will be purposefully bound to the purchase of building materials in order to self-helpfully build, reconstruct or buy housing.
- 8.3 Problem: The system of accommodation benefit calculation allows easy misuse, e.g. by several contracts of lease made on one real estate
- 8.3.1 Solution: Accommodation benefit to be bound to number of family members with consistent decrease of benefit with each underage family member
- 8.4 Problem: The accommodation benefit is acquired by those in material need, who are the owners or tenants of the real estate, while those without their own estate or without the opportunity to contract of lease have no right to obtain the benefit
- 8.4.1 Solution: every citizen in material need has the right for accommodation benefit, depending on performing their legal duties and committing delinquency or criminal acts.
9. Among people in material need there is a markedly higher rate of people registered as disability pensioners or as unable to work.
- 9.1 Problem: there is reasonable disbelief in objectivity of some doctors and their examination of health state of people in material need
- 9.1.1 Solution: to identify doctors who show abnormal numbers of disabled people or people unable to work, and to re-examine those previously examined by such doctors
10. The set-up of the Institute of exclusive recipient allows its misuse.
- 10.1 Problem: Many families enrolled in the program of using the Institute of exclusive recipient use workers in charge of its supply to do their shopping.
- 10.1.1 Solution: To arrange automatic quarter reduction of benefits realized by institute of exclusive recipient in order to cover the costs related to this service and stop misuse of the institute of exclusive recipient
- 10.2 Problem: The payments of benefits stopped by using the institute of exclusive recipient and their subsequent retroactive payments demoralizes the recipients and doesn't help their resocialization
- 10.2.1 Solution: No retroactive payment of payments once stopped
- 10.3 Problem: Some kinds of social benefits of family members in material need are not included in the institute of exclusive recipient
- 10.3.1 Solution: to allow the inclusion of all incomes from social benefits into the institute of exclusive recipient

DISCUSSION - CONCLUSION

The Roma social reform represents a vision for the improvement of the life of all Slovaks. Its aim is not to create Roma and non-Roma legislation, or a quick-and-easy solution of several decades' lasting problems. Casual people and professionals as well often deal with the legitimacy of some public administration actions, e.g. building a wall between the majority and Roma minority, a security system, misuse of substitute personal custody, missing legislation regarding community centers, terrain social workers with no competencies, unsettled inheritance procedures of socially dependent, false longtime inability to work, unjust calculation of pensions, developing of protected workshops for socially disabled individuals, cash payment of travel expenses to parents of school age children in advance, and many other... Currently in Slovakia, a new legislative act regarding material need is being prepared. This act is considered a base pylon of the social system, which is guaranteed by the Constitution of the

Slovak Republic. The Slovak Constitution guarantees the covering of basic life needs of all the citizens of the Slovak Republic who ask for help. Acts regarding material need rose from the social reform or marginalized roma communities. New legislation brings the connection between state social help and the socially dependent person's responsibility towards his family, society and state.

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A NEW MODEL FOR BUILDING INTERNATIONAL NETWORKS

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ABSTRACT

Global health management has a unique body of knowledge with specific competencies. International health care efforts are expanding rapidly providing health management education faculty with an opportunity to collaborate. Most partnerships are built by faculty based on common research interests and a desire to provide global engagement for students and faculty. Sustainability can be achieved with activities that encourage the development

of network models where initiatives are endorsed by professional organizations and strategically endorsed by faculty. Given the increasing interests in globalization, this session focuses on a new model with strategies that build on faculty interests and network advisors. References are made regarding international accreditation and certification.

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TRACK

INTERNATIONAL HEALTHCARE and HEALTHCARE ISSUES IN SLOVAKIA

LESSONS LEARNED FROM THE PICTOGRAM LABELING PROJECT IN HAITI (PLPH)

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LESSONS LEARNED FROM THE PICTOGRAM LABELING PROJECT IN HAITI (PLPH)

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ABSTRACT

“Human misery is so appalling nowadays that if we allowed ourselves to dwell on it we should only add imaginary miseries of our own to the real miseries of others without doing them any good.” -GEORGE BERNARD SHAW, letter to Siegfried Trebitsch, Marc, 1940.

Background: On January 12, 2010, Haiti's catastrophic earthquake killed more than 222,570 citizens with over 1.3 million currently homeless. As a poor developing nation with scarce health resources, Haiti suffers from more than just natural disasters and imported cholera. Disease eradication efforts have been directed at multiple conditions, some for prevention and a few with successes. The Ministry of Health and Population (MOH) requires significant capacity building to commandeer such public health activities and primary care upgrading, plus coordination fitted to the urgently needed interventions. Prior to the earthquake, 46% of Haitians did not have access to healthcare, either due to cost, or lack of care in their area. Since then, Haiti has been inundated by international aid, United Nations assistance forces, and a slew of NGOs working on relief to one of the poorest nations in the world. There is sadly a dearth of literature on continuity-of-care once medical mission trips leave, or on the follow-up of patients who were critically ill and treated by providers during such trips. More specifically to medical missions is the pharmacy component that renders necessary pharmaceutical treatments. Since providing prescriptions is the major therapeutic intervention for patients' ailments, there is a crucial role for professional pharmacy in medical missions. In Haiti, the extent of literacy amongst patients is questionable, with most speaking in Creole and claiming to be able to read and write. However, in the absence of governmental statistics on educational completion and considering Haiti's past struggles with its education system, it appears more than likely that most of the population would be semi-literate at best.

Therefore, this project focused on improving the medication labels to incorporate the uncertain literacy through inclusion of pictograms as a means to explain medication use and instructions to patients.

Methods: Pictogram labels were developed and distributed for 20% of the formulary. Focus groups were conducted by patients to understand their acceptance of the newer pictogram labels.

Results: More than 70% of the patients preferred the newer labels and those who preferred the older, written ones stated their preference due to being familiar with the older labels.

Discussion: This pharmacy intervention and subsequent study for the Little-By-Little teams at Mountain Top Ministries intended to aid patient medication usage in a small way and to demonstrate the crucial role of pharmacy in medical missions across the globe.

* Our special thanks to colleagues, Sue Walsh, G.W. Douglas, and Leslie Cordes on the Little-by-Little Medical Mission, without whom this research would not be possible.

INTRODUCTION

One of the poorest nations in the Western hemisphere, Haiti was struck by an earthquake with a magnitude of 7.0 on the Richter scale in January 2010, which destroyed most of its capital of Port Au Prince and surrounding areas. Over 222,000 Haitians were killed, 300,000 were injured, and more than one million persons were displaced,

to live without shelter on the tropical island subject to heavy rains, hurricanes, and more environmental decay. The earthquake was estimated to cost the nation \$7.8 billion (World FactBook,; Haitian Health Care WHO; Haitian healthcare system; UNDP 2008; Pan American Health Organization 2000).

International relief was forthcoming from many nations and disparate NGO agencies, but under the circumstances of horrible disaster, much was untimely and inadequate for the massive damage, and the overall effort seemed uncoordinated. Haiti had no adequate medical infrastructure and the weak system that existed was essentially crushed. This forced reliance on international aid and medical missions even more with benefits from governmental coordination more necessary.

More than 80% of the Haiti population lives under the poverty line, with 54% living in abject poverty--worse since the quake. Since two-fifths of all Haitians depend upon the agricultural sector (with small-scale farming comprising a majority of the work), the nation remains vulnerable to deforestation and other natural disasters. Approximately 95% of the population is of West African descent with mulattoes and whites comprising around 5%; the official spoken languages are Creole and French. The state religion is Roman Catholicism. As of July 2013, Haiti's population was estimated at approximately 9 million. Most residents are between ages 0-54 years, with the 55 and over group comprising 9% of the overall population. One-third are under 15. The Haitian population is growing at a rate of 0.99% with 23.3-births/1000 population. Life expectancy at birth is merely 62.85 years with females expected to live slightly longer to 64.25 years as compared to males at 61.46 years. An estimated 120,000 Haitians are currently living with HIV/AIDS, much more undetected. The literacy rate stands at less than 50% among both males and females (Pan American Health Organization 2000; Haiti Health Cluster Bulletin 2011; CIA-World FactBook 2012).

As a poor developing nation with scarce health resources, Haiti suffers from more than just natural disasters and imported cholera. Disease eradication efforts have been directed at multiple conditions, some for prevention and a few with successes. "Remarkable progress" has been made at eliminating lymphatic filariasis (elephantiasis, a disabling and costly tropical disease) (Parry 2013). This required a dosing of two medicines every year, which also protects against intestinal worms (Janvier and Obidegwu 2013). Influenza annually strikes poor impoverished peoples hard, more variable in timing and severity (Breese and Hayden 2013). Developmental aid addressed children immunizations against, not just cholera, but other childhood illnesses as well. Emergency relief from a few Pharmaceutical firms' donations (\$17 million in 2010) needed coordination (Drug industry aid for Haiti earthquake relief efforts; PharmaManufacturing.com 2010), but by 2012 a concerted campaign by GAVI Alliance, PAHO, UNICEF, among others aimed at reaching an estimated 95% child vaccination coverage.

Sustained effective programming and continued outside assistance are necessary but insufficient without a *well-functioning health care system*, which is coming along with clinic and hospital construction and efforts by the government apparatus, along with the populace, for public health. The challenges of STIs (including HIV/AIDS) and increasing unwanted pregnancies--both surging post-calamities--remain problematic. National immunization days seem to work in many countries so it has been tried in Haiti for reaching targeted groups on polio and other childhood diseases. The Ministry of Health and Population (MOH) requires significant capacity building to commandeer such public health activities and primary care upgrading, plus coordination fitted to the urgently needed interventions. If the goal of sustainable development is to be achieved by building capabilities of local groups and coordinating them, Haiti must focus on:

1. Raising the health literacy of the population
2. Training health workers
3. Rebuilding the health infrastructure
4. Strengthening the MOH with its partnerships
5. Reconstructing a system of clinics and hospitals.

In our world of notable climate changes, amidst seriously increasing natural disasters, international crisis response must become a science.

Whitworth of the Wellcome Trust (Whitworth, 2013, p.9) writes:

“It is imperative to offer shelter, nutrition, sanitation, and medical care to those suddenly bereft of it. Without aid, humanitarian crises would cause still greater suffering. Yet admiration for the agencies that deliver relief should not blind us to the need to ensure that it is well delivered. Humanitarian responses must be founded on good evidence. The evidence base, unfortunately, is weak.”

On January 12, 2010, Haiti's catastrophic earthquake killed more than 222,570 citizens with over 1.3 million currently homeless (Koontz and Ransom 2010). Earthquakes, typhoons, tsunamis, volcano eruptions, and other natural disasters remain beyond human control, but all have severe impacts on the nation's total environment. However, Haiti was significantly affected much more so than other nations in the Western hemisphere would have been--due to its concentrated urban poverty, governmental unpreparedness, and poor medical infrastructure. For those outside of the destruction, it is difficult to grasp the enormity of severe food, clean water, and shelter shortages. The massive injury exceeded what the limited health facilities--which had not tumbled--could begin to handle. Waterways that people were dependent upon for drinking, bathing and clothes washing were polluted, facilitating disease spread. The breakdown of ordinary sanitation became very problematic, even being nowhere ideal beforehand. After disasters, infections of many kinds run rampant. International relief for such large numbers in need becomes patchwork. Desperation for food and clean water, and overcoming added environmental hazards, accompanies the widespread post-traumatic stress disorder (PTSD) of the people. Experts in emergency planning and management have pondered over the Haiti situation with some openly criticizing the governance (or the lack thereof) in terms of bringing quicker and steady relief to the unfortunate survivors. Before the quake, the Ministry of Health (MOH) was decentralized to departments for health planning within a framework of national priorities. Successes back then came with aid from international sources for some forward rebuilding post-calamities of earthquake, hurricane, and cholera (Auxila 2010).

The international response was mostly for short-term relief, focusing on food, water, medicines, and health care, but slowly helping to strengthen structures for the MOH and its leadership. Needless to say, a disaster of this magnitude (with the following hurricane and UN-inspired cholera epidemic) would stress any government and its people to a major degree. Longer-term development must meet the challenges of greater resources and determination.

HAITIAN HISTORY IN CONTEXT

Haiti gained its independence from France in 1804, being the richest colony of the French empire at the time due to a combination of cheap land, labor and European capital. However, soon after the revolutionary war that led to its independence, Haiti's natural commodities – sugar, cotton and banana plantations were destroyed by adverse weather setbacks and poor management, thereby sapping the country's economy and causing a chronic lack of funds for education. By 1825, as the slavery abolition movement spread, citizens in the United States and Europe decided to recognize Haiti's independence on the condition that the country would assume all losses suffered by the colonialists and French citizens as a result of the revolution. France demanded that the Haitian government pay them 150 million French francs as a condition to recognize the new nation. As a result, the Haitian government had to borrow the money from foreign banks, taking 80 years and all of the country's economic production to pay off the debt (Auxila 2010).

Money that could have been used to develop infrastructure and build roads within the country was instead sent to France. Post-independence, Haiti lost its colonialists--meaning teachers, clergy and other valuable

professional personnel. In the absence of a good education system and boycott from the international community, Haiti fell further behind. Poverty and destitution are a downward spiral in the developing world, and Haiti was no exception to the rule. The country attracted pirates, shady merchants, and fortune seekers resulting in repeated insurrections, military coups and, social, economic and political instability (Auxila 2010).

NGO NATION

By 1971, Haiti was becoming increasingly dependent upon outside NGOs to feed its population and provide health and humanitarian services. Beginning then, the international community shifted policy to providing funding to NGOs as opposed to direct funding to the country in an effort to combat corruption. In the political realm, the Duvalier regimes in Haiti had unsuccessfully tried to reverse this policy. By 1984, the American Voluntary Association estimated the presence of 200-300 NGOs in Haiti. By 2010, an estimated record number of over 10,000 NGOs were working in Haiti with only 500 registered officially with the government (Rebuilding Haiti 2013).

Since the quake, it should not be surprising to note the number of NGOs considerably increasing. The issue of NGO involvement (and non-governance) is crucial in the context of Haiti's societal and political development and its current state of affairs. The biggest donor in Haiti is the United States Agency for International Development (USAID), an intergovernmental agency involved in every sector of the Haitian government. USAID sponsors several NGOs working there to provide services on behalf of the Haitian government. USAID had moved to performance-based contracting (Eichler, Auxila, and Pollock 2001) for providing basic services (such as MCH and immunizations) with incentives for meeting targets. It may be noteworthy that the Haitian government has little or no oversight over NGOs. While this may in itself be less problematic (considering the failed governance from past years), caution must be exercised in terms of extending assistance that may lead to a paternalistic attitude toward the country's residents to perpetuate dependences.

One of the biggest challenges lately lies in oversight and coordination of the myriad NGOs working in Haiti (Pierre-Louis 2011). A lack of cooperation and collaboration ensures that during natural disasters emergency management plans usually fail, or at least come up quite short. In fact, consider the situation in Haiti post-earthquake: Its only international airport was damaged preventing larger landings, more than a million Haitians were living in makeshift shelters under deplorable conditions longer than 6 months after the quake with no plans to move them despite the fact that over \$1 billion was collected in aid relief (Pierre-Louis 2011).

HEALTHCARE IN HAITI

Prior to the earthquake, 46% of Haitians did not have access to healthcare, either due to cost, or lack of care in their area. Since then, Haiti has been inundated by international aid, United Nations assistance forces, and a slew of NGOs working on relief to one of the poorest nations in the world. As if the quake's devastation and a subsequent hurricane didn't inflict sufficient tragedy upon the Haitian people, a cholera epidemic from a U.N. encampment's faulty sanitation swept across the nation affecting 635,000 people (5% of the population); it succumbed an additional 7,500 lives (First, Do no harm 2012). About 2 million people had been forced to take shelter in scattered overcrowded, filthy camps, easily transmitting the infectious organism. In a country that had spent approximately \$58 annually per person prior to the earthquake, the Haitian Ministry of Health (MOH) faced the excessive morbidity resulting from the earthquake and the cholera epidemic--with much fewer resources.

Cholera is thought to be a preventable and treatable disease (Waldman, Mintz, and Papowitz 2013) but here it spread like wildfire, despite an early world commitment of \$230 million to control the unexpected scourge besetting the people. The United Nations' bungled response and then rejection of responsibility to compensate families of the cholera victims riled the people of Haiti. (A 1946 convention granting the U.N. immunity for its

actions was claimed, though experts pinpointed the specific cholera organism and identified the Nepalese encampment's unsanitary source) (Lall 2013; Panchang 2012; Knox 2013) The South Asian strain has now traveled to the continent's mainland; Mexico became the fourth Western Hemisphere nation to experience an outbreak this past September, 2013 (Knox 2013).

Understandably under the health conditions of the island, weak disease surveillance and case tracking, inadequate purified water distribution, latrine building, and more, led to the particular pattern of the cholera epidemiology. News descriptions of the response detailed the ensuing chaos also among the humanitarian and health agencies trying to cope with it (Sontag 2012). The epidemic did, however, eventually spurred forth sewer and water improvements on the island according to the American Journal of Tropical Medicine (Tinder 2013).

