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2011 Meeting
Chicago, Illinois**

ABSTRACT AND PAPER PROCEEDINGS

**BHAA President – Jack Newhouse
Program Chair – Steve Szydowski
Proceedings Editor - Avinandan Mukherjee**

PROCEEDINGS

of the

BUSINESS AND HEALTH ADMINISTRATION ASSOCIATION

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March 23-25, 2011**

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Letter from the BHAA 2011 President



Jack Newhouse

Saint Joseph's University

Dear Colleagues,

It gives me great pleasure to welcome you to this year's BHAA meeting. The papers in these proceedings represent exciting scholarship and research in the ever- changing world of health services, management, and administration. Your commitment to follow these developments and new directions is evident in your decision to attend this year's meeting, as well as to purchase these proceedings.

Frequently, the value of this material is applied in several critical ways. It supports the core concept of "scholar/teacher" in our field as we go about preparing course content, exploring new teaching and learning modalities, seeking future areas of research and study. I have maintained a library of past BHAA proceedings knowing that what our colleagues have done in their various fields of endeavor have provided an on-going source of information and guidance. This year's proceedings add to that rich archive.

On behalf of the current officers and board members of BHAA I want to thank all of our contributors and authors for this year's meeting. Their work and their willingness to share this work make BHAA the quality academic organization it is.

Welcome to Chicago and to another outstanding BHAA meeting.

Sincerely,
Jack Newhouse
President – 2010/11

Letter from the BHAA 2011 Program Chair



Steve Szydlowski
University of Scranton

Dear BHAA Colleagues,

I would like to thank you for your contribution to the 47th Annual 2011 MBAA International Conference held March 23-25th, 2011 at The Drake Hotel, Chicago, IL. As you know, the theme for this year's conference is "The Challenge of New Media Technologies in Higher Education". The peer-reviewed papers that are included in the conference proceedings have significant contribution to the field of health management education and health administration. As you read through the proceedings, you will find numerous topics that reflect the various themes of the BHAA conference presenters. It is also important to note that not all presenters have papers published in the conference proceedings.

We look forward to a great conference. Thank you for your peer-reviewed publication in this year's proceedings and keep the scholarship advancing.

Sincerely yours,
Steve Szydlowski
BHAA Program Chair

Letter from the BHAA 2011 Proceedings Editor



Avinandan Mukherjee

Montclair State University

Editor, *International Journal of Pharmaceutical and Healthcare Marketing*

It is with great pleasure that I welcome you to the 2011 Business and Health Administration Association Conference. The Business and Health Administration (BHAA) Conference brings together scholars, teachers, students, and practitioners from a variety of business and health related disciplines, such as healthcare administration, pharmaceutical and healthcare marketing, healthcare management, health economics, health policy, medicine, public health, nursing, health informatics, global health, etc. As the Proceedings Editor of the 2011 BHAA Conference, I am delighted to present to you the Conference Proceedings containing research submissions in the form of articles and abstracts that have been accepted for presentation at the conference following peer review process. I am confident you will find articles in the proceedings useful that will stimulate your thoughts and initiate dialogues and conversations on cutting edge research in business and health administration. I hope you enjoy your visit to Chicago and have a successful conference. I also hope that your academic and professional accomplishments will be enriched by sharing your research and reflecting on others' research, thus building a BHAA research community that you will cherish to be a member of.

Sincerely
Avinandan Mukherjee

Note:

My special thanks to Kyungwon Lee, Editorial Assistant for the *International Journal of Pharmaceutical and Healthcare Marketing*, for painstakingly editing and formatting all manuscripts, providing a professional look to the proceedings, and getting the proceedings ready within time. Thanks are also due to Naz Onel, doctoral researcher at Montclair State University for helping out with design of the proceedings.



The Business and Health Administration Annual Conference provides an opportunity for graduate students and researchers to brainstorm, discuss, and debate emerging issues in healthcare management with many of the thought leaders in the profession. Not only does this help graduate scholars fine-tune their research interests, but also the conference helps them to gain a clearer picture of career opportunities in one of the fastest growing sectors of the U.S. and global economy. My personal experience gained as an editorial assistant for this year's proceedings has been enriching. Reading, formatting, and helping to edit a worthy compilation of state-of-the-art thinking in the interface of healthcare and business has been a great learning opportunity. Hope you enjoy the conference!

Regards,
Kyungwon Lee

Best Paper Awards

BHAA OVERALL BEST PAPER AWARD

Hospital Turnaround Practice in the United States: Value and Role of Consultants

Amrita Shenoy, Raymond Khoury, Ashish Chandra

TRACK: HEALTH PROMOTION AND DISEASE PREVENTION

Examining the 1665 Plaque in Eyam, England Utilizing a 21st Century Comparative Epidemiological Approach

Lisa Campbell, William Stroube, Cheryl Stegbauer

TRACK: DISTANCE LEARNING

Asynchronous Distance Education (E-Learning) in a Healthcare Administration Program