The problem with Haiti's healthcare system is that it never existed, nor has a functional health care system ever been implemented. The nation's first line of defense is primary care by the Medical NGOs (such as Medicines Sans Frontieres among others) run medical camps that may be faith- or charity-based, or both. Currently, the public health care system is woefully inadequate—insufficient medical staff, support, outreach, facilities, equipment and treatments, with little promise expected over the near future (Porter 2012).

Before the earthquake, the Haitian Ministry of Public Health and Population had begun to transition to a national system, to corral groups using a variety of plans. USAID funding enabled some coordination and cooperation in the delivery of services through a network of 147 public and private sites to approximately 45% of the Haitian population (Pierre-Louis 2011).

Current shortages of professionals and facilities are not new to Haiti. In 2005, there were 1949 doctors working in the Haitian health sector, with only 730 in the public sector. World Health Organization (WHO) approximates this to 3 doctors, 1 nurse and 8 hospital beds per 10,000 Haitians. WHO's target is 23 health professionals per 10,000 population (Pan American Health Organization 2000; Haiti Health Center Bulletin 2011; CIA 2012). Adding to the beleaguered health system is the fact that a number of health professionals perished in the quake, so the previous statistics have worsened. Fewer doctors and nurses translate to less attended births, lower childhood immunization rates, less treatment of tuberculosis, malaria, HIV/AIDS, and other communicable diseases, amidst increased wait times for the very ill and injured, and long perhaps deadly delays at the few secondary and tertiary level facilities.

In other developing countries, previous disasters have led to overcrowded living conditions, poor sanitation, and environmental degradation—resulting in outbreaks of cholera, hepatitis, tetanus, bacterial dysentery, and upper respiratory infections. Vector borne illnesses (such as malaria and dengue fever) can take up to 8 weeks to begin and peak several weeks later. With more than a million Haitians exposed to living outdoors overcrowded near fetid environmental conditions, it is estimated that the rural prevalence of malaria and dengue may be 2-3%, meaning an additional 60,000 cases in Port-Au-Prince alone (World FactBook,; Haitian Health Care WHO; Haitian healthcare system; UNDP 2008; Pan American Health Organization 2000; Haiti Health Center Bulletin 2011; CIA 2012).

It is also estimated that, with the resultant trauma (including missing limbs), the long-term morbidity would significantly increase mortality rates from traumatic injury for up to 40 years. Long-term recovery also rests upon the ability to re-establish most of the workforce—an extremely challenging proposition given the lack of adequate healthcare--thereby threatening economic revival for the country (Sontag 2012). In the meantime, this bleak portrayal sees the nation slowly inching toward increased governance and what may hopefully be improvements in public health for its citizenry. Then a prospect for economic revival may come from direct foreign investments (Still waiting 2013). In the meanwhile, NGOs continue to provide health and humanitarian services through partnerships with local sites.

In the context of this study, we have partnered with and focused upon one such Medical Mission, Little-By-Little (LBL) that was begun in Chicago, Illinois with the intent of improving the primary care of Haitians living in the village of Gramothe and their neighbors. LBL has traveled to Haiti to serve the Gramothe community over the last decade.

NGO MEDICAL MISSIONS

Most NGO's have some type of health service provision through a faith- or charity- based mission. Popularly known as Medical Mission trips, the Nobel Prize winning Medicines Sans Frontieres (MSF) has pioneered this kind of initiative on a worldwide scale. MSF has historically accomplished much in numerous nations besieged by both war and natural disasters. Medical Missions often involve multidisciplinary teams of healthcare professionals and non-professionals who travel to the country to provide health services.

Review of the scientific literature enlightens medical mission trip outcomes in terms of individual provider narratives, numbers of patients seen, treated, etc. There is sadly a dearth of literature on continuity-of-care once medical mission trips leave, or on the follow-up of patients who were critically ill and treated by providers during such trips. Nevertheless, the noble intentions of those who participate and provide care cannot be overlooked, and in fact must be praised. More specifically to medical missions is the pharmacy component that renders necessary pharmaceutical treatments. Since providing prescriptions is the major therapeutic intervention for patients' ailments, there is a crucial role for professional pharmacy in medical missions.

ROLE OF PHARMACY IN MEDICAL MISSIONS

Pharmacy is a very well established arena of work activity in all developed countries and in some developing countries. However, the general absence of professional pharmacists on many medical missions may impede efficient use of medications provided to patients from very limited formularies on tight budgets. Issues of waste, expiration, non-use or misuse of medications on these trips are significant concerns with little discussion thereof in the literature. One major concern when dealing with patients, regardless of their culture or nationality, is the appropriate usage of medications often combined for multiple disease conditions in powerful potentially hazardous mixes.

While most practitioners can satisfactorily explain directions on taking medications to patients (assuming language and cultural barriers), comprehension by patients remains questionable (even in the United States), let alone resource-poor Haiti. Issues of non-adherence, misuse, and incorrect use may be significant in the context of stemming infection spread (e.g., tuberculosis, malaria, cholera, typhoid, HIV/AIDS, etc.). Incorrect use of medications may likely result in mild to severe side effects and/or poisoning, thereby creating further new downstream mortality and morbidity.

Today with the newer emphasis on clinical pharmacy in PharmD curricula, a different sort of professional is here, and these professional skills can vitally complement medical missions going abroad as PharmD students embrace new horizons for the roles internationally. Currently, most pharmacists become employees in corporate chain drug stores and PBMs, but there are small numbers who seek to distinguish themselves by being committed to underserved communities, bringing to vulnerable populations needed pharmacy services inspired by the worldwide professional movement for pharmaceutical care. *Drug Topics* reported on pharmacists connected to the Friends of the Children of Haiti out of Peoria, Illinois, who responded quickly after the quake (Lowery 2010).

The work in Haiti by the Little-by-Little Foundation has begun to show how medical missions can be reinvigorated by the addition of pharmacy professional expertise to establish not just a new clinical role, but an administrative pharmacy contribution of knowledge of laws, regulations, drug supply issues (from counterfeits through purchasing from various sources), standards of practice, disease management strategies, advocacy, and pharmacy operations. Pharmaceuticals and the use of pharmaceuticals are crucial ingredients to medical missions for underserved populations, particularly in developing nations; to the same degree, pharmacy is an added crucial ingredient.

Most patients seen by professionals on medical missions are suffering from infectious and parasitic illnesses that when easily treated by modern medicine can be effective, when the drugs are available, continuous, and properly taken. Moreover, aging cohorts abroad are increasingly encountered, and they face cardiovascular ailments, diabetes, cancer, and rheumatic diseases, among other chronic degenerative ailments. Western pharmaceuticals can be worthwhile in alleviating suffering for these clinical conditions in earlier stages, and thus prolong life.

Yet, the literature is quite scant in the former category of pharmaceuticals within medical missions, and not much is recognized for the necessary contributions pharmacists can bring to enhancing medical missions through their professional expertise in pharmacy management systems and appropriate drug use.

Generally, physicians and nurses seem to undergo a different kind of socialization in patient-centered care than pharmacy education has historically provided. This professional socialization seems to instill greater social commitment for underserved communities, both here and abroad. Previously, pharmacists underwent basic science training in their B.S. degree programs, and only now are curricula beginning to emerge, particularly in advanced economies, with a strong clinical pharmacy direction. Old time pharmacists sought careers as shopkeepers running their own independent community pharmacies, pharmaceutical industry workers, or in corporate drug store chains.

Pharmacist involvement with physicians and nurses in one medical mission will be detailed here since we found no suitable literature on pharmacy and the use of pharmaceuticals in medical missions, even though countless numbers of trips have been carrying Western treatments to poor, developing nations over past decades to positively (and unfortunately sometimes negatively) affect the health of communities. Western pharmaceuticals can be powerful and dangerous when not prescribed, dispensed and consumed appropriately (Manasse 1992).

Moreover, Western pharmaceuticals are very costly additions and can be a financial burden on medical missions who seek to demonstrate good results from their efforts. There are a number of issues that arise that could be better understood in order to enhance outcomes in the communities served, as well as avoid problems and increase the efficiency of the operations.

In Haiti, the extent of literacy amongst patients is questionable, with most speaking in Creole and claiming to be able to read and write. However, in the absence of governmental statistics on educational completion and considering Haiti's past struggles with its education system, it appears more than likely that most of the population would be semi-literate at best. As such, when medications are provided to these patients, despite well meaning intent and counseling, they may likely not be used appropriately, which can create sequelae beyond what medical missions had addressed.

Patient comprehension (or the lack thereof) is not exclusively a developing country phenomenon. In the United States, most Americans read at the 5th grade level and a national study on health literacy revealed that 48% of Americans had below basic literacy. Therefore, the purpose of this pharmacy intervention and study was to work toward improving patient comprehension of their medications with to serve to (hopefully) improve health outcomes

as intended by the medical and nursing professionals.

LITTLE-BY-LITTLE-MEDICAL MISSIONS TRIPS

Little-By-Little, (LBL) a not-for-profit Chicago-based NGO has worked in the Village of Gramothe, Haiti for the past decade to provide health and humanitarian services to the villagers of surrounding communities. It is affiliated with Mountain Top Ministries, a Haitian Catholic agency that provides the facilities and some staffing support. The area was not as severely affected the earthquake as Port-Au-Prince.

Pharmacy is a crucial component of these medical mission trips and the lack of trained pharmacists has been an impediment toward efficiently delivering care. As such, a collaborative project was developed to identify key factors to improve comprehension among patients so that they would take their medications as prescribed by the practitioners.

A large part of the problem is that most patients are illiterate or semi-literate, so it is very difficult to measure comprehension while on-site. The practitioners rely on patients to take their medications correctly and follow-up generally cannot occur. LBL visits Mountain Top Ministries (MTM) to provide care to the villagers of Gramothe and surrounding areas four times a year. The teams are diverse with various healthcare (physicians, family nurse clinicians, pharmacists, and students) and non-professionals volunteering their time and expertise. LBL typically serves anywhere between 500-1000 patients each day during their mission trip. The teams fill an average of 3-4 medications per patient (vitamins, antibiotics, analgesics, anti-worming RXs, etc.). Most teams provide a 30-day supply for maintenance medications and vitamins. Pregnant or lactating women are provided a 3-month supply of prenatal vitamins. The spring team provides a 3-month supply to cover the summer when there is no team available. Beyond the LBL teams, other Medical Mission teams visit the MTM facility in between.

On a typical trip, patients arrive to the clinic and wait for their turn. Each patient that has been seen by the clinic has a dossier (patient record) of diagnosis, treatments, medications, etc. Once, the physician has checked a patient, they are asked to proceed to the pharmacy window where technicians dispense their medication after checking with the pharmacist for accuracy. The dossier is updated and the patient is informed about the proper use of the medication (i.e. when to take it, how to take the medication, other explanation points, etc.).

It is important to note in this context that the Health Ministry of Haiti does not recognize Pharmacists as healthcare providers nor is there any education for pharmacy training in the country. Most of the healthcare providers on medical mission trips are traditionally physicians, nurses, social workers, students who are in training, etc., but few trips have regularly recorded the presence of pharmacists. While pharmacists may remain in the background on many medical mission trips internationally, their expertise and training is an important component of a patient's health care process. Medications are an integral component of most interventions, and, as such, it is extremely important as well as challenging to ensure that patients not only understand proper usage of medications, but also adhere to their prescribed regimens for improved outcomes.

Therefore, this project focused on improving the medication labels to incorporate the uncertain literacy though inclusion of pictograms as a means to explain medication use and instructions to patients.

THE PICTOGRAM LABELING PROJECT FOR HAITIA (PLPH):

Phase I:

Pictograms are a great method to relay information to people who may have questionable levels of literacy. Pictograms are often used in other fields (e.g., education, sociology, etc.) to conduct research or provide information that will be better understood. As such, this project was conceived and developed to improve patient understanding of medication labels. About 20% of LBL's drug formulary was converted to pictogram labels and piloted through a small study in May 2013. The primary objective of this study was to identify key elements on the medication labeling that could be converted to pictograms and to pilot test the pictograms with existing patients.

Preparing the labels: The pictogram labels were prepared using online software available through the International Pharmaceutical Federation (FIP). All the pictograms were developed in English and translated to Creole through a certified translator. Each label contained pictures on how to use the medication accompanied by directions in Creole. (See picture 1)

Picture 1: Doxycycline pictogram Creole label



The pictogram labels were printed and dispensed with medications during the Spring 2013 mission trip.

RESULTS

Focus group: A focus group was conducted with patients to identify key issues with the newer pictogram labels and to evaluate acceptance of the new labels.

167 patients participated in the study. 16 (10%) of the patients declared they couldn't read while 5 (3%) were visually impaired. For the pictogram label study, 11 patients refuse to answer questions and their data was removed from the analysis. 42 (27%) of 156 patients preferred the old, written labels while 114 (73%) preferred the new pictogram labels. 69% of the patients preferred the writing while 27% preferred the pictures with only 5% reporting they preferred both. Participants were asked whether about their reasons for preferring the old labels and those are presented below (see Table 1).

Table 1: Percentage of participants preferring old, written labels

Reason	% Prefer old, written labels
Understanding	28%
Simplicity	50%
Familiarity	8%
Unspecified	14%
Other	10%

In the pilot study, it appeared that a majority of the patients preferred the newer, pictogram labels to the old, written ones. However, the rollout and implementation of future labels depends upon providers' acceptance and willingness to incorporate the newer labels into their patient education and communication while on the ground in Haiti. Our study team plans to test the pictogram project at other sites in Haiti to further assess both practitioner and patient acceptance and how it may be helping the provision of medication usage.

DISCUSSION

Health outcomes in primary care in Haiti are of critical concern due to a lack of capacity for referral for systematic interventions. NGOs have varying levels of expertise, care and provisions to offer to the Haitian people, and, without a unifying system to document and monitor the range of interventions, it is impossible to effectively assess the impact of the vast amount of good work done. Nevertheless, several agencies have implemented pay-for-performance (including the USAID) with some success. It is increasingly important to discuss healthcare outcomes in terms of mortality, morbidity, and changes in live births, availability of services, facilities, and infrastructure in conversations on Haiti.

Quality measures and efficiency in resource use are powerful indicators of any healthcare system, but especially so in an impoverished system besieged by various entities and diverse stakeholders whose efforts may at times contradict one another, and create unintentional harm. This can be easily observed with the cholera situation in Haiti (Barzlay, Schaad, Magliore, Mung, Boncy, et al 2013). Notably a Cuban medical delegation helped to mobilize health officials and lessened the death toll near Mirebalais (Archibold 2011).

NGOs serve a critical purpose in the absence of established governmental structures, however, the issue of empowering Haitians to take care of their own remains critical. It must be noted that in 2010, the Associated Press reported that less than one cent of each dollar of U.S. earthquake relief was going to the U.S. government. It may be so that the relationships between NGOs and their donors tends to undermine the Haitian people's right to self-determination, while the organizations continue to benefit from the poverty they are entrusted to fight. In 2010, the top 10 NGOs made U.S. \$8 billion, thereby leading many critics to emphatically state that poverty in Haiti may be becoming a business. While the historical presence of the Little-By-Little volunteers represents an overall valiant effort of interventions that are constantly being upgrading, other efforts inside Haiti have led observers to be skeptical of what may be behind their presence and their effectiveness (Panchang 2012; Wilentz 2013; DeGennaro, DeGennaro and Ginzburg 2013; Nichols 2013; What Haiti is owed 2010).

The reconstruction of Haiti needs capacity building from within, and NGOs, while performing essential work, must collaborate, not compete, with each other to fully empower the Haitian people. The earthquake did not damage the revolutionary spirit and independence of the Haitian people. As a result, Haitian grassroots movements have sprung to work within the communities they came from. It is important for NGOs and the Haitian grassroots organizations to seek cooperation to reach out and build thriving communities. Overcoming the adversary of destruction and disease will be no easy task, but our hopes are surely there for advancement.

This pharmacy intervention and subsequent study for the Little-By-Little teams at Mountain Top Ministries intended to aid patient medication usage in a small way and to demonstrate the crucial role of pharmacy in medical missions across the globe. Contextualizing the Haiti situation reveals great needs for populations faced with natural disasters and inadequate health care delivery systems.