Mary Kay Madsen, Carla Wiggins

TRACK: PHARMACOECONOMICS, PHARMACEUTICAL INDUSTRY, AND WELLNESS

The Effect of Direct Advertising to Consumers (DTCA) on Market Share and Quantity in Pharmaceutical Drugs, and Consumer Welfare

Gurumurthy Kalyanaram, Deepak Gupta, Alma Alpeissova, Dilbar Gimranova

TRACK: FINANCE AND ACCOUNTING ISSUES IN HEALTHCARE

The American Productivity and Quality Center Approach Revisited: An Application to Hospital Performance Evaluation

Ronald Zhao, David Paul

TRACK: HEALTHCARE MARKETING

There's a Growing Market for Health Insurance, but it's NOT the Market You Think: Health Insurance for Pets

David Paul, Michaeline Skiba

TRACK: HOSPITAL COST CONTROL

Applying Lean to the Hospital Emergency Department: A Case Study

Kathy Brown, Scott Stegall, Peter Fitzpatrick, Thomas McIlwain

TRACK: HEALTHCARE EDUCATION

The Health Insurance Risk Game: A Simulation for Meaningful Learning

Sandy Weinberg, Scott Stegall, Thomas McIlwain, William Willis

TRACK: HEALTHCARE REFORM

Dental Hygiene Programs and Health Care Reform: Taking Advantage of Opportunities

Susan Duley, Peter Fitzpatrick

TRACK: HEALTHCARE INFORMATICS

Are Electronic Medical Records Helping to Increase Productivity?

Danielle Marcette Auer, Heather McMillan, Kenneth Heischmidt

TRACK: NATIONAL AND GLOBAL HEALTH POLICY

Occupational Health and Safety in China

Bharat Mishra, Jitendra Mishra

TRACK: OFFBEAT TRACK

What Gets Published in Healthcare Journals? A Key Theme Identification Approach

Avinandan Mukherjee, Kyungwon Lee

TRACK: NURSING ADMINISTRATION

Health Care Management, Medical and Social Service after Tsunami in Thailand, Cambodia, and Vietnam

Gorge Benca, Daria Horvathova, Lenka Rabarova

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Nazik M.A. Zakari

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BUSINESS AND HEALTH ADMINISTRATION ASSOCIATION ABSTRACT AND PAPER PROCEEDINGS

- TABLE OF CONTENTS -

HEALTH PROMOTION AND DISEASE PREVENTION

<i>Examining the 1665 Plaque in Eyam, England Utilizing a 21st Century Comparative Epidemiological Approach</i> Lisa Campbell, William Stroube, Cheryl Stegbauer	14
<i>Using a Community-based Planning Model to Address Obesity and Diabetes in Northeastern Pennsylvania</i> Steven Szydlowski	18
<i>The Challenges of Long Term Care Administration</i> Gunjan Bansal, Robert Spinelli	22

DISTANCE LEARNING

<i>Asynchronous Distance Education (E-Learning) in a Health Care Administration Program</i> Mary Kay Madsen, Carla Wiggins	27
<i>Distance Learning Strategies for the New On-line Educator</i> Scott J. Saccomano	38
<i>Changing Curriculum Design from Totally Online to Hybrid: Improving Student Outcomes in a Baccalaureate Healthcare Management Program</i> Deborah Gritzmacher, Kent Willis, Qiu Fang	40
<i>CRNA and Facebook Utilization in Healthcare</i> Phil Rutsohn.....	41
<i>Transparency in Learning and Assessment: The Use of ePortfolio</i> Robert S.Curtis, Wenxia Wu	50

PHARMACOECONOMICS, PHARMACEUTICAL INDUSTRY, AND WELLNESS

<i>The Effect of Direct Advertising to Consumers (DTCA) on Market Share and Quantity in Pharmaceutical Drugs, and Consumer Welfare</i> Gurumurthy Kalyanaram, Deepak Gupta, Alma Alpeissova, Dilbar Gimranova.....	58
<i>Pharmaceutical Promotions and the Physicians-Patient Relationship: Patient Orientation or Physician Orientation?</i> Mark Kay, Yam Limbu.....	64
<i>“Help” I’ve Got Mail”: The Impact of Email on Stress in the Workplace</i> Suzanne Bailey, Garry Bailey.....	72