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MULTIPLE SCLEROSIS IN INDIA: A QUALITATIVE STUDY OF ACCESS, ADHERENCE, AND OTHER ISSUES IN SOUTHERN INDIA

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MULTIPLE SCLEROSIS IN INDIA: A QUALITATIVE STUDY OF ACCESS, ADHERENCE, AND OTHER ISSUES IN SOUTHERN INDIA

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ABSTRACT

Introduction: Multiple sclerosis (MS), a progressive autoimmune disease is characterized by episodes of inflammation and degradation of the fatty myelin sheath surrounding the axons of the brain and spinal cord. Attacks of MS may lead to inflammation and injury to the myelin sheath resulting in blocked or slowed nerve signals that may lead to difficulty in controlling vision, muscle coordination, strength, sensation and other bodily functions. MS was characterized as a disease of the western hemisphere for several years. However, in the past few years newer cases were seen in Asia particularly in regions of China and India and the presence of MS in these regions has been characterized in the light of increasing access to MRI techniques, better detection and increasing numbers of specialized neurologists in these countries. Particularly in southern India, neuroepidemiological studies demonstrate that the prevalence of MS has doubled in the past thirty years (1.33 vs. 3 cases/100,000) and MS-related hospital admissions have nearly doubled in the last decade (1.58% vs. 2.54%). While MS cannot be currently treated, it may be effectively managed with existing pharmacotherapy. Medications to manage MS are specialty biologics and may be cost-prohibitive to patients even in developed countries. India is considered a developing country and while some patients can afford out-of-pocket medications, the lack of manufacturing of specialty medications such as for MS in India may make these extremely cost-prohibitive resulting in access and adherence issues likely to be concerns in the long run.

Methods: This exploratory study aimed to identify issues of access and affordability for Indian patients living with MS through focus groups.

Results: Four members of the Multiple Sclerosis Society of India (MSSI) stayed back after their monthly MS meeting for the focus group. There were four themes that emerged from the focus group discussion – affordability, societal support, acceptance and physician competence.

Discussion: MS is a costly disease and in recent studies treatments have shown little cost-effectiveness. MS drugs are not manufactured in India currently and have to be imported. As a result, delays in the supply chain, increased prices and unavailability of medications in certain areas may result in a lack of access to the medications in a timely manner.

Conclusion: There is almost no research in the literature looking at access and affordability issues for patients living with MS in India. Lack of registries and surveillance data impedes any further research to determine whether these patients are being monitored for appropriate outcomes, whether therapeutic regimens are effective and more importantly, whether social conditioning and provisions are made when the disease progresses into disability. Further studies are needed to better understand the conditions of patients living with MS in India to drive legislative action for a better healthcare system.

INTRODUCTION

Multiple Sclerosis (MS) is a progressive, autoimmune disorder that results in damage to the myelin structure in the Central Nervous System (CNS). The disease is characterized initially by episodes of reversible neurologic deficits, followed by progressive neurological deterioration over time in most patients (Rosati2001; Gupta, Tewari, and Nari 2013). Depending upon the site of demyelination, there may be deterioration in the cognitive or emotional functioning and/or in the level mobility. Preservation of functioning is the clinical goal of treatment. Attacks of MS may lead to inflammation and injury to the myelin sheath resulting in blocked or slowed nerve signals that may lead to difficulty in controlling vision, muscle coordination, strength, sensation, and other bodily functions.

MS was first described by French neurologist Jean-Martin Charcot in 1868 and more than 140 years later, there is still no known cause, nor cure, for the disease. Treatments that can slow its progression are available and may help with functioning. Onset of MS remains unclear, however, it is recognized that MS can arise during childhood or adolescence (Pandit 2011). Approximately 2.1 million people worldwide are affected by MS with rates varying widely across races. In general, observed prevalence is greater at higher latitudes (i.e. lower rates in the tropics, higher rates in northern Europe) with exceptions (i.e. low rates observed among Chinese, Japanese and Africans; high rates observed among Sardinians, Iranians and Palestinians)(Mukherjee). This epidemiological pattern has been found to be changing without a clear understanding as yet.

Diagnoses and treatments

Presentation of MS may vary. Patients may present with a range of symptoms from cognitive changes to ataxia, depression, visual impairments or hemiparesis.

Some commonly identified classic MS symptoms include:

- Sensory loss (paresthesias)
- Spinal cord symptoms: weakness, spasticity and sensory symptoms
- Optic neuritis
- Pain and fatigue
- Subjective difficulties

There are four categories of clinical MS types:

1. Relapsing-remitting MS (RRMS): characterized by recurrent attacks in which neurologic deficits appear in different parts of the nervous system and resolve completely or almost completely over a short period of time, leaving little residual deficit. This is the most common type of MS and 85% of MS cases are patients with RRMS.
2. Secondary progressive MS (SPMS): Approximately 50% of patients convert to a secondary progressive pattern within 10 years of disease onset. This pattern may or may not include relapses, but it is characterized by continued progression over the years.
3. Primary progressive MS (PPMS): This pattern accounts for approximately 10% of all MS cases and function declines steadily without relapses.

4. Progressive relapsing MS (PRMS): Persons with PRMS (<5%) have occasional relapses.
5. Additionally, 70% of patients with Clinically Isolated Syndrome (CIS) (defined as an acute neurological disease suggesting demyelination of the central nervous system but not fulfilling the criteria for clinically definite MS), if left untreated develop MS within 15 years.

Diagnostic criteria

The diagnosis of MS requires objective findings referable to the Central Nervous System (CNS). A wide differential diagnosis often has to be considered. Magnetic Resonance Imaging (MRI), electrophysiologic and cerebrospinal fluid studies can all contribute to an early definitive diagnosis. Currently, the McDonald diagnostic criteria are used for diagnosis of MS. Magnetic Resonance Imaging (MRI) is the best tool for detection of asymptomatic dissemination of MS. In certain cases, MRI's may predict progression. Sensitivity of MRI's in detecting MS varies from 81-90% (Giang, Grow, Mooney et al 1994; Lee, Hashimoto, Hooge et al 1991).

Treatments: Currently, there is no known cure for MS. Disease modifying agents are used to prolong the demyelination and slow down disease progression. Disease modifying agents are approved for RRMS. For secondary progressive MS, the only approved drug is Mitoxantrone. (See table 1 below)

Table 1: Disease modifying agents for RRMS:

Agent (Brand)	Manufacturer	Administration	Frequency
Avonex (interferon beta-1a)	Biogen Idec	IM	Once a week
Rebif (interferon beta-1a)	Merck	SC	3 times a week
Betaseron (interferon beta-1b)	Bayer	SC	Every other day
Extavia (interferon beta-1b)	Novartis	SC	Every other day
Copaxone (glatiramer acetate)	Teva	SC	Daily
Tysabri (natalizumab)	Biogen Idec	IV	Monthly
Novantrone (mitoxantrone)	EMD Serono and OSI Pharm	IV	4 times per year (lifetime limit of 8-12 doses)
Gilenya (fingolimod)	Novartis	Oral	Daily
Aubagio (teriflunomide)	Genzyme (Sanofi)	Oral	Daily
Tecfidera (dimethyl fumarate)	Biogen Idec	Oral	Daily

Sources: National Multiple Sclerosis Society, Mayo Clinic

SC: subcutaneous

IM: intramuscular

IV: intravenous

MULTIPLE SCLEROSIS IN INDIA

In Kurtzke's world map, during the mid-70's India was identified as a low MS-prevalent nation (<5 cases/100,000 people) (Chopra, Radhakrishnan, Sawhney et al 1980). There are no good estimates on the incidence and prevalence of MS in India. The prevalence of MS varies in Asia and reporting has been influenced by various factors including surveillance, availability of skilled neurologists, MRI machines and more (Syal, Prabhakar, Thussu, Sehgal, and Khandelwal 1999).

In the past decade, several countries like Japan and Iran have reported an increasing prevalence of MS, likely due to rising diagnosis and treatment rates. In the 1980's, a crude prevalence rate of 0.77-1.33/100,000 was reported. In India, record keeping and long term follow up of patients are limitations to data collection and analysis with some exception of teaching hospitals. Poor awareness, lack of epidemiological monitoring, and limited diagnostic capabilities have severely limited the ability to identify, diagnose and report MS. India's MRI coverage is restricted to urban areas with teaching hospitals and private for-profit hospitals that get patients from the upper socioeconomic strata.

In India, MS-related neurology hospitalizations increased from 1.58% to 2.54% over a decade (Jain and Masheshwari 1985). The Multiple Sclerosis International Federation's World Multiple Sclerosis Atlas projects a prevalence of 3/100,000; nearly triple the estimate of previous reports. With a current population of >1 billion, it can be estimated that the prevalence of MS in India is higher than reported numbers (i.e. 35,000 patients). In patients of Indian and African origin, MS has a high optic and spinal cord involvement unlike Caucasians. MS is attributed to genetic and environmental factors, though research has been sparse to identify specifics.

The increased number of cases may be partly due to the availability of MRI equipment and better-trained neurologists, particularly in urban areas. In India, public and/or teaching hospitals usually receive patients from lower socioeconomic backgrounds with gender inequality contributing significantly to data collection and analysis from these settings (Pandit 2011; Chopra, Radhakrishnan, Sawhney et al 1980). It was assumed for a long time that MS was a disease of the West, and geography may play a role in disease incidence. Geographically, northwest India (above 15° N latitude) has an incidence of an average of 4.15 compared to 3.2 in South India (below 15° N latitude). India saw an influx of Persians (now Iranians) in the 8th to 10th centuries. This population, known as Zoroastrians or Parsis, has an observed prevalence of 26/100,000. Several epidemiological studies have indicated high prevalence rates of MS among Iranians, especially in the Isfahan province adjoining Pars.

There have been relatively few studies on MS in Asia and particularly in India. Asian MS has been traditionally thought of as a distinct entity characterized by high incidence of visual involvement at onset, more severe visual involvement at follow up, prevalence of recurrent acute transverse myelitis, high incidence of optico-spinal involvement, severe involvement of spinal cord with functional disability and less frequent involvement of cerebellum (Chopra, Radhakrishnan, Sawhney et al 1980; Kuroiwa, Shibashaki, Tabira n.d.; Multiple sclerosis - East and West 1982; Kuroiwa, Igata, Itahara et al 1975; Mathew, Mathai, Abraham et al 1971; Singhal 1987) The landscape of clinical MS in India is slowly changing with the advent of expanding neurological services and wider availability of magnetic resonance imaging (MRI).

BARRIERS TO ACCESS

The cost of multiple sclerosis remains unknown. Disease modifying agents may vary from \$40,000 - \$60,000 each year with varying insurance coverage. Currently, India is a low insurance market (meaning health insurance exists, but is not availed). An estimated 15% of the Indian population has some health insurance coverage with the other 85% paying out-of-pocket. Most of the insurance coverage comes through government insurance schemes and is available to governmental employees per the Insurance Regulatory and Development Authority (IRDA).

According to the World Health Organization (WHO), India spent only 3.9% of its Gross Domestic Product (GDP) on the health sector (lowest among the BRICS countries – Brazil, Russia, India, China and South Africa). In the US, approximately 20.9% of the GDP is spent on healthcare, with health insurance coverage estimated to be at 80-85%. With the Affordable Care Act (ACA) under the new reforms, it is estimated that another 7-9 million will gain coverage in 2014. In recent years, healthcare spending in comparative nations – Brazil, Mexico, China and Egypt has grown significantly while India has lagged behind. India has a planned budget increase to 2.5% from the current 1.4% spend of the country's economic output; on health spending aimed toward free medications at government facilities, setting up free ambulances in rural areas, doubling the number of trained workers, and lifting millions of young children and women out of chronic malnutrition and preventable deaths (Lakshmi 2012) .

METHODS

The primary objective of this study was to understand the barriers to accessing MS treatment in South India. An exploratory focus group was conducted with members of the MS Society. Patients diagnosed with MS, were being treated for MS and those willing to complete the focus group were included in the study results. Exclusion criteria included those patients who were unwilling to complete the study, patients with limitations that would hinder completion of the study and patients with severe disabilities unable to complete the study. A mind mapping exercise was conducted to identify themes to be used for the focus groups. Mind mapping is often used in research to identify themes that can be used later on to develop constructs. In this study, we used mind mapping similarly to identify commonalities among patients and to initiate conversations regarding MS.

RESULTS

The mind mapping exercise revealed several themes related to MS and were divided into three categories as:

- Procedural (physician visits, diagnostics etc.);
- Sequelae (i.e. manifestation of the disease), and
- Emotional (including feelings of guilt, isolation, familial support etc.) (See Figure 1)

Figure 1

Mind mapping exercise for theme identification

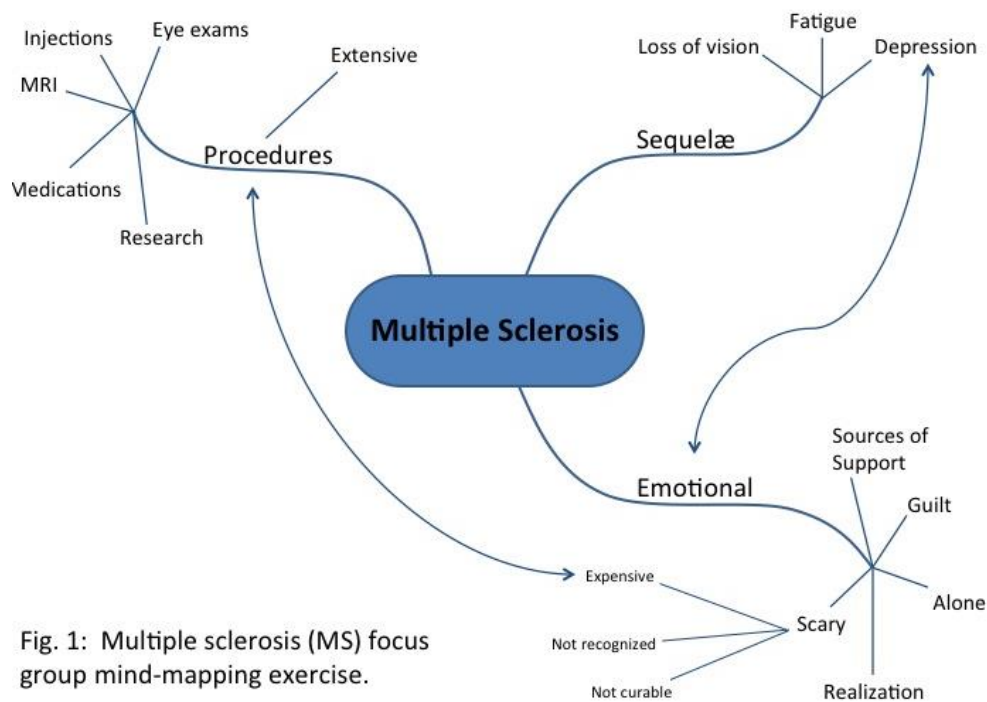


Fig. 1: Multiple sclerosis (MS) focus group mind-mapping exercise.

These themes were then used to lead the focus group discussions to further explore issues of access and adherence as reported by patients.

Focus group

A focus group was conducted with members of the Multiple Sclerosis Society of India to identify issues of access and adherence. Four members of the society participated after their monthly meeting to discuss issues, challenges and barriers of living with MS.

Results from the focus group were analyzed and divided into four themes:

- **Affordability:** The focus group revealed that affordability was the single most important factor in access to medications. Participants stated that currently, only governmental employees have coverage for MS medications. Cost of medicines reported by participants ranged from \$1000-\$2000 per patient per month. Participants reported that the medications were not widely available and had to be ordered through a distributor.

- **Societal support:** Participants revealed that they had support from their families and friends. Participants reported that their families and caregivers would worry about them.
- **Acceptance:** Participants reported that acceptance of diagnosis was not too difficult. Participants had presented with various symptoms and were anticipating having a diagnosis of a chronic disease.
- **Physicians:** Participants reported seeking multiple opinions from different neurologists. Participants also reported having poor interactions with their neurologists with little-to-no explanation of the medications prescribed to them. One of the participants further stated that it was vital to take charge of their own condition since they did not believe that the neurologists were adequately trained to manage MS in patients.

Limitations

The study sample was of convenience and, as such, generalizability of results is limited to similar populations. Issues of access to and adherence of MS medications remains unknown in India. This study is an exploratory study to identify and articulate barriers to access and adherence that patients may experience. Access and adherence issues, along with healthcare outcomes for MS patients living in India, need to be explored and better understood so that clinical programs can then target at-risk people and enroll them in therapeutic regimens.

DISCUSSION

MS medications are considered specialty pharmaceuticals, meaning very costly entities usually requiring a procedure administered by a clinician. While most medications are self-injectable, more and more seem to require a healthcare provider to administer them. MS disease modifying agents are expensive, with costs exceeding USD \$50,000 per patient. According to Blue Cross/Blue Shield, the average annual MS drug cost was \$28,152 while all other health costs were \$13,608. Yet another study looked at the total all-cause healthcare costs for MS and found that these costs ranged from \$8,528 - \$54,244 per patient per year. Direct costs ranged for more than 60% (64-91%) of the total healthcare costs for MS. Prescription drugs accounted for a majority of the direct costs (Adelman, Rane, and Villa 2013).

In India, currently there are no provisions for subsidizing medications for patients so most treatments for MS are out-of-pocket. Only patients who work for the government and have insurance coverage are currently covered for specialty prescriptions. However, a vast majority of the Indian workforce is employed in the private sector with very low insurance coverage rates (most insurances do not cover MS as a pre-existing condition), thereby leaving them with little option for accessing their medications.

Adding to this problem is the fact that most MS drugs are not manufactured in India and have to be imported, thereby driving prices up even further. In 2005, with the enactment of patent laws on pharmaceutical products, India lost its advantage to reverse engineer pharmaceutical molecules. Since all the MS drugs are currently drug brands only, there is virtually little-to-no incentive for multinational Pharma firms to reduce drug prices in lieu of affordability. The global MS therapeutics market is projected to grow at a CAGR of 3.16 percent over 2012-2016, but lack of therapies available to manage the progression of the disease poses a challenge to this growth, besides people and nations ability to pay (TechNavio n.d.; GBI Research n.d.). Incomes in India vary significantly by sector, so it is practically impossible to compute the actual cost of MS treatment due to its chronic nature. While most reports have identified costs of MS drugs as significantly high with expected future increases, there is currently very little push from authorities in India to regulate or monitor specialty drug prices, though stands against multinationals are being taken on certain issues (Shankar n.d.; Sharma 2013; Silverman 2013)

Patients living with MS may respond well to medications if diagnosed and treated early. However, with MRI capabilities and trained neurosurgeons on the rise, the issue of prevalence will become concerning across coming years. Currently, the quality of care is not accounted for. It is unclear regarding the amount of training provided to medical students and residents on MS. Identifying quality of care parameters, outcomes measures and assessing disability will be among the most challenging necessities in terms of developing skilled tertiary care centers for auto-immune diseases.

MS is a chronic disease and patients need to take their medications as prescribed for several years to respond to treatment and slow progression. As such, costs of living with MS may well exceed cost of living thereby leaving fewer options for patients and their caregivers. MS may not be on India's growing list of healthcare concerns but there are thousands of patients currently living with MS. The ability to procure medications for these patients at reasonable prices is a challenge that legislators and healthcare advocates alike need to consider toward improving these patients lives.

CONCLUSION

MS is a costly disease where people in India suffer physically, emotionally, and financially. There are very few studies that address actual costs of living with MS in the US, let alone India. While MS prevalence appears low in India now, there are several rural and urban areas where MRI capacities have not been extended. In the coming years, we may see prevalence estimates increase as a function of better diagnostics and provider and consumer awareness. Most people can live normal lives while battling MS with access to proper healthcare and medication therapies. However, in the current state, MS treatments may be out of reach for many of the world's patients. Medications are imported from the West and not manufactured in India, thereby driving costs further with almost no regulatory or legislative mechanism to curb these increasing costs on the horizon. While the country has been extremely successful in developing a generic pharmaceutical industry with the ability to provide medications at lower costs and compete in international markets, the paradoxical issue of prohibitive access to patented drugs due to costs is appalling. In our exploratory study, we found that cost was one of the major barriers to access to MS medications, along with education, awareness and support. Perhaps additional studies may illuminate new directions for public policy.

Further studies are needed to better understand long-term adherence and outcomes in patients living with MS in India. MS is a complicated disease with progression into disability, and patients have very few options towards affording medications. From a health policy standpoint, issues of cost, access and insurance coverage remain of great concern with regards to MS patients in India.

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ACCREDITED HEALTHCARE MANAGEMENT EDUCATION FOR NURSES AND OTHER HEALTHCARE WORKERS IN SLOVAKIA SINCE 2006

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ABSTRACT

Ministry of Health provides accreditation for special healthcare management courses for healthcare professionals in Slovakia. Higher institutions providing healthcare education can submit request for accreditation and provide courses, once they are successful. Since 2006 there were 698 healthcare professionals, most of them nurses (43%), that successfully accomplished one of several courses to improve their knowledge in healthcare management and administration. St. Elizabeth University has become in 2013 one of few institutions in Slovakia with valid accreditation for management course.

INTRODUCTION

Healthcare professionals in Slovakia have several possibilities to improve their skills in healthcare management area. Among possible opportunities belong healthcare management courses accredited by Ministry of Health provided by academic organizations that successfully fulfilled accreditation criteria. Healthcare management education is perceived as one of the key component in successful execution of ongoing changes in healthcare services in our country. Healthcare managers face new challenges that require new skills, competencies and knowledge, especially from management and administration perspective. New challenges also require different methods and models of education in this important area. Healthcare managers are mainly focusing on human and physical resources and this is visible at all levels of administration. Key operational goal for healthcare managers is to secure safe, high quality and effective health care. Ministry of Health in cooperation with academia is trying to provide continual education to make sure nurses as well as other healthcare professionals have enough opportunities to improve management competencies and administration effectiveness.

METHODOLOGY

We have compared all available healthcare management specialization programs available for nurses and other healthcare professionals under Ministry of Health in Slovakia and focused on interest and demand for particular accredited courses since 2006.

RESULTS

Ministry of Health is by law offering academia for accreditation following courses for nurses and other healthcare professionals: healthcare management and financing, social pharmacy and organization management, social medicine and organization management, specialist for public health management, management in nursing. Since 2006, more than 698 healthcare professionals (nurses, doctors, dentists, public health professionals, pharmacists) from 120 healthcare institutions around Slovakia accomplished specialized accredited healthcare management education on different academic institutions in Slovakia. Highest interest for accredited courses was among nurses (43%), followed by medical doctors (38%) and other specializations (19%), within 2006-2012 period.

CONCLUSIONS

Demand for accredited management education for healthcare professionals is continually increasing. We consider this as positive news for local healthcare system as well as for management education in Slovakia. St. Elisabeth University have become one of the institutions with valid Ministry of Health accreditation which we hope will help to further expand number of highly skilled healthcare managers in healthcare organizations in Slovakia. We also believe that further quality feedback evaluation for each course is necessary to be able to secure continual quality improvement in all accredited courses.

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Nariadenie vlády Slovenskej republiky č. 296/2010 Z.z. o odbornej spôsobilosti na výkon zdravotníckeho povolania, spôsobe ďalšieho vzdelávania zdravotníckych pracovníkov, sústave špecializačných odborov a sústave certifikovaných pracovných činností

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NEW ZEALAND HEALTHCARE: A LEARNING LABORATORY FOR THE PATIENT PROTECTION AND AFFORDABLE CARE ACT?

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ABSTRACT

New Zealand's national healthcare program has been in place since 1938. Universal Healthcare was initiated with the passage of the Social Security Act of 1938. It has undergone a number of changes, most recently in 2008 (Gauld 2012). New Zealand is a nation of slightly more the four million people. It has a number of significant differences from the Patient Affordable Healthcare Act (ACA and/or ObamaCare) legislation recently implemented in the United States (Healthcare in the U.S. 2014: The Basics)

This paper proposes to examine selected aspects of the national healthcare plans of New Zealand and the United States. The issues, past and present, in New Zealand's national healthcare plan may offer insights as to some of the issues that may be faced under the ACA. The populations of the two countries are significantly different: four million in New Zealand and 311 million plus in the U.S. Population numbers may be scalable and population differences may or may not pose insurmountable problems.

The question of who is covered, exempted, and otherwise not covered is an important issue in both countries. New Zealand offers coverage to citizens and permanent residents. Tourists and illegal immigrants are not covered. In the U.S., this question, especially relating to people illegally in the U.S. is largely unanswered. Despite the passage and future implementation of ACA, it is estimated that 30 million or 10 percent of the U.S. population will still not be covered. Numerous exemptions and "carve outs" have been put into place by "executive order" of the President. It is not clear if tourists and persons illegally in the U.S. are or will be covered. In theory, everyone physically present in the U.S. is entitled to emergency healthcare under nearly all circumstances.

This paper will attempt to compare what is covered under the two national healthcare plans. New Zealand exempts certain types of care (optometry, adult dental care, orthodontics. etc.). In the U.S. what is covered is less clear as it appears that no one clearly knows or understands the ACA as it currently is interpreted by a host of organizations, individuals, and government.

National healthcare, or whatever it is called, must have some mechanism to pay suppliers and providers plus something for administration. Economists are known for saying, "There is no free lunch." How the two countries agree or disagree on how healthcare is financed is the 64 million dollar (or more) question. Taxation is perhaps an obvious answer, but how, which, what, and when to tax is a complicated question. Government only operates with OPM, (a.k.a other people's money. To quote Jean Baptiste Colbert, "The art of taxation consists in so plucking the goose as to obtain the largest possible amount of feathers with the smallest amount of hissing." (Colbert n.d.)

This paper concludes with a predictable conclusion. Whatever healthcare plan, whatever the coverage, and exemptions, whatever the financing, whatever the nation, and a host of other issues there will be no conclusive agreement on how or what is to be done. There will always be opportunities for more investigation, discussion, agreement, disagreement, and general satisfaction/dissatisfaction of the many aspects of this issue.

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DRUG UTILIZATION IN MANAGEMENT OF CARDIOVASCULAR DISEASES IN SLOVAKIA: REVIEW OF PERIOD FROM 2005-2012.

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DRUG UTILIZATION IN MANAGEMENT OF CARDIOVASCULAR DISEASES IN SLOVAKIA: REVIEW OF PERIOD FROM 2005-2012.

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ABSTRACT

Cardiovascular diseases treatment is the second largest drug market in Slovakia with more than 175 million EUR right after oncology market. Even though it has moved from first to second position during last eight years, it still noticed significant 14% growth. We have been able to collect and compare reliable costs data and compared them. Prescription performance management together with adequate drug utilization will be key factors in securing adequate and affordable treatment for patients in the era of high pressure for cost containment also in cardiovascular treatment.

INTRODUCTION

Atherosclerotic cardiovascular disease (CVD) is a chronic disorder developing insidiously throughout life and usually progressing to an advanced stage by the time symptoms occur. It remains the major cause of premature death in Europe, even though CVD mortality has fallen considerably over recent decades in many European countries. It is estimated that >80% of all CVD mortality now occurs in developing countries. CVD causes mass disability: within the coming decades the disability-adjusted life years (DALYs) estimate is expected to rise from a loss of 85 million DALYs in 1990 to a loss of 150 million DALYs globally in 2020, thereby remaining the leading somatic cause of loss of productivity (SING, 1997). CVD is strongly connected to lifestyle, especially the use of tobacco, unhealthy diet habits, physical inactivity, and psychosocial stress (WHO, 2002). The World Health Organization (WHO) has stated that over three-quarters of all CVD mortality may be prevented with adequate changes in lifestyle. CVD prevention, remaining a major challenge for the general population, politicians, and healthcare workers alike, is defined as a coordinated set of actions, at public and individual level, aimed at eradicating, eliminating, or minimizing the impact of CVDs and their related disability. The bases of prevention are rooted in cardiovascular epidemiology and evidence-based medicine (Last, 2001). Key aim of this study was to collect and compare reliable and comparable data on drug utilization in therapy of cardiovascular diseases in Slovakia from 2005 till 2012.

METHODOLOGY

For purpose of this study we utilized review of available costs data sources connected to Anatomic Therapeutic Chemical classification (ATC) and to cardiovascular diseases (C01-C10). We also looked for Daily Defined Doses (DDD) measurement units. We adopted time frame for which we have available data. Data was consequently used for analysis. Costs were used in EUR and converted to EUR from SKK (Slovak national currency before 2009) if older than 2009. We were able to obtain local wholesalers data that must be reported to local drug agency Institute for Drug Control (SUKL, 2013).

RESULTS

Overall unit sales results from 2005 to 2012 show slide growth tendency till 2010 and following slight declined (Table 1). Growth in units for all ATC group under our scope reached the level of 4,3% (2012 vs 2005).

Table 1: Total units sales from 2005 till 2012.

	2 005	2 006	2 007	2 008	2 009	2 010	2 011	2 012
C01-C10	27 274 960	27 781 701	28 674 057	29 911 401	29 785 159	30 262 884	29 211 776	28 442 075

Sales evolution of selected ATC groups is included in Table 2. Key growth drivers from selected ATC groups are Vasoprotectives and Calcium channel blockers with 78% and 88% growth respectively (2012 vs. 2005). Possible reasons for this are discussed elsewhere.

Table 2: Total units sales from 2005 till 2012 for selected ATC groups C01-C10.

	ATC	2005	2006	2007	2008	2009	2010	2011	2012
C01	CARDIAC THERAPY	6 722 375	7 427 752	8 187 325	8 935 655	9 207 928	9 575 270	9 260 609	8 888 790
C02	ANTIHYPERTENSIVES	4 237 468	4 609 651	4 888 451	5 232 827	5 369 396	5 666 326	5 701 721	5 812 482
C03	DIURETICS	4 402 296	4 484 667	4 566 743	4 635 095	4 530 048	4 515 723	4 358 710	4 199 826
C04	PERIPHERAL VASODILATORS	5 869 759	5 485 431	5 120 960	4 994 753	4 610 858	4 416 899	4 112 418	3 854 913
C05	VASOPROTECTIVES	2 014 807	2 441 198	2 897 679	3 353 508	3 789 884	4 130 803	3 897 297	3 595 731
C07	BETA BLOCKING AGENTS	2 364 124	2 366 220	2 416 472	2 463 049	2 419 960	2 351 187	2 235 932	2 219 894
C08	CALCIUM CHANNEL BLOCKERS	1 001 519	1 101 940	1 244 700	1 464 407	1 611 680	1 777 422	1 844 398	1 881 049
C09	AGENTS ACTING ON THE RENIN-ANGIOTENSIN SYSTEM	2 513 763	2 158 739	2 109 458	2 045 969	1 902 092	1 827 158	1 566 419	1 454 339
C10	SERUM LIPID REDUCING AGENTS	163 656	147 301	139 948	139 646	133 197	132 899	131 569	130 782

The results show that the consumption (in term of units) of e.g. β -blockers was in 2005 2,364 million and in 2012 2,219 million. Consumption of ACE inhibitors in 2005 was 2,513 million and in 2012 1,454 million and this group represent most significant decline compared to 2005 in all selected ATC groups. Table 2 shows detailed unit sales for each ATC group.

Table 3 is summarizing whole ATC group from value and DDD perspective. Amount of drug costs allocated for cardiovascular disease escalated in 2011 with almost 197 million EUR (250 million USD), average price for package reached 5,38 EUR in same year and price per 1 DDD started in 2005 at 0,16 EUR per 1 DDD and ended with 0,17 EUR per 1 DDD in 2012 with peak price in 2007 and 2008 at 0,20 EUR per 1 DDD.

Table 3: Utilization of cardiovascular drugs in value, DDD and packages from 2005 to 2012.

Year	Packages	*000 €	DDD	DDD/1000/day	Average Package Price in EUR	Price per 1 DDD in EUR
2005	27274960	135840	853285329	2337.8	4.98	0.16
2006	27781701	135669	892203344	2444.4	4.88	0.15
2007	28674057	171131	849410634	2327.2	5.97	0.20
2008	29911401	185309	920617928	2522.2	6.20	0.20
2009	29785159	185570	962728412	2637.6	6.23	0.19
2010	30262884	194890	1026199958	2811.5	6.44	0.19
2011	29211776	196958	1043564747	2859.1	6.74	0.19
2012	28442075	178896	1048476987	2872.5	6.29	0.17

We have noticed increase in consumption of drugs for cardiovascular disease from DDD/1000/day perspective from 2337,8 per DDD/1000/day in 2005 to 2872,5 in 2012. Overall increase is 23% (2012 vs. 2005).

DISCUSSION

Slovakia has increased its expenditure for pharmaceuticals by 0,5% (2010 vs 2000) (Carone, 2012). Pressure on healthcare spending and following cost-containment activities can be seen at the field of legislation and partially also in our results. Major legislation influencing drug policy and drug utilization came into validity from January 2012. We looked at one of the most important ATC group and searched any changes that might be connected to new legislation. Although, this is only second year after new legislation came into practice, we strongly believe that some aspects of drugs utilization have been already changed by these changes. Total increase in EUR spent on cardiovascular drugs was more than 60 million EUR (approx. 80 million USD, 2011 vs 2005). Validity of new legislation including faster entrance of generics, mandatory price decrease to second lowest price in European Union might caused almost 20 million EUR drop in total value spending for cardiovascular drugs in 2012 (compared to 2011). Interestingly, with faster generic entry and almost lowest prices in EU there was also decrease in packages sold by 3% (2012 vs 2011). However, inside of this group of drugs we noticed increase in prescription of e.g. Calcium-channels blockers, Vasoprotectives, Cardiac therapy and Antihypertensive which could be influenced by numerous generics entry (e.g. Amlodipine has more than 15 generics) and also changes in treatment guidelines, which are not discussed here any further, since it is not purpose of this paper.