<i>Pharmaceutical Drug Marketing Act (PDMA) of 1987: It seems to be Going Nowhere Fast</i>	
Gene Wunder, William Roach.....	73
<i>Health Orientation, Pharmaceutical DTC Advertising, and Patient Compliance</i>	
Avinandan Mukherjee.....	75
FINANCE AND ACCOUNTING ISSUES IN HEALTHCARE	
<i>The American Productivity and Quality Center Approach Revisited: An Application to Hospital Performance Evaluation</i>	
Ronald Zhao, David Paul.....	84
<i>Pay for Performance: Is it working with the Chronically Ill Patients?</i>	
Jill Hickman, Tracie Hickman, Anna Jones, Alberto Coustasse.....	96
<i>Wisconsin Nursing Homes Struggle to Stay in Business (Why)</i>	
Dean Eide, Jennifer Johs-Artisensi, Douglas Olson	103
HEALTHCARE MARKETING	
<i>There's a Growing Market for Health Insurance, but it's NOT the Market You Think: Health Insurance for Pets</i>	
David Paul, Michaeline Skiba.....	114
<i>Rethinking a Marketing Strategy for Healthcare</i>	
Allen Minor.....	121
<i>The Patient Experience: A Review of Patient-centered Culture</i>	
Tyler Condrey, William Stroube.....	128
<i>Project Management Strategies to Improve Healthcare Project Outcomes</i>	
Larry Puleo, Andrew Berger.....	132
HOSPITAL COST CONTROL	
<i>Applying Lean to the Hospital Emergency Department: A Case Study</i>	
Kathy Brown, Scott Stegall, Peter Fitzpatrick, Thomas McIlwain.....	139
<i>Lean Health and Patient Care</i>	
Aileen Croke, Robert Spinelli.....	150
<i>Issues Related to Evidence-based Practice Application in Healthcare Settings</i>	
Majed Alamri.....	153
HEALTHCARE EDUCATION	
<i>The Health Insurance Risk Game: A Simulation for Meaningful Learning</i>	
Sandy Weinberg, Scott Stegall, Thomas McIlwain, William Willis	155

<i>Challenges in Curriculum Designs: RN to BSN Bridging Program at King Saud University</i>	
Adel Bashatah, Hanan Ezzat Alkorashy	160

HEALTHCARE REFORM

<i>Dental Hygiene Programs and Health Care Reform: Taking Advantage of Opportunities</i>	
Susan Duley, Peter Fitzpatrick.....	168
<i>Smart Choices to Decrease Nursing Shortage</i>	
Majed Alamri.....	172
<i>Are there too many Doctors in the House? An Investigation of the Effects of Job Title Inflation in the American Healthcare Industry</i>	
Charles Braun	173
<i>Accountable Care Organizations: Will Accountability Increase Physician Alignment?</i>	
Gunjan Bansal, Daniel J. West	174

HEALTHCARE INFORMATICS

<i>Are Electronic Medical Records Helping to Increase Productivity?</i>	
Danielle Marcette Auer, Heather McMillan, Kenneth Heischmidt	176
<i>Health Information Technology: Educational Strategies for Health Promotion</i>	
Margaret J. Greene.....	187
<i>The Value of Smart-phones in the Healthcare Industry</i>	
Parminder Singh Lamba, Ashish Chandra.....	188
<i>The Recently Passed Healthcare Reform and its Impact on Health Care Disparities among Racial and Ethnic Minorities: Utilizing New Media Technologies to Teach it</i>	
Hengameh Hosseini	196

NATIONAL AND GLOBAL HEALTH POLICY

<i>Occupational Health and Safety in China</i>	
Bharat Mishra, Jitendra Mishra.....	198
<i>Developing International Standards for Health Services Administration</i>	
Daniel J. West.....	204
<i>Healthcare and Social Work after Earthquake: Experience of Slovakia Field Camp Hospital for Displace Population of City of Soille and Petionelle Port Au Prince Haiti in 2010</i>	
Marian Bartkovjak, Gorge Benca, Katarina Holeckova, Veronika Svabova, Jana Kralova, Jana Smyckova, Barbora Ciganova, Juraj Culka, Vladimir Krcmery, Jaroslava Sokolova, Mirdrede Temistockle.....	205

OFFBEAT TRACK

<i>What Gets Published in Healthcare Journals? A Key Theme Identification Approach</i> Avinandan Mukherjee, Kyungwon Lee	208
<i>Folk Medical Literacy: Playing Doctor and Nurse in the Homes</i> Majed Alamri, Mohamed Ahmed	221
<i>A Comparison of Perceptions and Acceptance of Alternative Medicine among Consumers in the United States and India</i> Dennis Emmett, Ashish Chandra	222
<i>Social and Healthcare Provided in Shelters for Homeless in Slovakia</i> Martina Utesena, Andrej Matel, Robert Kovac, Judite Stempelova, Terezia Dudasova	228

NURSING ADMINISTRATION

<i>Healthcare Management, Medical and Social Service after Tsunami in Thailand, Cambodia, and Vietnam</i> Gorge Benca, Daria Horvathova, Lenka Rabarova	231
<i>Humanistic Nursing</i> Majed Alamri, Mohamed Ahmed	234
<i>A Nursing Education Challenge: Simulation Clinical Education in Obstetric Nursing</i> Josephine M. DeVito	239
<i>Perception of Barriers of Evidence Based Practice among Saudi Nurses</i> Nashat Zuraikat	240
<i>Spectrum of Diagnoses and Pathogens among In-Patients in Field Hospital in Marial Lou, Sudan</i> Marian Bartkovjak, Maria Forgacova, Pavol Patro, Gorge Benca	241

SOCIAL JUSTICE AND SUSTAINABILITY

<i>The Influence of Academic Organizational Climate on Nursing Faculties Commitment in Saudi Arabia</i> Nazik M.A. Zakari	244
<i>Going Green: Are There Benefits beyond the Bottom Line?</i> Alexis Allen, Robert Spinelli	253
<i>Limitations of Health Management in Disaster Settings</i> Vladimír Krcmery, Alexandra Stanova, Gorge Benca, Andrea Shahum, Marta Taziarova, Jaroslava Sokolova, Silvia Seckova, Andrea Kalavska, Clode Martin, Steven Szydowski, Max Philippe, Janka Kralova, Barbora Ciganova, Michaela	