Another interesting issue is prescription performance. In most of EU Member States, physicians have the exclusive right to prescribe medicines. Therefore, they play a crucial role in determining whether medicines are consumed rationally or not. As medical experts, physicians evaluate the health needs of their patients and assess the pros and cons of specific treatments. Acting in the interest of patients' health is clearly a key ethical imperative for

physicians. However, in reality, physicians face different pressures and contrasting "incentives", such as earning an income, being up-to-date with innovations in medical treatment, keeping allocated budgets, staying objective in the choice of treatment despite pressure from third party payers, the industry or the patients. As a result, prescriptions may sometimes be sub-optimal, in the sense of being unnecessary or costly, despite the availability of lower-cost alternatives. In 22 EU Member States (incl. Slovakia) physicians' prescription patterns are monitored (Carone, 2012). Third party payers may monitor individual physicians' prescriptions and benchmark these with prescriptions of their colleagues with same specialty in a given region or country. Physicians may get feedback on their performance relative to the benchmark, and may be visited by representatives of third party payers. In case of large divergences from the benchmark, physicians may be asked to explain these. In case of unexplained deviations, physician may be required to pay fines, undergo legal action or see their prescription rights waived (Carone, 2012). Prescription by international-non-proprietary-name (INN) – compulsory in Slovakia from December 2011, i.e. by the active ingredient instead of the brand name, is a key tool for improving prescription behavior. The rationale of prescribing by INN is to promote the use of the cheapest medicine with same active ingredient, so as to generate savings for both third party payers and patients without impacting adversely on patients' health status (Zuidberg, 2010).

Up-to-date, no global formal assessment of prescription performance policies exists (Espin, Rovira 2007). In general, a mix of interventions, such as monitoring including feedback systems combined with group or one-to-one educational interventions, have a positive impact, whereas focusing on information dissemination alone is not effective (Gill et al 1999, Soumerai et al. 1989, Gray 2006).

CONCLUSION

Drug utilization in the area of cardiovascular treatment went through several visible changes since 2005. Key value decrease in 2012 was most probably due to new legislation directly influencing prescription behavior of medical doctors. However, we noticed continual increase in number of units/packages, DDD/1000/day and DDD since 2005 till 2012. It is imperative for healthcare system to take measures that will ensure rational pharmacotherapy alongside with improving prescribing behavior. Combining different measures, such as electronic prescription monitoring and guidelines linked with electronic systems, which support decision making and give feedback to the physician, appears an effective way of improving prescription behavior. Education and information tools should be enhanced where possible, as well.

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PRICING, REIMBURSEMENT, AND AVAILABILITY OF ORPHAN DRUGS IN SLOVAKIA: EIGHT-YEAR REVIEW (2005-2012)

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ABSTRACT

The EU defines an orphan drug as either a medicinal product intended for a life-threatening or chronically debilitating rare disease or a medicinal product that would not be developed without incentives because its sales are unlikely to generate sufficient return on investment. Orphan drugs are highly priced and just top 20 orphan molecules create almost 2,5% of total drug expenditure in Slovakia with high dynamic, capturing 0,5% of total pharma share just in 20 months, but for some molecules it took up to 19 years after orphan designation to be launch in local market and up to 11 years to be launched in Slovakia compared to US. Pricing and reimbursement of orphan drugs follows the same economic logic as drug pricing in general: the price of an orphan drug is set by a manufacturer in an effort to recoup research and development costs and to attain a certain profit margin. Whereas decisions surrounding orphan designation and marketing authorization of orphan drugs are taken at the EU level, decisions governing pricing and reimbursement of orphan drugs are a member state responsibility.

INTRODUCTION

A rare disease is a disease with a very low prevalence. In the European Union (EU), rare diseases are defined as life threatening or chronically debilitating diseases with prevalence of 5 out of 10,000 individuals or less (EC 2000). The EU defines an orphan drug as either a medicinal product intended for a life-threatening or chronically debilitating rare disease or a medicinal product that would not be developed without incentives because its sales are unlikely to generate sufficient return on investment. An additional requirement to qualify as an orphan drug is that no satisfactory method exists to diagnose, prevent or treat the disease or, if such a method exists, that the medicinal product will be of significant benefit to those affected by that disease (EC 2000). The EU implemented specific policies in 2000 to stimulate innovation in the field of orphan drugs (EC 2000). Manufacturers that have an orphan designation (i.e. the award of orphan status to a drug) for a medicinal product benefit from: a) protocol assistance (scientific advice during the product development phase); b) direct access to the European Drugs Agency (EMA) Centralized Procedure with respect to registration; c) ten-year marketing exclusivity starting from the date of marketing authorization (i.e. the approval to market a drug); and d) financial incentives (fee reduction or exemptions, possible assistance with research and development). Orphan drug policies can be considered a success as the number of orphan designations and marketing authorizations granted by EMA increased from 270 designations and 22 authorizations by the end of 2005 to 805 designations and 61 authorizations by April 2011 (Orphanet 2011). Slovakia has 43 registered orphan drugs that currently report some sales (SUKL 2012). Whereas decisions surrounding orphan designation and marketing authorization of orphan drugs are taken at the EU level,

decisions governing pricing and reimbursement of orphan drugs are a member state responsibility. As a result, evidence requirements, pricing and reimbursement policies governing orphan drugs differ between countries; thereby creating differences in access to, prices and utilization of orphan drugs between countries (Alcimed 2006).

We should note that the features of rare diseases and orphan drugs make them an issue of high priority for policy makers, researchers, legislators, health care professionals, industry leaders, patients and interest groups. For instance, the present EU system of orphan designation allows for drugs for non-orphan diseases to be designated as orphan drugs (Simoens 2011). The economic factors underlying orphan designation can be questioned in some cases as a low prevalence of a certain indication does not equal a low return on investment for the drug across its indications. High-quality evidence about clinical added value of orphan drugs is rarely available at the time of marketing authorization due to the low number of patients (Simoens 2011). Moreover, economic evaluations tend to find that orphan drugs are not cost-effective because the incremental cost for the additional health benefit provided by the orphan drug is usually high. Finally, given the high price of orphan drugs, policy makers are faced with an increasing proportion of pharmaceutical expenditure being spent on orphan drugs (Denis et al 2009).

METHODOLOGY

The aim of this paper is to conduct a review of scientific sources and literature to provide insight into pricing, reimbursement and availability situation surrounding orphan drugs in Slovakia. This paper addresses pricing, costs and reimbursement of orphan drugs mainly from the health care payer perspective. Official prices and reimbursement status were obtained from government source (MZSR 2013).

RESULTS

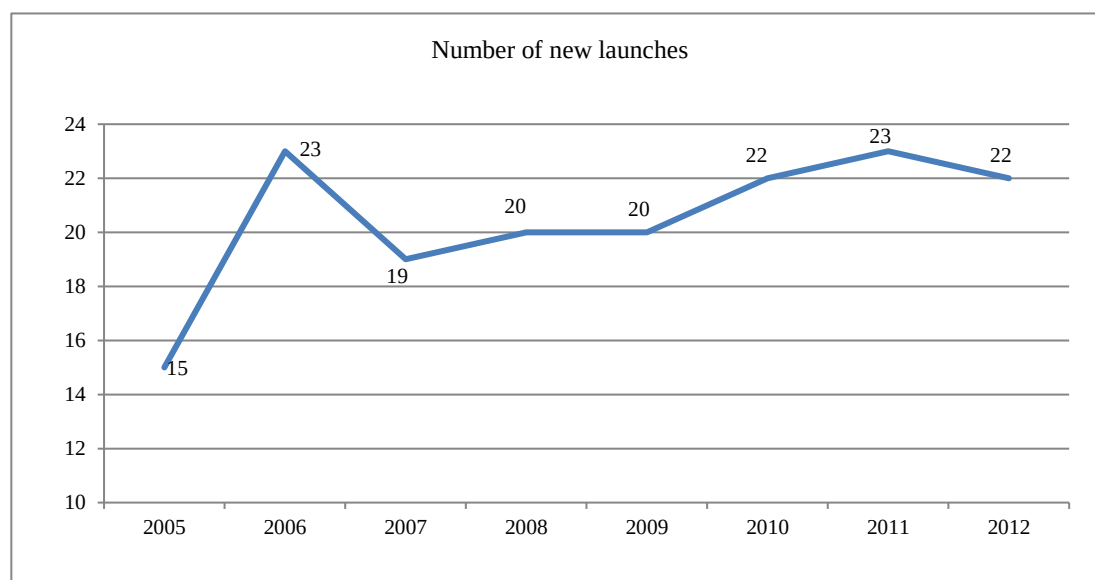
We considered 18 orphan drugs according to Cote and Keating (2012) that exceeded 1 billion \$ sales in 2008 (globally) with valid orphan drug status, which are also available in Slovakia. We have compared available molecules and searched for various information started with cumulative sales in Slovakia in period of 2005-2012. Compared to Cote and Keating (2012) we identified that same molecules are among best selling 20 orphan drugs, with highest sale of 124 million \$ (Bevacizumab). Table 1 is summarizing years of orphan designation, year of market approval in US and comparison to market launch in Slovakia and cumulative sales (2005-2012) in Slovakia. For some molecules it took up to 19 years after orphan designation to be launched in local market (Glatiramer acetate) and up to 11 years (Somatropin) to be launched in Slovakia compared to US.

Table 1: Top 18 global orphan drug molecules with added local cumulative sales (2005-2012) in \$ (MZSR 2013, SUKL 2013) and year of local launch.

Generic Name	Year of Orphan Designation	Year of market approval in US	Year of market launch in Slovakia	Cumulative sales (MIO \$) 2005-2012 in Slovakia
Bevacizumab	2003		2005	124
Imatinib	2001	2001	2002	89
Trastuzumab	1999		2001	86
Infliximab	1995	1998	2001	79
Rituximab	1994	1997	2000	76
Adalimumab	2005	2008	2009	64
Etanercept	1998	1999	2007	55
Interferon beta-1A	1988	1993	2002	53
risedronate	2006		2002	52
Epoetin alfa	1986	1989	1990	51
Zolendronate	2000	2001	2004	47
Somatropin	1986	1987	1998	41
Bortezomib	2003	2003	2004	36
Tiotropium	2008		2002	34
Peginterferon	1998		2003	34
Glatiramer acetate	1987	1996	2006	31
Interferon beta-1B	1991	1996	1997	29
Tacrolimus	1998	2006	2000	25

In total, 96 molecules are listed in current Slovak reimbursement list (MZSR 2013) identified and considered as orphan according to last Orphanet Report Series (2013) published in July 2013. According to EU legislation changes in 2000 we have noticed dramatic increase in number of new launches, mainly during last 7 years compared to 2000/2001 where there have been “only” four. Figure 1 represents number of new launches (new molecules and new line extensions of orphan drugs) in Slovakia from 2005 to 2012 with two launch number peaks (23) in 2006 and 2011.

Figure 1: Number of new launches of orphan drugs (or line extensions of orphan drugs) in Slovakia from 2005 to 2012 (MZSR 2013).



Our objective was also to compare average price of orphan drugs to average price of other reimbursed drugs included in reimbursement list. After throughout analysis we were not able to accomplish this objective due to significant differences in packaging, formulations, dosage, etc. We decided to compare selected twenty best selling orphan drugs on the basis of days-of-treatment. All available orphan drugs have average \$230 per 1 DOT compared to \$614 per DOT of top 20 orphan drugs. Total pharma market average DOT is \$0,56 (Figure 2).

Figure 2: Top 20 orphan drugs with reimbursement status, price and DOT cost (MZSR 2013, SUKL 2013).

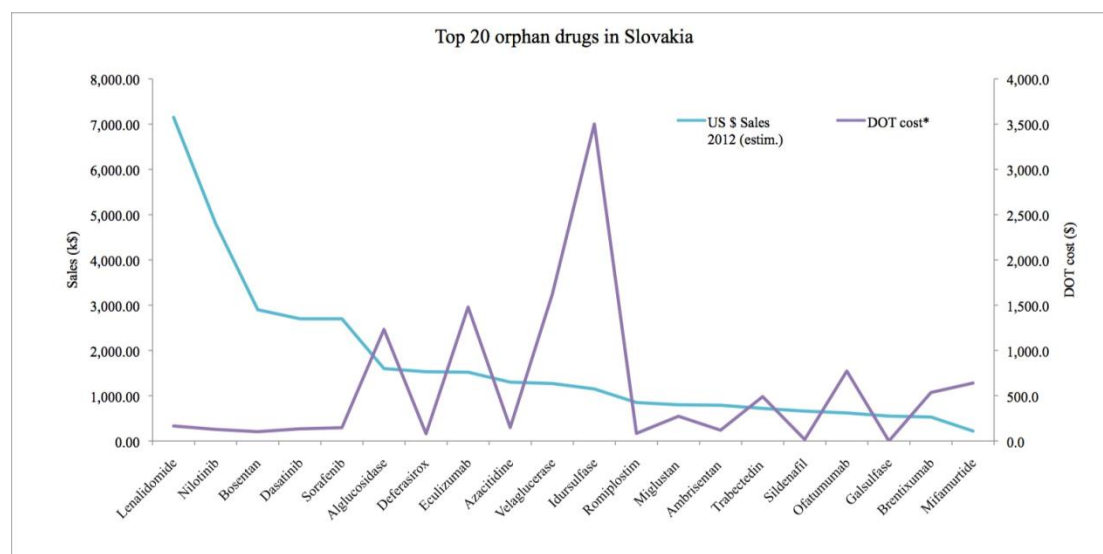
		Reimbursement list	% reimbursement	Ex-factory price/one package (\$)	DOT cost*
1	Lenalidomide	YES	100%	6,680.96	166.0
2	Nilotinib	YES	100%	4,247.88	128.2
3	Bosentan	YES	100%	2,483.52	103.1
4	Dasatinib	YES	100%	4,037.54	134.6
5	Sorafenib	YES	100%	4,118.01	147.1
6	Alglucosidase	YES	100%	573.04	1,232.6
7	Deferasirox	YES	100%	3,096.47	80.0
8	Eculizumab	NO	H**	6,935.50	1,479.0
9	Azacitidine	YES	100%	440.31	148.7
10	Velaglucerase	NO	H**	2,154.10	1,619.8
11	Idursulfase	NO	H**	4,084.73	3,500.9
12	Romiplostim	YES	100%	1,522.56	84.2
13	Miglustan	YES	100%	7,456.67	273.3
14	Ambrisentan	YES	100%	2,555.02	119.3
15	Trabectedin	NO	H**	3,431.74	490.1
16	Sildenafil	YES	100%	541.32	16.4
17	Ofatumumab	NO	H**	2,704.00	772.6
18	Galsulfase	NO	H**	n/a	n/a
19	Brentixumab	NO	H**	3,748.94	535.5
20	Mifamurtide	NO	H**	3,520.40	640.3
	Average DOT price of all available orphan drugs				240.3

H** - hospital budget or central purchasing

	<i>average</i>
* Top 20	614,3\$/DOT
* Total pharmaceutical market Slovakia	0,56\$/DOT

We also compared DOT costs with sales (Figure 3) to see if there is any correlation. According to our research and own experience sales and overall success of each molecule (not just orphan) is based mainly on patients' pool size, treatment added value and other therapeutical options availability as well as marketing and sales strategy. Since all orphans in Slovakia are fully reimbursed, this last aspect might have less important impact on overall commercial success, even though drugs listed in Reimbursement list are less restricted by budget limitation comparing to hospital/central purchasing brands.

Figure 3: Sales and DOT costs of 20 most successful orphan drugs in Slovakia (SUKL 2013)



DISCUSSION

Pricing and reimbursement of orphan drugs follows the same economic logic as drug pricing in general: the price of an orphan drug is set by a manufacturer in an effort to recoup research and development (R&D) costs and to attain a certain profit margin. Prices of most of the orphan drugs are extremely high in Slovakia compared to total average (\$0,56 vs \$240,3 per DOT). The final price takes into account the value of the product to the patient, market conditions (e.g. the existence of alternative health technologies) and the regulatory pricing and reimbursement environment in a country. However, the market for orphan drugs has inherent market failures, thus resulting in high prices due to a number of reasons. The economic evaluation of orphan drugs is inhibited by the existence of often limited and weak clinical data at launch time (Simoens 2011). In the context of rare diseases, it may prove difficult to recruit a sufficient number of patients and medical centers in clinical trials, thus raising costs. Orphan drug trials may be halted early on ethical grounds when an interim analysis demonstrates clinical superiority of the orphan drug in terms of an intermediate outcome measure such as progression-free survival. It has been recommended to allow greater use of surrogate outcome measures for orphan drugs if clinical data are incomplete, but impose at the same time a commitment to continue research (Danzon and Furukawa 2006). A central component of this approach is the commitment to ongoing evaluation through, for example, patient registries of rare diseases designed to collect the necessary data to follow up and evaluate uncertainties surrounding the longer-term effectiveness and cost-effectiveness of orphan drugs used in the treatment of rare diseases (Owen et al 2008). The use of patient registries would support the decision-making process, inform clinical practice, and could provide information about long-term adverse events.