Meciakova, Jana Smyckova, Ivo Balazi, Martina Utesena, Katka Holeckova, Karol Kralinsky.....	257
<i>Healthcare for Marginalized Populations</i>	
Vladimir Krcmery, Gorge Benca, Marian Bartkovjak, Irad Beldjebel, Alexandra Stanova, Steven Szydlowski, Julius Horvath, Jaroslava Sokolova, Martina Utesena, Daniel West.....	259
<i>Social Work and Healthcare in Roma Minority in Slovakia, Romania, and Serbia</i>	
Jaroslava Sokolova, Gejza Adam, Andrej Matel, Rene Luzica, Marian Sramka, Ladislav Gross, Ana Sabova, Lenka Rabarova, Vladimír Krcmery, Daniel West, Steven Szydlowski.....	261
<i>Specific Factors of Health and Social Care on HIV Positive Orphans in Phnom Penh Cambodia</i>	
Martina Utesena, Juraj Benca, Vladimir Krcmery, Julia Vujcikova, Lenka Rabarova, Ladislav Bucko, Veronika Sladeckova, Anadrea Shahum	263
<i>Street Children of Nairobi Slums in Lunga-Lunga and Kibera: Healthcare and Social Specific Issues of Vulnerable Population</i>	
Gorgej Benca, Eva Oborilova, Daria Pechacova, Lenka Fabianova, Juraj Jancovic, Lenka Rabarova, Martina Utešená, Timon Benson	265
HOSPITAL ADMINISTRATION I	
<i>Hospital Turnaround Practice in the United States: Value and Role of Consultants</i>	
Amrita Shenoy, Raymond Khoury, Ashish Chandra.....	269
<i>The Free-standing, Tax-exempt Community Hospital: Is it an Endangered Species</i>	
Michael Costello, Daniel J. West.....	277
<i>RFID and its Impacts to the Hospital Supply Chain</i>	
Dan Feng Lu, Hai Do, Anna Jones, Alberto Coustasse	278
HOSPITAL ADMINISTRATION II	
<i>Return on Investment from Quality Initiatives: Issues in Healthcare Settings</i>	
Scott Stegall, Kathy Brown, Peter Fitzpatrick, Thomas McIlwain, MeriBeth H. Stegall	287
<i>The Role of Technology in Enabling Sales Support</i>	
Aaron Ardt, Jason Harkins.....	293
<i>The Evolving Role of the Patient Access Service Employee in the Health Revenue Cycle</i>	
Dolores R.Lee, Asoke Dey, Prashant Srivastava.....	300

TRACK
HEALTH PROMOTION
AND
DISEASE PREVENTION

EXAMINING THE 1665 PLAGUE IN EYAM, ENGLAND UTILIZING A 21ST CENTURY COMPARATIVE EPIDEMIOLOGICAL APPROACH

Lisa A. Campbell, University of Tennessee
William B. Stroube, University of Evansville
Cheryl C. Stegbauer, University of Tennessee

ABSTRACT

The bubonic plague arrived in rural Eyam, England in 1665. The entire village of Eyam established a self-imposed isolation to prevent the spread to nearby areas. This paper uses a comparative epidemiological approach to examine issues addressed by the village in 1665. The progression of disease from the historical perspective is contrasted with what is known today about the natural course of bubonic plague. Observations are based upon a visit to Eyam and the current public health literature.

INTRODUCTION

It is necessary to briefly examine relevant historical benchmarks in order to compare and contrast the Eyam, England plague of 1665 using a 21st century epidemiological approach. In 1662, John Graunt began to use bills of mortality to study patterns of death in specific populations in England (Stanhope & Lancaster, 2008). Records such as births, deaths, marriages, and wills were kept in the churches. The hearth tax records were used to determine that 83 families survived the plague in Eyam (Clifford, 2003). There is much discrepancy as to the exact number of deaths and the population at the time. However, a close approximation can be deduced through examination of available historical records.

Germ theory was a futuristic idea not yet conceived in 1665. The prevailing belief at that time was that disease was spread by miasma, a vaporous cloud. Additionally, religion had a great impact on society, and the majority believed that the plague was God's punishment for sin. Cure could only come from prayer and repentance of sin. Prevailing treatments were a combination of salves, herbs, poultices, and heat.