Given their high price for an often modest effectiveness, orphan drugs are unlikely to provide value if their cost-effectiveness ratio is compared to a fixed threshold value (Drummond et al, 2007). Local threshold value (cost per 1 QALY) is set for 24 times of officially published average monthly industry salary for regular medicines. For orphan drugs there is no threshold defined, nor any other clear rule, so in each reimbursement request we might expect different decision. Do we need to provide incentives to pharmaceutical industry to develop orphan drugs

when the costs surpass the value that society attaches to the health benefits produced by orphan drugs (McCabe et al, 2005)? In order to answer this question, even though is not the purpose of this paper, it has been argued that other societal considerations may matter when evaluating an orphan drug, such as the observation that orphan drug reimbursement conforms to the principle of social solidarity in which vulnerable groups receive support; that orphan drugs tend to target life-threatening diseases for which there may be no alternative therapy; and that orphan drugs have a considerable impact on patients' health care expenditures if they would have to incur the drug costs themselves (Simoens 2011).

According to Côté and Keating (2012) manufacturers have an incentive to abandon the traditional business model based on the mass sale of drugs intended for general care treatment and to turn to targeted drugs with high commercial potential. Manufacturers, on one hand, have increasing difficulty to market mass drugs and future "blockbusters," and, on the other hand, can pursue high profitability of orphan drugs. Several molecules had benefited from European Union orphan drug policy where manufacturers have received substantial return of investment. In fact, 43 trademarks, each for the treatment of at least one orphan designation, generated global annual sales exceeding \$1 billion in 2008. Of these, 18 products were intended solely for the treatment of a rare disease and 11 achieved global annual sales equal to or greater than \$1 billion during the 7-year exclusivity period granted by the FDA. Furthermore, compilation indicates that 33 trademarks, each corresponding to at least one orphan indication, achieved global annual sales of \$100 million to \$999 million in 2008. Of these, 19 were approved for orphan applications and 3 had global annual sales of \$600 million to \$999 million in 2008 (Côté and Keating, 2012).

On the contrary, Rollet et al (2013) just recently published that the aggregate R&D expenditure for the universe of 10 selected rare diseases companies was \$2.9 billion in 2012. To generate a return of 11% to 14% on this investment requires respective additional sales of \$ 21 billion and \$ 27 billion in the year 2021. These companies had cumulated sales of rare diseases products of \$ 13.6 billion in 2012. Life-cycle model presented by Rollet et al (2013) suggests that to achieve 11% to 14% return, this corresponds to 5% and 8% compound sales growth per annum for the 10 companies over 10 years. This compares with current 11.8% per annum compounded sales growth achieved over the last 5 years for these 10 companies or, considering structural plateau effect that follows early years of any new product launch, a 10 year sales growth pattern close to a 5%-10% range. A simple simulation using the 10-year pay-back method shows therefore that the aggregate R&D returns from rare diseases companies are likely to be close to estimated cost of capital of these companies. This is consistent with comments made by Shire CEO in a recent interview referring to returns in the magnitude of 2-3% above the cost of capital of the company (Jack 2012).

Extended exclusivity was not previously granted for orphan drugs in Slovakia, which could be also one of the reasons why there was so significant difference (in some molecules) in launch date compared to US. We have mentioned difference up to 11 years in some molecules, but average launch date difference for top orphan molecules in Slovakia is also long - 3,5 years. We assume that launch date is also influenced by prevalence and incidence of the disease in each country; market potential and market evolution; local company presentation or subsidiary; local marketing and sales experience; reimbursement process and other orphan molecules' success at local market. After 2000 a valuable incentive exists for industry to invest in the development and marketing of orphan medicinal products through the 10 years market exclusivity provided by regulation (EC) No 141/2000 on orphan medicinal products (EC 2000), which led also to 164 launches of new orphan molecules or orphan line extensions locally from 2005 to 2012.

CONCLUSIONS

We have mentioned that there is a highly valuable incentive for industry to invest in the development and marketing of orphan medicinal products within European Union, but also granted by FDA. The intended effect of this regulation is to extend the effective patent protection and to raise expected monetary reward to rare diseases drug research and thus encourage entry. Against some perceptions, market exclusivity granted by EC regulation to an orphan medicinal product does not prevent the marketing of other Orphan medicinal product which, although similar to the orphan medicinal product already authorized, would be safer, more effective or otherwise clinically superior (Light 2003). Current context of economic constraints in Europe however justifies the need to pay close attention to the rationale of maintaining such incentive in the context of potential return on investments of companies offering high priced drugs. Orphan drugs are highly priced and just top 20 orphan molecules create almost 2,5% of total drug expenditure in Slovakia. Each new orphan drug reimbursement request is locally reviewed by scientific and pharmacoeconomic council under Ministry of Health and submission without high quality Health Technology Assessment report including cost per QALY is not accepted at all. On the other hand, any activity focused on threshold setting would undermine the basic principle of social solidarity in which vulnerable groups receive support; that orphan drugs tend to target life-threatening diseases for which there may be no alternative therapy; and that orphan drugs have a considerable impact on patients' health care expenditures if they would have to incur the drug costs themselves.

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ABSTRACT

Purpose of this theoretical paper is to describe the historical development of nursing as a science formation in Slovakia.

Methodology In this paper, we used literary method which allows us to effectively study the sources and future use at the stage of formulating the problem of empiricism.

Results Nursing education and practice are generally classified as unprofessional, charitable and professional nursing.

Conclusion Knowledge of the history of nursing enables you to analyze current problems as well as to consider the future of nursing theory, education and practice.

Keywords: Unprofessional nursing. Charitable nursing. Professional nursing. Modern Nursing.

INTRODUCTION

Nursing has been, is and will be assisting profession, which is indispensable in the comprehensive care of people's health. In the historical development was mainly influenced by social, cultural, economic and political factors. It was greatly influenced by scientific discoveries, wars, epidemics and famous personalities.

These factors have operated in specified mutual relationships; their effects cannot be separated (Farkašová et al., 2010, p. 9).

History of Nursing is generally classified as:

- unprofessional nursing - nursing,
- charitable nursing,
- professional nursing

Below is a brief history of nursing from the earliest times to the present day in Slovakia.

METHODS

In this paper, we used literary method which allows us to effectively study the sources and future use at the stage of formulating the problem of empiricism. We have been working with sources in printed and electronic form (www.health.gov.sk, www.zbierka.sk). We used the following search terms: nursing, nursing history, modern nursing. The selection criterion were facts since 1989 touching the subject in question.

RESULTS

Unprofessional nursing

Unprofessional nursing has evolved from ancient times of mankind's existence through antiquity to the Middle Ages. More specifically regards the nursing, old traditional system of care in which man nursed himself, his family, community and knowledge, experience has passed down from generation to generation. During non-professional nursing we encounter with the methods and cult of folk healing, for treatment of the sick were used gifts of nature. It is largely considered to be the simple healing, maternity and women nursing, protection against accidents and occupational diseases, which were carried out directly by households (Botíková, 2009).

Charitable nursing

"After the unprofessional nursing followed its theologisation when nursing was performed in the antiquity times by priests and priestesses of various religions, monks and nuns, male and female members of religious orders" (Hanzlíková, 2011, p. 32). "The development of orders and congregations with charitable and nursing focus was affected mainly by the decision of Pope Gregory the Great in the 9th century, who in 817 ordered the monastery caring for the poor, the disabled and the sick" (Botíková, 2009, p. 60). Charitable nursing was focused on shelter, food, and sanitation provision, spiritual support, and later for treatment. The first monasteries in Slovakia were founded by Benedictine monks in the year 1000 in Nitra and in 1075 in Hronský Beňadik. From 11th century monasteries were devoted not only to charity, but also to nursing of the sick. The first hospitals were founded, hospitalization and shelters in monasteries, within our area these were hospitals in Banská Štiavnica, Košice, Spišská Nová Ves, later in Trenčín, Trnava, Banská Bystrica, Kremnica and in 1418 in Bardejov. Charity and civilian caregivers and carers (usually servants, maids, poor women) gradually acquired the knowledge and skills of nursing, which were passed orally from generation to generation. The Middle Ages was characterized by high mortality and morbidity in the population due to inadequate sanitary conditions, as well as non-existent healthcare management. The application of sanitary measures, state control of the health status of the population, as well as the formation of hospitals in the 17th century was preferred by the Emperor Leopold I. "The term hospital, as medical facility that should be used for therapeutic targets was at that time unknown in Slovakia. Hospitals in the Middle Ages had the mission of socio-medical facilities" (Farkašová et al., 2010, p. 13). The care for the sick was provided by healers and members of charitable orders.

Professional nursing

Professional nursing is developing with the development and progress of medicine and institutional care, we are talking about it since the Reformation period of nursing, which is associated with the name Florence Nightingale (Botíková, 2009).

Enlightenment period is known for systematic caring for the health of Slovak population. During this period, the county offices were established together with physician health committee, and the operation of regional and urban curers began. Health care at this time was provided by doctors, healers, the healing members of religious orders, civilian caregivers, spa staff, barbers, midwives and nurses. "In the 1770, Maria Theresia issued a royal mandate - Generale normativum sanitates - the main rules health care, which was the first standard throughout the country. For health services in Hungary was important the health care law of 1876, which regulated the legal relations in health care and adapted to the new requirements of the health services in towns and cities" (Farkašová et al., 2010, p. 13-14).

Nursing care was focused on meeting the needs of the sick, assistance with certain medical interventions and to provide the service department. In the context of primary health care conditions were created in particular for the use of midwives (Farkašová et al., 2005).

To significant personalities of this period belong Janka Hrebendova - the first caring organizer of the Slovak wounded on the battlefield volunteers, performed for women courses of wound care and bandaging (Botíková, 2009).

Nursing in 1918 - 1948

"Establishment of the Czechoslovak Republic (1918) positively affected the socio-health care for all segments of the population of Slovakia. In 1927 was created the Provincial Office. Its advisory body was the Board of Health, which carried out the supervision over health professionals and public health services "(Farkašová et al., 2010, p. 19).

During the formation of the Czechoslovak Republic nursing care was mostly provided by nuns and nurses without training, then after the nursing school creations by diploma nurses. Care was carried out in hospitals, initially only providing basic nursing care, medical progress, however, encouraged their activities to assisting the doctor. "Nurses began to specialize as to assist in operations such as scrub nurses, for work in laboratories, radiology, diet therapy and so on." (Farkašová, 2005). Some nurses worked in physician's offices and ensured disease prevention, social and health care in particular with children and women, as well as organized child care courses. In the years 1918 - 1948 was carried prevention of infectious diseases, support for vaccination, healthy eating, as well as housing based on educational journals, and other publications.

World War II caused the harm to the population, death, insecurity, fear, significantly reducing the level of health care. Nursing was in that period focused on helping children without parents, socially deprived and lonely, returning from the front and the concentration camps.

Nursing in 1948 – 1990

"Nursing after 1948 affected the nationalization of health care, increasing the number of institutional health facilities, postponing nuns, inadequate social and economic evaluation of nurses for their hard work. Nurses' work in hospitals was evaluated as tough toil. The society had considerable difficulties in ensuring sufficient numbers of health workers. Qualified nurses carried out the work in the laboratory, radiology and rehabilitation at the workplace, thereby decreasing their number "(Farkašová et al., 2010, p. 33). "Threats to the smooth delivery of health care required to create conditions that would increase interest in the study of the nursing profession, which may be done only by improving the social, educational and social institutions" (Farkašová et al., 2005, p. 29).

In February 1948, changes occurred in the health system and health care.. Nursing and nursing education after 1948 directly affected the legislative changes listed below:

- *Act no. 66/1950 on health professions* defined for nursing 8-hour working time, in nursing practice was introduced early, afternoon and night shifts, salaries of nurses were adjusted,
- *Act from 1950, on the health care professions and follow up government regulations from 1951* for the first time defined the category of paramedical staff - nurses and midwives,
- *The Constitution of Czechoslovakia* secured the right to health care for all citizens,
- *Act no. 103/1951 Coll. on single preventive and curative care,*

• *Ministry of Health Decree no. 70/1953 on the professional competence and professional education* practice nurses as well as the obligation to specialize and learn at the training seminars,

• *Decree no. 44/1966 Coll. on health care workers and other professionals in the health sector*, stated that the ability to practice the nursing staff, hence sisters, is obtained by graduation from a medical school; determined the obligation to pass on entering practice, continuing education opportunities through specialized post-secondary studies and various training actions,

• *Decree no. 77/1971 on health care workers and other professionals in the health sector* determined that nurses remain in the category of paramedical staff; established substitutability of health, child and female nurses, nurses were identified for 6-12 month on entering practice and institutionalized training defined as post-secondary specialized study (Farkašová et al., 2005).

Year 1969 was a socially and politically turning point by adopting of Federation, which also determined the change in the management of health care in Slovakia. The Ministry of Health of the Slovak Republic governed the activities of regional, district and national committees to guide the activities of the healthcare facilities beyond those directly managed by the Ministry of Health. Health care facilities were divided into the facilities of curative and preventive care and hygiene facilities, facilities for the education of health professionals, health organizations for production, supply medicines, medical supplies and scientific research and development institutes in the field of healthcare.

At the level of state administration nursing was managed by main nurse of the Ministry of Health, regional and district health, child and female nurses. In the inpatient treatment centers operated main nurse, head nurse and station nurses. Nurses also worked in the offices of general practitioners and specialists, also conducted home visits of children, adults and seniors.

The professional role of nurses was understood as a complement to medical care, nurse became an assistant of a doctor, which required new diagnostic and therapeutic procedures. Nursing had medical, technical, secretarial and performing assistance, it was not autonomous. It was dominated by biomedical model of nursing care.

Nursing after 1990

"In 1990, the Slovak government approved the document Principles of reform structure, management and financing of health care, which began a process of change in the Slovak health care. "The main goal of health care reform was to improve the health status of the population. This objective had to promote improved preventive and curative care and its material-technical equipment, restoration of a positive relationship of citizens to their health, the elimination of the state monopoly in the provision of health care, allowing citizens to choose a doctor and medical facility, improve the status and remuneration of health workers, an effective system financing, through insurance, privatization and decentralization of health care "(Farkašová et al., 2010, p. 50).

The adoption of legislative acts - *Act no. 7/1993 Coll. on the establishment of the National Insurance and financing of health insurance, sickness insurance and pension insurance; Act no. 9/1993 Coll. on health insurance and the management of the Health Insurance Fund, Act no. 273/1994 Coll. on health insurance, health insurance funding, on the establishment of the General Health Insurance Company and establishing of departmental, sectoral, enterprise and public health insurance, Act no. 581/2004 Coll. on health insurance companies, healthcare supervision* - made major changes in the financing of health care.

The Nineties of the last century meant for Slovakia transformation of the health system, which identified three categories of medical facilities: state budgetary organizations, state contributory organizations and non-governmental health organizations.

In 2004 was established an independent body - The Office of the health inspection, which oversees compliance with health legislative standards and quality of provided health care.

The Act no. 576/2004 Coll . on the health care services related to health care and on amendments to certain laws as amended terms have been defined: health care, nurse, nursing care, nursing practice, nursing process, keeping medical records, which emphasized the change from passive nursing to active scientific discipline.

The trend of nursing since 1990, and of presence is active development of nursing as humanistic science. Modern nursing is characterized by characteristic features:

- nursing care is provided through individualized nursing process,
- the individual is perceived as a complex bio-psycho-social and spiritual unity,
- nursing care is provided to healthy, sick and nursing acts in the care of the dying,
- nursing care is a team work, the team is composed of different categories of health workers,
- nursing care is based on the latest scientific knowledge.

Based on the recommendations of the World Health Organization, the International Council of Nurses and the European Union was adopted in 1994 *the Concept of Nursing Department*, which was amended in 2006 and also applies at present. Another important document was *the National Development Plan of Nursing* (1997), based on the program of *the World Health Organization Health for All by the year 2000*. The National Development Plan of Nursing dealt with: a change of nursing practice aimed at enhancing the quality of nursing, of nursing management, education in nursing, research in nursing, international cooperation, funding and legislation in the field of profiling.

The Act of the Ministry of Health no. 311/2002 Coll . on the profession of nurse, midwife profession, on the Slovak Chamber of Nurses and Midwives and amending Act, as amended supported requirements of the European Union and the National Development Plan of Nursing.

To reach the National Programme for the Development of Nursing and nursing practice development also significantly contributed the Ministry of Health Decree no. 364/2005 Coll., *determining the scope of nursing practice provided by nurse independently and in collaboration with physicians and scope of practice provided by the midwife independently and in collaboration with physicians and of amending act, as amended*.

Current trends in the development of nursing are set on the education, practice and regulation of the nursing profession. In the field of education in nursing the curriculum innovation is needed, which must reflect the needs of practice, theory development, demographic, epidemiological and technological conditions. Focusing on specialized training and development of scientific disciplines that promote health are undoubtedly posts, which also addresses the nursing of the 21st century in the Slovak Republic.

Nursing practice is rather heading to health than illness; it is supported by research focused on the EBP (Evidence-Based Practice – Practice based on the evidence). Acute health care is provided in hospitals and long-term care is heading into the home environment and specialized institutions.