ETIOLOGY

It is necessary to view plague etiology from a historical perspective utilizing the epidemiologic triad of disease; vector, host, agent and environmental factors (Figure 1). The bubonic plague, or *Yersinia pestis*, is a vector-borne disease transmitted by fleas carried by black rats (Clifford, 2003; Stanhope & Lancaster, 2008; Wallace, 2008). The origin of the infected fleas in 1665 has been traced back to flea infested fabric that was transported in a trunk from London to Eyam. When the trunk arrived in Eyam, a traveling tailor named George Viccars shook the flea infested fabric and placed it to dry. This normal procedure of shaking the fabric is identified as the source of the plague in Eyam and began the spread of infected fleas to their human hosts. One of the main contributing factors included the warmth at that time of year; the first death occurred in August 1665, with subsequent deaths occurring during the warmer months. Other environmental factors included thatched roofs, wood paneled walls, hanging tapestries, unhygienic living conditions, close proximity of the homes in Eyam village proper, number of people per home which could be as high as nine, and the usual practice of attending church.

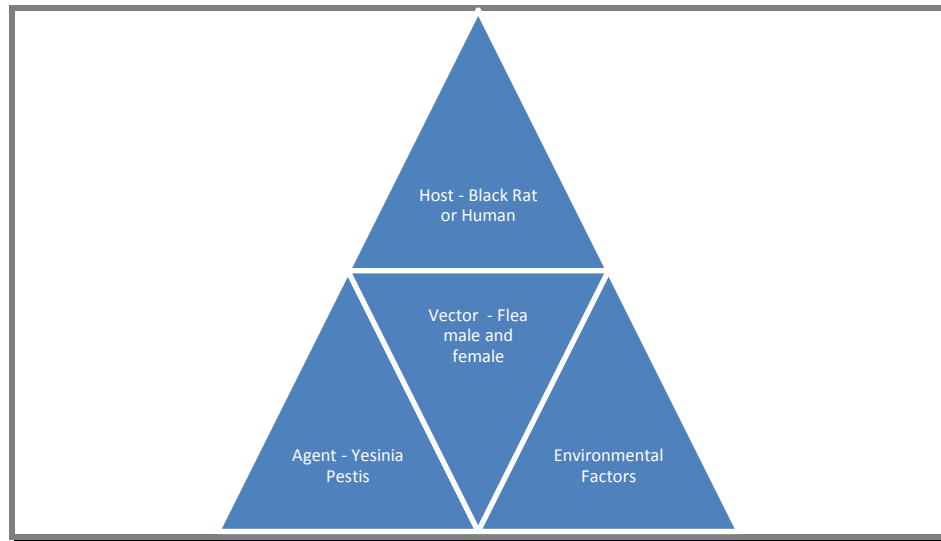


Figure 1. Extent of the Disease

It is estimated that during the years of 1665-1666 approximately 70,000 to 100,000 died of the plague in England (Clifford, 2003). During the same time period, Eyam had a population of 700, and 260 deaths were attributable to the plague based on a direct inspection of the record of plague deaths in the Church of St. Lawrence. Approximately 37% of the population in Eyam died from the plague between 1665 and 1666. The incidence rate is the number of new cases during a specific time period divided by the number of persons who are at risk for developing the disease during that same time period multiplied by 1,000 (Gordis, 2009). Therefore, the incidence rate or the cumulative incidence of disease was 371 per 1,000 from 1665 to 1666 in Eyam. Risk of disease was exceedingly high for the population.

The burden of disease extended beyond the sheer numbers of deaths. Great tragedy is told of sole survivors losing entire families and extended families. There was no time for grief because rapid succession of deaths forced many to be the sole grave digger having the requisite to bury their dead outside of consecrated ground. To prevent the spread of the plague, the church cemetery was closed to all burials until the villagers had determined the threat was over. This became a great sacrifice on the part of the villagers as the belief held at that time was that burial in consecrated ground was necessary to go to Heaven. The historical accounts of the plague in Eyam depict a time of great sadness. Yet, the burden of caring for sick neighbors was faced with tremendous faith and hope demonstrated by the villagers.

PROGRESSION OF DISEASE

The progression of disease from the historical perspective is contrasted against what is known today about the natural course of bubonic plague. Remarkable detail was observed and recorded about the Black Death or the bubonic plague during the 1600s. However, extraction of the exact date of the connection between the vector and the discourse of the disease is difficult to determine from the literature. The first recorded bubonic plague pandemic occurred over 3,000 years ago in ancient Egypt in 542 AD (CIDRAP, 2010). Excavating archeologists found fleas, cats and Nile rats that would have carried the plague in Egypt. It is estimated that over 100 million died from the plague in Europe, Central and South Asia, and Africa.

Historical accounts of disease progression following a flea bite describe massive infection that centered on the lymph nodes, usually the groin area. This was accompanied by fever, delirium, and a “sickly sweet” cloying sensation in the nostrils. Death was imminent within 5 to 6 days (Clifford, 2003). The plague could be spread by droplets dispersed from a cough or sneeze if the plague went into the lungs becoming the pneumonic plague. The Centers for Disease Control (2005b) reports symptoms of the bubonic plague include a very hot, swollen and painful lymph node or bubo, fever, exhaustion, and history of exposure to a rodent. Onset is usually 2 to 6 days after exposure, and unless treated it is fatal (Centers for Disease Control and Prevention, 2005b).