CONCLUSION

The aim of the submitted paper was to present the historical context of the development of nursing in the Slovak Republic. Nursing in different historical periods, is perceived in different approaches to treatment. Nurses are expected to know the history of nursing, respond to present and in future implement the changes in the profession of nurses and nursing.

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practice provided by midwife independently and in collaboration with physicians and amending Act, as amended)

Zákon NR SR č. 7/1993 Z. z. o zriadení Národnej poisťovne a o financovaní zdravotného poistenia, nemocenského poistenia a dôchodkového poistenia a o zmene a doplnení niektorých zákonov v znení neskorších predpisov (Act No. 7/1993 Coll., on setting up of the National Insurance and financing of health insurance, illness insurance and pension insurance and on amendments to certain Acts, as amended)

Zákon NR SR č. 9/1993 Z. z. o zdravotnom poistení a hospodárení s Fondom zdravotného poistenia; zákon NR SR č. 273/1994 Z. z. o zdravotnom poistení, financovaní zdravotného poistenia, o zriadení Všeobecnej zdravotnej poisťovne a o zriaďovaní rezortných, odvetvových, podnikových a občianskych zdravotných poisťovní a o zmene a doplnení niektorých zákonov v znení neskorších predpisov (Act No. 9/1993 Coll., on Health Insurance and the management of the Health Insurance Fund; Act no. 273/1994 Coll., on health insurance, health insurance funding, the establishment of the General Health Insurance Company and establishing departmental, sectoral, enterprise and public health insurance and on amendments to certain Acts, as amended)

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Zákon NR SR č. 576/2004 Z. z. o zdravotnej starostlivosti, službách súvisiacich s poskytovaním zdravotnej starostlivosti a o zmene a doplnení niektorých zákonov v znení neskorších predpisov a o zmene a doplnení niektorých zákonov v znení neskorších predpisov (Act No. 576/2004 Coll., on health care services related to health care and on amendments to certain Acts, as amended)

Zákon NR SR č. 581/2004 Z. z. o zdravotných poisťovniach, dohľade nad zdravotnou starostlivosťou a o zmene a doplnení niektorých zákonov v znení neskorších predpisov (Act No. 581/2004 Coll., on health insurance, health care supervision and on amendments to certain Acts, as amended)

THE CURRENT STATE OF NURSING EDUCATION IN SLOVAKIA

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ABSTRACT

Objective The aim of this paper is to present the state of modern nursing in Slovakia. The trend of nursing since 1989 and currently is the development of nursing as an active and humanistic science and drafting of nursing education to be compatible in content, scope and conditions of admission and graduation of study with developed European countries.

Methods We used a literary method that allows us to effectively study the sources and future use at the stage of formulating the problem of empiricism.

Results We see nursing in a historical context with different approaches to treatment and conditions of nursing education. Forms and methods of nursing practice and training are intertwined from the past to the present.

Conclusion It is expected from the graduates of non-medical study fields to know the past, to respond to the present and to make future changes in their professions and nursing.

Key words: Nursing. Education. Factors influencing changes in nursing.

INTRODUCTION

At the beginning of the socio-political changes in 1989 it was concluded that system of vocational education and training of nurses in Slovakia does not meet the new requirements of health and labor market. The document named Health 21 (*Zdravie 21*) in its objective 18 states: "By 2010, each Member State shall ensure that experts in health and other sectors have adequate knowledge, attitudes and skills necessary for the protection and promotion of health" (Farkašová et al., 2010, p. 64).

Farkašová et al. (2010, p. 69-70) state that the following changes had to be implemented in the curriculum of nurses after 1989:

- "nursing education designed to be compatible in content, scope and conditions of admission and graduation with developed countries,
- to meet European standards of education,
- that the content was curriculum-oriented, not only on patients but also on healthy subjects,
- systematically lead to a change in thinking of nurses on nursing,
- strengthen and highlight the formative component of education, strengthen communicative and creative skills, critical thinking and problem-solving skills formation,
- prepare nurses not only for nursing practice, but also for research, education and management,
- prepare nurses for taking an active role of nursing in primary care ".

Preparation of nurses in the years 1990 - 2004 in Slovakia implemented as:

- complete secondary vocational education carried out in secondary medical schools in the study field nursing is a four-year study for the graduates of primary schools till 2000,
- full time three year higher vocational education carried out in selected secondary medical schools in the medical field of study of general nurse for graduates of high schools with GCE,
- part-time higher vocational education as follow-up and intended for general nurses, nurse with GCE and prescribed nursing practice till 2004,
- full-time college undergraduate and graduate studies carried out in higher education institutions in nursing,
- external college undergraduate and graduate studies carried out at higher education institutions in the study field of nursing.

METHODS

In this paper, we used literary method which allows us to effectively study the sources and the future use at the stage of formulating the problem of empiricism. We have been working with sources in printed and electronic form (www.health.gov.sk, www.zbierka.sk). We used the following search terms: nursing, education, continuing education in nursing. The selection criterion were facts since 1989 touching the subject in question.

RESULTS

"The new concept of nurses preparation in higher vocational education at high schools has been verified since 1989 at a secondary medical school of M. R. Štefánik in Martin in the field of study of nurse of general care in full-time study. New university study program in the field of Nursing was launched at the Jessenius Faculty of Medicine in Martin CU "(Farkašová et al., 2010, p. 71).

Gradually, in the first decade of the 21st century new courses of higher vocational study have implemented into the nursing education - certified pediatric nurse, a graduate surgical nurse, a graduate psychiatric nurse, a graduate cosmetological nurse, graduate nurse of Emergency Medicine and a graduate dental hygienist.

Directive of the European Parliament and Council Directive 2005/36/EC dated 7. 9. 2005 on the recognition of professional qualifications define minimum requirements for undergraduate study nurses:

- minimum age of 17 years and completed general education of 10 years or make the qualification equivalent standard for study,
- length of study is three years full-time,
- the scope of the study is 4600 hours of theoretical and clinical training from which the theoretical training represents at least one third and clinical training at least ½ vocational training,
- performance of professional practice is carried out in hospitals and in the community,
- clinical training must be conducted professionally "(Farkašová et al., 2010, p. 66).

Changes in vocational education of nurses after 1990 occurred not only in the content level, but also formal, when the institutions were - schools of higher type, colleges and universities carrying out training in accredited study programs, the guarantor of which must be sisters with scientific and pedagogical degrees.

Requirements for training and teaching skills of teachers of nursing:

- university education of 2nd degree in the study field of nursing and supplementary pedagogical study or Teacher training in professional medical subjects, or a combination of teacher education - nursing or psychology - care for the sick or pedagogy - nursing,
- at least two years of nursing practice,
- teach can only specialized nursing practice, for which has expertise,
- maintenance of a clinical competence.

Career Preparation of nurses is currently being implemented in Slovakia as:

- full-time college undergraduate and graduate studies carried out at higher education institutions, in the field of nursing,
- external college undergraduate and graduate studies carried out at higher education institutions and intended for nurses who have completed a secondary medical school, curricula in nursing and have at least two years of nursing practice,

- full time three year higher vocational education in the field of study of certified nurse of general care for graduates of senior high schools carried out at secondary medical schools.

Competence to perform professional work as a nurse meets the sister who received secondary vocational education at a secondary medical school in the field of study of nurse, general nurse, pediatric nurse, female nurse, dental nurse, if carried out activities of nurses responsible for general care for at least three years during the five years of the date of entry into force of *Decree-Law No. 742/2004 Coll. on the competence for exercise of the medical profession and on supplementing Act, as amended.*

Modern nursing allows graduate masters to carry out rigorous testing in the study field of nursing and obtain the academic degree of Doctor of Philosophy, as well as to study in higher education in the third degree in doctoral program and to obtain the highest level of education in the study field of nursing. Nurses have the opportunity, if they meet the criteria for habilitation and inauguration proceedings, to obtain scientific - pedagogical degrees and professor in the study field of nursing.

In Slovakia is currently available university education in the nursing field of study carried out at accredited educational institutions:

- Comenius University in Bratislava - Jessenius Faculty of Medicine in Martin, Department of Nursing,
- Trnava University, Faculty of Health and Social Work,
- University of P. J. Šafárik in Košice, Faculty of Medicine, Department of Nursing,
- Slovak Medical University in Bratislava, Faculty of Nursing and Health Professional Studies,
- Constantine the Philosopher University in Nitra, Faculty of Social Sciences and Health,
- Comenius University in Bratislava, Faculty of Medicine, Department of Nursing,
- University of Prešov, Faculty of Health,
- Catholic University in Ružomberok, Faculty of Health Care,
- College Health and Social Care of St. Elisabeth in Bratislava,
- University of Trenčín, Faculty of Health Care.

Nursing as a science is constantly evolving and records the changes in the system of continuing education in nursing.

In 1991, the Institute for Continuing Education of paramedical staff merged with the Institute for Further Education of Physicians and Pharmacists (ILF) and profiled the Institute for further education of health professionals (IVZ), subsequently transformed in 1998 as the Slovak Postgraduate Academy of Medicine (SPAM). In order to harmonize the system of institutional continuing education with the directives of the European Union from the Slovak Postgraduate Academy of Medicine in 2002 was established the Slovak Medical University. Slovak Medical University currently plays the most important measure currently as it guarantees and provides institutional training of nurses in health care.

The Government Decree of SR no. 296/2010 Coll. on the professional competence for exercise of the medical profession, the method of further education of health professionals, the system of specializations and certified system of work activities defines specialized and certified occupational activities of a nurse. Specialization course extends the knowledge and skills acquired through study and professional practice primarily consisting of practical and theoretical part. Certification training serves for gaining of knowledge and skills necessary to perform certified professional activities, may be part of specialized training.

All forms of further education are recorded into evidence of further education of health professionals - the index of expertise and recorder.

Here are presented specialized departments and certified occupational activities in the nurse occupation in accordance with the Government Decree no. 296/2010 Coll ., Annex. 3:

Specialized study fields with a minimum duration of specialized study of one year

1. Anesthesiology and Intensive Care
2. instrumenting in the operating room
3. intensive nursing care for adults
4. intensive nursing care in neonatology
5. intensive nursing care in pediatrics
6. nursing care for dialysis patients
7. nursing care in the community
8. nursing care in the field of surgery
9. nursing care in the fields of internal medicine
10. nursing care in oncology
11. nursing care in pediatrics

12. nursing care in psychiatry

Specialized study fields with a minimum duration of specialized study of one year after obtaining a master's degree in master study program in the field of nursing

1. Nursing in Health at Work
2. inspection nursing

Certified occupational activities

1. audiometry
2. endoscopic examination methods in various fields
3. functional examination methods
4. invasive and interventional diagnostic and therapeutic procedures in cardiology
5. patch test
6. nursing care for diabetics
7. nursing care in hematology and transfusiology
8. nursing care in multicultural communities
9. organization and techniques in tissue banks
10. orthoptics and pleoptics
11. palliative nursing care

12. care for drug addicts
13. sterilization and disinfection of medical devices
14. diagnostic methods in clinical neurophysiology and neurodiagnostics

Certified occupational activity after obtaining master's degree in master study program in the field of nursing

– psychotherapy

Annex 4 of Decree-Law No 296/2010 Coll. defines specialized fields for the management and organization of Health Care:

After obtaining a master's degree in master study program in the field of nursing

1. Health Care Management and Funding
2. Social medicine and health organization
3. Master in managing public health

After obtaining an undergraduate degree in bachelor study program in the field of nursing or higher vocational education in the field of study of certified nurse of general care - Management in Nursing.

In addition, for the training of nurses, there are possibilities of continuing education in the so-called non-accredited educational activities.

CONCLUSION

Trends in education in nursing are represented by restructuralization and re-orientation. Content changes in nursing curricula should include:

- significant implementation of knowledge on paradigm of health, focusing on its support in nursing practice,
- orientation towards specialized training especially in the areas of management, education, community health care and nursing in selected clinical disciplines,
- identification of competences of nurses in institutional and community-based nursing care,
- management of nursing practice based on the available, current, valid and relevant evidence,
- use information and communication technologies in education.

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TRACK

PREGANANCY and WOMEN'S HEALTH ISSUES

THE BUSINESS BEHIND BEING BORN

Payal Patel-Dovlatabadi, University of Evansville

ABSTRACT

Birth is a miraculous event, an experience that is meant to be treasured. However, due to the nature of hospital births in the U.S., this event has turned into a profitable business. Many are unaware of the effects that drugs during the birthing process can have on the mother and baby. Further, an increasing number of women who have otherwise healthy pregnancies are having cesarean section (C-section) surgeries. By examining the business behind being born and why the number of home births is significantly lower compared to other industrialized nations, expectant mothers can have a better understanding of the process and take a more comprehensive approach to giving birth.

The methodology for this qualitative study is a literature review as well as a review of pertinent case studies. Infant mortality rates, c-section rates, and overall health outcomes are examined in this study. Rates are compared to other industrialized nations to view the ranking of the U.S. with respect to infant and maternal mortality rates. Health risks associated with c-sections and the role of health insurance and reimbursement are also discussed.

The U.S. has an infant mortality rate of 7 per 1,000, higher than most developed nations. Every year, twice the number of U.S. babies die on their first day alive than in all 27 European Union nations combined. C-section rates are at an all-time high in the U.S. at 32.8% (compared to 5.5% in 1970). C-sections are the most commonly performed surgery in the U.S. at a cost of \$14 billion per year. A reason for this is that performing C-sections safeguards physicians from a negligence claim. Health professionals reiterate that home births are not safe however, when home births are compared to hospital births, negative outcomes are consistently higher in hospital births. With the high utilization rates of epidurals, many adverse outcomes are experienced by the mother and baby. For example, epidurals prolong labor, increase the likelihood of C-sections, increase complications associated with instrumental delivery, and triples the occurrence of induction with Pitocin. As a result, this interferes with the natural bonding between the mother and baby.

The rate of home births is over 80% in many industrialized nations compared to 2% in the U.S. The literature and case studies have revealed that many adverse consequences arise from hospital births and part of the reason for this is that giving birth has become a business, a business focusing on quick patient turnover and increasing reimbursement. The implication of this study is that if labor procedures were improved, perhaps the infant mortality rate could be comparable to other industrialized nations. If giving birth was seen as a natural event that it is, mothers and babies would have increased health outcomes. Further many misconceptions exist regarding home births, therefore women need to be fully aware of the labor process involved in both hospital and home births.

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MITIGATING THE ECONOMIC IMPACT OF TEEN PREGNANCY ON BUSINESS

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MITIGATING THE ECONOMIC IMPACT OF TEEN PREGNANCY ON BUSINESS

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ABSTRACT

It is well recognized that unplanned teen pregnancies have large social, economic and personal impacts on American societies. There are many programs and entities involved in the mitigation of these impacts, and their implementation and effectiveness is well studied in most areas except for the area of private business.

This paper examines this impact and describes an intervention program (Be Responsible! Be Proud!) that is designed to address the root cause by equipping adolescents with the tools needed to prevent teen pregnancies. It then proposes to modify and extend this type of intervention program into the private business sector and discusses the potential benefits and consequences of such an extension.

INTRODUCTION

National Economic Impact of Teen Pregnancy

Finer and Zolna (2011) reported that 82% of teen pregnancies are unintended, with nearly two-thirds resulting in birth. The negative economic effect that teen pregnancies have on young mothers also impacts the nation's

economy.

It is well documented that large public expenditures are made for U.S. teen pregnancies. In its 2011 report, the National Campaign to Prevent Teen and Unplanned Pregnancy "Counting It Up: The Public Costs of Teen Childbearing" (2011) cited the cost to U.S. taxpayers to be almost \$11 billion per year. The report noted that 63% of teen mother receive some type of public benefits within the first year after childbirth.

In the Impact One (2014) report the Alliance for Excellent Education estimated that over the course of his of her lifetime, a single high school dropout costs the nation approximately \$260,000 in lost earnings, taxes and productivity. Translated, if the Class of 2011 had graduated from high school, the nation's economy would benefit from nearly \$154 billion in additional income over the course of their lifetimes

According to the Centers for Disease Control, (*About Teen Pregnancy* 2012):

- Teen pregnancy and childbirth costs to U.S. taxpayers include
 - increased health care and foster care,
 - increased incarceration among children of teen parents, and
 - lost tax revenue from lower educational attainment and income among teen mothers.
- Pregnancy and birth are significant contributors to high school dropout rates among girls. Less than half of teen mothers receive a high school diploma by age 22, versus approximately 90% of women who did not have given birth during adolescence.
- The children of teenage mothers are more likely to have lower school achievement and drop out of high school, have more health problems, be incarcerated at some time during adolescence, give birth as a teenager, and face unemployment as a young adult.