Typical treatments for the plague in 1665 included salves, herbal remedies, nostrums, charms, sweet smelling flowers, pomanders stuffed with herbs to smell, and placing a chicken on the bubo to ripen it and draw off the infection. Interestingly, there is evidence that the barnyard soil contained an antibiotic, aureomycin, and traces of it could have been on and in the birds (Clifford, 2003). In theory, some of the antibiotic properties found in the soil could have been transmitted through the open bubo from the birds.

Twenty-first century treatment for the plague involves antibiotic therapy that begins immediately after the laboratory tests are drawn. Quarantine is immediately instituted once the patient is diagnosed and local and state health department should be notified post haste. In the case of pneumonia and suspected pneumonic plague, all those who have come in contact with the infected patient should be located and treated (Centers for Disease Control and Prevention, 2005b). The incubation period for the pneumonic plague is one to three days with a 50% mortality rate; accurate diagnosis and treatment is critical.

PUBLIC HEALTH PREVENTIVE MEASURES

During the time of the plague in Eyam no preventive measures existed. Quarantine had been practiced as early as 1485 in Venice when the government created public hospitals to isolate infected individuals (Discovery Communications, n.d.). The practice in London at the time of the plague was to confine to their homes, infected individuals and all those in the family who were not infected. The likelihood that the members of the household survived was low, as exposure to those who were ill with the pneumonic plague was an almost certain death sentence.

Rector William Mompesson and the previous rector, Shoreland Adams, devised a plan to present to the congregation in Eyam. There were three key elements of the plan: 1) no more organized funerals or churchyard burials; 2) the church should be locked until the epidemic was over with the services to be held in open air; and 3) the critical decision to impose a 'cordon sanitaire' around the village in an attempt to prevent the spread of disease (Clifford, 2003, pp. 16-17). William Mompesson, in a sermon to the congregants, suggested that they sacrifice as Christ did by remaining within the boundary of the village and not spreading the seed of the Black Death to unwitting suspects. Only two families decided to leave Eyam, and one man lived outside the village on the hill until the plague passed.

During the open-air sermons a twelve foot distance between church members was maintained. The use of social distancing was very pragmatic and showed great judgment on the part of the rectors. However, the risk of exposure was still tremendous because the plague bacterium can survive for up to one hour, once released in the air via cough or sneeze (Centers for Disease Control and Prevention, 2005a). Further away in London, theaters and other non-essential establishments where there were mass gatherings were closed to prevent the spread of the plague.

Today there are three strategies utilized for prevention of the plague: environmental control; education; and early treatment (Centers for Disease Control and Prevention, 2005b). Environmental control measures of rodent populations have been successful in developed countries, but a challenge exists in urban and developing countries. Monitoring for plague cases and the use of insecticides when cases occur seems to be the best approach in developing countries. Public education measures include removing food and shelter for rodents, surveillance of plague activity in rodents by public health workers, use of insecticides and treatment of cats and dogs for fleas. In the event of exposure to individuals with pneumonic plague, the best prevention is to begin antibiotics within 7 to 10 days (Centers for Disease Control and Prevention, 2005a). Additionally, antibiotics can be taken in the case of flea bites after exposure to wild rodents. Caution that includes universal precautions must be taken when handling dead animal carcasses suspected of having the plague. Special funeral precautions include universal precautions and no embalming to prevent exposure to contaminated blood (CIDRAP, 2010). The institution of immediate burials and no churchyard burials in Eyam is in line with current practices; however, universal precautions did not exist until the 1980s.

PUBLIC POLICY

During the time of the plague in Eyam, public policy was reached by consensus, and measures were taken to institute a village wide quarantine in an effort to prevent the spread of disease. This was extremely forward

thinking for the time period and most probably saved many lives. In an effort to realize how far we have come in public health it is necessary to look back historically and examine events in the context of the knowledge of the day that have been the foundation of current public health practices.

Today approximately 1,000 to 3,000 cases of the plague worldwide are reported annually (Centers for Disease Control and Prevention, 2005a). There is concern that the plague bacteria will be used in the development of a bioweapon; however, creating such a weapon would require great sophistication. Public policy today involves surveillance measures and monitoring allowing for adequate time to implement preventive measures or effective treatment to those affected. Policy that addresses rodent control, handling of affected dead animals and humans, and treatment protocols are all necessary and should be reviewed on a regular basis. The plague has been in existence since the time of the Egyptians, and we have not successfully eradicated this disease. Therefore, it is essential to be vigilant and learn from history.

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USING A COMMUNITY-BASED PLANNING MODEL TO ADDRESS OBESITY AND DIABETES IN NORTHEASTERN PENNSYLVANIA

Steven J. Szydlowski, University of Scranton

ABSTRACT

The prevalence and incidence of chronic disease continues to increase at significant levels in the world. Public health departments, health institutions, government agencies, and other key health stakeholders continue to work towards addressing these deadly and costly diseases. However, communities around the world have experimented and created collaborative-community based models to address chronic disease. The following case study reviews a successful community health model attempt to integrate and sustain best practices for diabetes and obesity treatment and prevention in free health clinics for at-risk populations in Northeastern Pennsylvania.

Key Words: community-based planning, chronic conditions, prevention

INTRODUCTION

The Centers for Disease Control and Prevention (CDC) continues to support the public education and prevention efforts to reduce the prevalence and incidence of individuals that are obese or overweight, pre-diabetic, or diabetic. The CDC (2009) reports that the prevalence of diagnosed diabetes increased from 0.9% in 1958 to 6.3% in 2008. In 2008, 18.8 million people had diagnosed diabetes, compared to only 1.6 million in 1958." The CDC (2010) reports that "approximately one of three American adults may have so-called pre-diabetes, a 39 percent jump over 2008 estimates." This new CDC data also states that "half of all Americans over the age of 65 are pre-diabetic and 27% have diabetes. Minorities are still at higher risk compared with Caucasians: 16 % of American Indians/Alaska Natives, more than 12% of African-Americans and nearly 12% of Hispanic adults now have diabetes, compared with a little more than 8% of Asian-Americans and 7% of non-Hispanic whites."

As researchers, workers in the health fields, and consumers of health, individuals should be well aware of the adverse effects of overweight and obese individuals. It is a known fact that obesity leads to diabetes type II and other chronic conditions in many cases. The two counties in this study that the community efforts were conducted are Lackawanna and Luzerne counties. According to the 2008 Age-Adjusted Estimates of the Percentage of Adults Who Are Obese in Pennsylvania (2008), Lackawanna County obesity rates fall within 22.0% to 26.2% of the population. Luzerne County obesity rates fall within 26.3% to 29.7% of the population. These rates continue to rise as the numbers as well as across the country. This is particularly alarming since health care costs continue to rise and in addition to more individuals with access to services under the proposed health reform bill.

This article examines a two county, community-based health effort to address diabetes and obesity in Northeastern Pennsylvania. The case study involved trained nutrition and diabetes professionals from the local hospitals conducting train the trainer sessions for individuals working in three free clinics for at-risk individuals. The intent of the project was to sustain best practices in the clinics in the areas of diabetes, pre-diabetes, and obesity treatment and prevention. Objectives also included the integration of a standardized flow sheet for providers to use and track data in each of the clinics. The article will describe the process and outcomes from the project.

Healthy Northeast Pennsylvania initiative (HNPI)

HNPI is collaboration among member healthcare organizations and the Pennsylvania Department of Health. The goal is to assess and address community health needs, increase regional healthcare funding leverage for programs and services, and facilitate awareness, education and wellness for residents of Northeast Pennsylvania.

The HNPI links stakeholders and consumers of health to local community health resources and programs offered locally

The HNPI (2009) mission “is designed to facilitate population health initiatives through community collaboration that engage individuals from the behavioral sciences, human services, primary health care services, business, industry, education, consumers and government of Luzerne and Lackawanna Counties in creating healthy communities.”

HNPI was the recipient of a CDC Congressional Directed Funding Project and served as the fiscal agent and executor of the grant requirements. HNPI, a community-based health consortium, conducted a community health needs assessment in 2009/2010 for Lackawanna and Luzerne Counties. As a result of the assessment and the needs identified, HNPI partnered with the local hospitals, free health clinics, and other stakeholders to establish training programs, and coordinate best practices around diabetes and obesity prevention.

METHODS

This article reviews a 1-year project implemented in Northeastern Pennsylvania to address diabetes, pre-diabetes, and obesity treatment and prevention. The purpose of this qualitative case study is to demonstrate sustained partnership modeling by integrating best practices in healing patients using a train and training model.

Data were collected from focus groups, observation, and participant feedback. The sample for the case study was three free health clinics which included two in Lackawanna County and one in Luzerne County.

Process

The project was funded was a CDC Congressional Directed Funding Project for the period September 1, 2010 – August 31, 2011. The project planning period began June 1, 2010 with the official train the trainer modules completed by December 31, 2010. The planning committee consisted of members from the obesity prevention committee of HNPI along with clinicians from the sponsor health systems of HNPI. The project committee met three times as a group from the period of June 1, 2010 – July 15, 2010. Individual meetings with HNPI staff, the trainers, and the free clinic trainees were also conducted during this time frame. As a result of these sessions, the project committee agreed on a common tracking form that was used in the clinics upon completion of the train the trainer modules. Train the trainer modules were conducted from the period of July 15, 2010 – December 31, 2010. The topics covered in the train the trainer sessions included, patient assessment, nutrition and meal planning, influence of stress and exercise on blood glucose, medication information, monitoring, pattern management and coping skills, acute complications, preventing chronic complications, new technology and insulin pumps/carb counting.

Upon completion of the train the trainer sessions and actual use of the best practice integrated into the clinics, focus groups were conducted with the trainers and the trainees to collect data on the project outcomes. The focus group sessions were tape recorded and transcribed. Frequencies were used to suggest common themes in the data collection. Participants also submitted subjective evaluation forms that were emailed to HNPI staff and program evaluator. These evaluations were compiled and summarized. Personal observation was also use to assess implementation of best practices into the study and use of standardized forms. Ongoing data collection has been sustained.

Inclusion criteria

The study was limited to free clinics that were located in Lackawanna and Luzerne County, served at-risk, underserved populations, and maintain at least one day of free services per day. The final recommendations for inclusion in the case study needed final approval by the HNPI board of directors.