Teen pregnancies also have significant impacts on state-level economics, including lost tax revenue, direct health care services and child welfare costs. A Michigan study in 2008 estimated the cost of their 11% teen childbearing to be about \$308 million. In Colorado, a 2011 Health Report Card noted the cost of their 3.3% to be about \$184 million. The National Campaign report "Counting It Up: The Public Costs of Teen Childbearing" 2011) estimated the costs in 2008 associated with teen childbearing in Louisiana to be \$169 million. This included \$43 million for public health care, \$24 million for child welfare, \$28 million for incarceration of teen births then at adolescence or young adulthood, and \$54 million in lost tax revenue due to decreased earnings and spending.

Berryman (2012) reports that teen pregnancy is a major factor in the current decline in educational level among youth. They also report that prevention of teen pregnancy to enable women to complete their education is "one powerful way . . . [to] strengthen the emerging workforce." Bissell (2000) reports that, although there is some evidence that other factors are also involved, programs aimed at reducing teen pregnancy rates need to be included in any comprehensive policy that addresses the socio-economic inequities associated with teen pregnancies. Accordingly, Title X and the Affordable Care Act provide for broadened coverage of pregnancy. (*Policy Brief: Title X Plays a Critical Role in Preventing Unplanned Pregnancy* 2011) and Kaiser (2012).

Business Problems and Solutions

Business leaders know that it is less expensive to prevent failure than to try and correct it later. The Michigan Department of Health's campaign points out that teen parenting increases absenteeism in the workplace and financial and emotional strain on families, including grandparents who assume the responsibilities of raising the teen's baby In a 2012 Executive Briefing issued by the Society of Human Resource Managers Foundation (SHRM) , Dr. David Chenoweth also cites "presenteeism," being at work but not fully functioning due to a health condition, as a greater cost to business than absenteeism.

Businesses that hire adolescent workers (17-25) often suffer direct productivity losses correlated to a teen pregnancy. Even if a business does not have a large adolescent workforce, the impacts of teen pregnancy can be felt. One impact is on employees with adolescent children who become pregnant, where reduced productivity may be linked to stress.

According to current (2013 Q1-Q43) BLS data, 49% of the employed workforce between the ages of 16-24 are female ("BLS Statistics Data" 2013). The CDC reports that in 2010, 33% of births were to females within the 15-24 year old age group. Subsequently, it seems reasonable to assume that a large portion of productivity losses and health costs may be attributable to teen employee pregnancy. However, Cherry and Wang (2010) conducted extensive comparisons of data that indicated that teen employment correlated to delayed pregnancy until a later age. As a business solution, employing teens can help to reduce the teen pregnancy rate.

The Michigan campaign suggests workplace assessment of current policies and culture related to teen pregnancy prevention. This includes measuring policies that support employees seeking healthcare, contraception coverage in health plans, and managers who recognize healthy work/life boundaries, appropriate workplace humor and an atmosphere of respect. The campaign also promotes evidence-based comprehensive sex education, both in local schools and community programs, and within statewide policy and laws.

Workplace Wellness

Chenoweth (2012) points to an integrated plan of action that will result in a more productive workforce. Central to that goal, human resource professionals can strategically cultivate a healthier workforce, business culture and financial bottom line. In its publication, *Promoting Employee Well-being: Wellness Strategies to Improve Health, Performance and The Bottom Line* (2011), SHRM Foundation offers detailed guidance on how to conduct an in-house estimate of lost productivity costs in a business.

Some intervention programs are designed for the workplace, like the *Talking Parents, Healthy Teens* program, which is formatted over eight weekly lunch-hour sessions. Such rigorously evaluated intervention programs are more effective than scientifically untested programs.

Intervention Programs

Teen pregnancies can be reduced with intervention programs. An EBSCO search for teen pregnancy interventions returns more than 35,000 peer-reviewed references. Oringanje et al. (2009) conducted a systemic review of intervention programs which found that these programs appear to reduce teen pregnancies.

Like the cost, the economic value of intervention programs has been well established. Still, the U.S. teen pregnancy rate is among the highest in the world among developed countries, despite the U.S. having high-level international economic status. The U.S. teen pregnancy rates are equal to or worse than developing countries with low international economic status.

Many intervention programs are directed at adolescents in school settings or other youth programs. Many are abstinence-based. Yet, studies indicate that programs providing education and contraception information are the most effective.

U.S. cultural and political shifts in past decade have resulted in restricted pregnancy prevention education in schools.

Because of the politically debatable nature of the material, many states have mandated that sex education programs conform to local cultural norms rather than broader, evidence-based curricula. According to the National Conference of State Legislatures, 22 states require sex education, 33 require instruction about HIV/AIDS and 19 require that such instruction be “medically accurate,” which has various definitions.

Evidence Based intervention: Be Proud! Be Responsible!

As a national solution to the U.S. teen pregnancy problem, the Office of Adolescent Health created a new initiative in 2010. Community-based agencies across the country received multi-year grants to implement evidence-based curriculum and intervention projects aimed at reducing teen pregnancy. Central Louisiana Area Health Education Center (CLAHEC) is among the grant recipients.

Adapting BP!BR! to Louisiana NGYCP and beyond

Now in Year 4 of the OAH initiative, CLAHEC implements an evidence based intervention program called *Be Proud! Be Responsible!* The efficacy of the BP!BR! Program was first validated as an AIDS intervention by Jemmott, Jemmott, & Konstance (1994). They developed, pilot-tested, implemented and evaluated the curriculum, now modified in a 4th edition. In partnership with the Louisiana National Guard’s 5-month residential “Youth Challenge Program,” approximately 1,400 youth “cadets” annually attend the intensive 6-hour course. Within the overarching earning YCP goal of earning high school GED diplomas, the cadets fulfill a life skills education component through the BPBR course outside of their standard classroom settings. The cost is roughly \$300 per cadet. The state cost of one teen pregnancy in Louisiana over the past two decades averaged about \$23,000, based on the Counting it Up report (2011).

With Federal continuation funding still undetermined beyond 2015, CLAHEC is exploring options for continuation of the BPBR program within YCP and alternative settings. Adopting a for-profit business model, charging a fee for service is one option; working with employers to offer the training on contract to their target staff is another. It is a logical extension of current Workplace Wellness strategies, with the potential for measureable return on investment in productivity and human resource retention.

CONCLUSION

In the competitive business environment, it is critical for businesses to step forward and invest in human capital. Businesses can make a difference in teen pregnancy prevention. They have a vested interest due to financial, social and workforce-related consequences that affect the for-profit world.

Working with state and local campaigns as a convener, leader, spokesperson or program manager is realistic for businesses. The Michigan campaign connects business to promoting teen pregnancy prevention to help reduce the cycle of poverty, and creates greater economic self-sufficiency. With that in mind, the call to action among the business community nationally is to support recommendations for workplace wellness, cultural and policy change, delivery of evidence-based interventions, and advocating to Congress to increase OAH - TPP funding.

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HPV VACCINE: ARE THE PROS AND CONS THE SAME SIX YEARS AFTER ITS INTRODUCTION?

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ABSTRACT

As the HPV vaccine has been available during the previous six years, many of the questions surrounding the vaccine remain the same as when the vaccine was in its introductory stages. Much research focuses on the cost-effectiveness of the vaccine and the potential affect on both short and long health issues, especially for females. Additional research focuses on the need to increase the rates of vaccine for adolescents. While the benefits of the vaccine are often seen as a positively for quality health improvement, further research is necessary to address the negatives associated with the vaccine. As vaccines serve as one of the most important public health achievements in medical history, knowledge of the negative aspects associated with the HPV vaccine become important for the development evidence-based programs. The HPV vaccine created controversy with its introduction and many of the questions associated with the controversy remain unanswered or have contributed to the development of other issues of health.

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FEMALE GENITAL MUTILATION AS A RITUAL VIOLENCE AGAINST WOMEN AND ITS CONSEQUENCES

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FEMALE GENITAL MUTILATION AS A RITUAL VIOLENCE AGAINST WOMEN AND ITS CONSEQUENCES

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ABSTRACT

According to the World Health Organization , there are about 140 million girls and women around the world currently living with the consequences of the practice of women circumcision. The majority of these females are in Africa, where it is routinely done in 28 countries (WHO, 2013). Female circumcision is still performed for ritual reasons. It is supported by tradition in the societies where it is performed. It is an unacceptable procedure that mutilates female genitalia. It is sexuality intervening and disruptive to women's emotional and physical health. This practice remains particularly dominant where men remain dominant over women and where female genitalia is perceived as solely for the procreation of children and for a pleasure of a man. Complications associated with the primitive surgery of female circumcision usually endanger a woman immediately after the procedure. It also is a danger to her in her later years. The authors of this paper have observed the impacts of female circumcision. It is a completely unacceptable tradition. It brutally harms a woman and makes her as an object and mere property of men. Circumcision of women is an indictment of contemporary humanity and our inability to definitively eradicate it.

Key Words: Circumcision on Women. Health Problems. Social Problems. Ethical Issue. Emotional Problems.

INTRODUCTION

Millions of little girls in the world must undergo varying degrees of genital mutilation. Our organization's medical staff and social workers in developing countries have been dealing directly with people who suffer from the practices and consequences of female circumcision. We have seen this ritual in its crude and primitive form. It strongly represses a woman physically, mentally and socially. It inhibits her survival, autonomy, and especially her sexuality. Because of our ongoing relationships with people in these developing countries, we understand the issues at stake.

HISTORY OF CIRCUMCISION ON WOMEN AND REASONS WHY IT IS PRACTICED

It is generally believed that female circumcision came from the area of central Africa. It spread from there mainly to the east and north. The most well-known practice is called 'Pharaonic' surgery, from Egypt. Yet it is interesting that this type of female genital mutilation has never been found in Egyptian mummies. We will analyze the reasons leading to female circumcision from several aspects.

1. To ensure virginity before marriage. An almost closed external genitalia prevents sexual intercourse. Since proof of virginity is part of premarital negotiations of families this provides the 'evidence' before the actual act of marriage.
2. To protect the girl from possible rape, this is related to the previous reason.
3. To practice the ritual of female circumcision. Although traditionally practiced by old women, it is done in cultures where the males dominate women as if the women are to only bear children and serve the sexual needs of men. It is the ultimate control of sexuality of women, even by disabling their ability to enjoy their sexuality.
4. For some tribes believe that if a woman remains clitoris (not removed), its secretions may disposed of sperm in the vagina during intercourse and after it. Another view holds that a woman with a clitoris cannot give birth to a son or even is sterile. That is why circumcision is practiced and female after circumcision is often married immediately and becoming pregnant.
5. To honor religious, ritualistic, cultural and even aesthetic reasons. Some African tribes consider flat and smooth genitals of women without pubic hair to be aesthetic. They believe that removing the clitoris is considered feminine protection. A woman without circumcision is considered unclean and can be expelled from the community. They are not allowed to engage in its social activities. This attitude toward women passes on to the head of the family and his approach to his wife, (wives) and daughters live. When there is poverty, hunger, lack of water, and no basic medical care, people live day to day with existential problems. No one can survive when she is excluded from the community because of refusing to receive a circumcision. In some tribes the men would not marry a woman who is in their vocabulary "undone". Some tribes consider the external genitalia in females even ugly and unclean, and therefore there is a need for circumcision.

DEMOGRAPHY OF FEMALE CIRCUMCISION

At this time female circumcision is a matter of life for about 140 million women and girls in 28 countries in Africa. It also takes place in some societies in Asia, Latin America, and even in Australia. The worst society for it is in Somalia, which is nearly 100 percent of women. Sudan follows with 98 percent. About 90 percent of women in Ethiopia and Mali are circumcised. In Kenya about 50 percent of the female population undergoes circumcision (Toubia, 1994; Gruenbaum, 1996). Immigrants from countries that practice female circumcision have even brought this cruel habit to Europe, America, Canada and Australia

TYPES OF PROCEDURE

According to WHO (World Health Organization), they are divided into 4 groups.

1. The type that consists of partial or total cliteridectomy, removal of the clitoris. This type is considered to be the least traumatic than others. It is called the Sunnah and is done in some Muslim countries.
2. The type, where in addition to the removal of the clitoris, is added a total excision of the labia minora.

3. Infibulation: narrowing of the vaginal opening through the creation of a covering seal. The seal is formed by cutting and repositioning the inner, or outer, labia, with or without removal of the clitoris. This type is called Pharaoh operation. A small opening is left for the drainage of urine and menstrual blood,
4. The last type of circumcision includes other forms of incisions, burns, and other harmful procedures to the female genitalia for non medical purposes.(WHO, 2013).

RITUAL PROCEDURE

What age is circumcision practiced? The ritual is performed in girls from birth to adulthood, sometimes during delivery or after a young woman delivers her first son. The circumcision ritual is supposed to be associated with the celebration. Up to 90% of girls in Africa are circumcised by the time they are 16 years old. Most often they are circumcised between 5 - 12 year (Johnson & Rodgers, 1994; Nour, 2001). In Kenya, it is usually between 12 - 14 years. Most the circumcision ritual is done as an event where whole groups of girls are operated on at the same time. The most common type is the pharaoh operation. After the surgery they are supposed to celebrate for a month. That is when the girl is taught about her position and role in society according to tribal customs. The rituals vary from each ethnic group. But they all have in common is how circumcision 'transforms' a girl into a woman by a traumatizing ritual genital operation.

Circumcision is most often done by a medically uneducated person - female. In Somalia in 52% cases (Dirie & Lindmark, 1991) several other women who are or may not be a relative of the girl help in the treatment. The girl is completely naked and fixed onto a bed or a small chair or fixed onto the ground. The operational tool is usually a razor, a knife, scissors. Usually the tools are old, used, and rusty. (Nour, 2001) Sometimes, in the poorest environment they might use a piece of glass, glowing stone, or burning wood or coal (Elchalal et al, 1997; Reichert, 1998). The operations are done without anesthesia or antibiotics. These pharmaceuticals would only be used if the circumcision is done by a doctor. When homeostasis happens then various ointments, leaves, animal secretions are used. Where infibulation is performed, the suture thorns from acacia, natural adhesives are used. Rarely are sewing supplies used. After the operation, the girl's legs are tightly attached to each other and usually fixed from the ankles to the knees or hips. Immobilization takes 10 to 40 days. The girl usually gets married soon after the circumcision. Circumcision procedure that seals or narrows a vaginal opening (type 3 above) needs to be cut open later to allow for sexual intercourse and childbirth (WHO, 2013). It is done usually by husband either tearing with the fingers or by using a razor blade or knife. Conversely, sometimes it is stitched again several times, including after childbirth, after divorce or after death of spouse (Dirie & Lindmark, 1991, 1992)..

HEALTH COMPLICATIONS

Complications of female circumcision are both acute, late or even obstetric. If the complications are acute, there is bleeding, urinary retention, infection and injury retrovesical space. There is also the violent fracture immobilization of the girl during surgery. The late complications include infection, keloid scars, vaginal stenosis, cysts, vaginism, dyspareunia, HIV infection and others. The obstetric complications include bleeding after childbirth, infertility, perineal rupture, dehiscence that following an episiotomy, but also harm the newborn by asphyxia etc. (Arbesman et al, 1993; WHO, 2013).

EMOTIONAL CONSEQUENCES

It is more difficult to know to the extent of the psychological effects caused by circumcision surgery. Girls and women themselves are strictly warned not to talk about it. Certainly they endure painful menstruation. Painful sexual intercourse causes anxiety and fear. They have no feeling of pleasure during sexual intercourse. Orgasm remains the prerogative of men the husbands of these women (Toubia, 1994; Gruenbaum, 1996).

SOCIAL AND ETHIC ISSUES

The tradition of female circumcision is very strong and supported by mothers and grandmothers. Talk about sex even between partners is not accepted. Sexuality is interpreted as a gift for reproduction. Many women have no idea about the structure and functioning of the genitalia, except for the reproductive function of their genitalia that is property of her husband. There have been some efforts to put an end to female circumcision when there has been a progressive government. Some churches, cultural and social institutions have brought to the forefront the horribleness of circumcision, it often persists, outside of the law and in secret (Elchalal et al, 1997; Toubia, 1994).

There is no rational reason for carrying out female circumcision. On the contrary it is traumatic, robs woman of their natural sexuality which is her right as a human being. Until its eradication, this barbaric ritual is shameful to contemporary civilization. But research shows that, if practicing communities themselves decide to abandon female genital mutilation the practice can be eliminated very rapidly (WHO, 2013).

CONCLUSION

Female circumcision is one of the crudest ways of violence against women, especially in countries where it is practiced. Circumcision results in many acute medical complications. These are supplemented by a late obstetric complications and frequent infertility of circumcised women. The traumatic ritual leaves lifelong psychological consequences, which then complicate sex life of such women. Although in most countries where female circumcision is practiced, is this illegal, public opinion in these countries has not yet reached for its refusal, circumcision is tacitly recognized and accepted. Therefore in the case of refugee women - UNHCR consider female circumcision in international refugee law as persecution based on gender and it may be one of the grounds for granting refugee status (The conclusions of the UNHCR Executive Committee, 1999).

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