LESSONS LEARNED

Four train the trainer sessions were conducted on best practices for diabetes, pre-diabetes, and obesity treatment and prevention. There were twenty-five total trainees receiving the best practice module. There were a total of four trainers. Lesson learned from the training include:

- Provide training to larger audience for impact
- Target emergency rooms and case managers so best practices can be standardized in hospital and other settings
- It is difficult to integrate best practices at the same pace at each clinic. Clinic life cycle and maturity differ and therefore varying needs exist
- The group was limited to individuals working in dietetic and nutrition. Broader audiences, such as nurses, can expand impact
- Recruitment and participation is not difficult. There are individuals willing to engage in community-based models
- Spreading the training over the period in the project enabled participants to build contacts and relationships
- It is critical for participants to know how data is to be used moving forward
- Input from participants on program is critical to success
- Sustained integration of the diabetes form and flow sheet can be created, shared, and implemented among community partners to enhance the use of best practices

Next steps

- Prep Diabetes Clients
- Get the general public involved
- Lifestyle tips/eating well/blood sugar
- Staff Assessment
- Additional Patient Assessment
- Broader commitment
- Identify other training needs as a result of Phase I
- Community-based outreach classes for people who do not have insurance
- Expand Train the Trainer to have direct education to the patients
- Reach out to schools, nurses, physical education teachers

CONCLUSION

There is a great need for communities to engage in collaborative partnerships to address public health issues. The collaborative models can address, as in this case study, at-risk underserved population, however, larger community awareness, education, and treatment could be addressed. As a result of this project, indirect benefits were realized from the synergy and information sharing between the free clinics and the hospitals suggesting that, even without a formal project, groups should form to share information and resources that ultimately benefit the region these entities operate in. In this case, the efforts to enhance awareness, integrate best practices, and share information was realized. Ongoing collaborative efforts are needed to address chronic conditions, in particular obesity and pre-diabetes to reduce the incidence of diabetes type II diagnosis.

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THE CHALLENGES OF LONG -TERM CARE ADMINISTRATION

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ABSTRACT

According to CMS, about 60% of elderly people will need some kind of long-term care during their life, and its demand is projected to grow with rapidly growing baby-boomer population. Nevertheless, it is a highly regulated industry in USA and its costs continue to escalate. There is also an urgent need to adjust upwardly nurse-to-patient ratios in these facilities. Therefore, long-term care administrators need to manage multiple areas skillfully. Their wrong decisions can make them responsible for deficiencies that may be reported in state surveys. This paper analyzes the challenges of satisfying the long-term care needs of ageing population.

According to the CMS, about 60 percent of the elderly US citizens will need some kind of long-term care during their life, such as nursing home care, home care, assisted living care, adult day care, independent living care, adult foster care, or any other form of care. The demand for efficient long-term care is projected to double by 2050 due to the rapidly ageing US population, and the greatest increases are occurring in those aged older than 85 years (Jungers, 2010). Ironically, the fastest growing population in the US nursing homes is that aged between 31 and 64, which has grown 10% more than what it used to be 10 years ago and currently constitutes 14% of the nursing home population. Also, over 6,000 nursing home residents are now younger than 21 years, and thousands of more residents are in their early 20s (National Public Radio, 2010). Therefore, long-term care administrators are now confused whether their residents are growing old or growing young, as it influences their responsibilities.

Not only are the US long-term Care administrators managing those services which are in high demand, they are also managing a highly regulated industry. They are accountable for providing safe and high quality care despite the projected decrease in Medicare and Medicaid reimbursements, while these facilities' expenditures continue to escalate. Moreover, the percentage of operational beds in the nursing care properties has decreased by an annual average of 0.3% over the last five years, and the percentage of occupied beds has decreased by an annual average of 0.8% over the same duration (Long-Term Living, 2011). Research further suggests that there is an urgent need to adjust upwardly the nurse-to-patient ratios, and the labor expenditures constitute the greatest operating expenses in these facilities (Hanover, 2011). Nevertheless, due to the increasing incidence of violence or harm to nursing home residents, the state authorities are reviewing laws and policies to strengthen disciplinary sanctions against nursing home administrators in such instances. All these challenges pressurize these facilities' administrators to manage multiple administrative areas competently including finance, quality, human resources, patient and workforce safety, and change management. Consequently, their wrong decisions can make them responsible for deficiencies which may be revealed by the state surveys, justifiable (or not) family complaints, complaint investigations, and lawsuits. Thus, these facilities administrators' ability to immediately address the apparent and actual deficiencies directly determines the viability of these facilities (Todd, 2011).

The current tough times of economic recession, budgetary cuts, rapidly rising costs, and increasing demand of long-term care services together make the long-term administrators' financial management roles extremely daunting. A recent MetLife report revealed that since 2008, the rates of the nursing homes and assisted living facilities have been rapidly escalating. In 2010 alone, the national average private nursing home room rates increased by 4.6% and the annual national average assisted living base rates increased by 5.2% (MetLife, 2010). Furthermore, a recent AARP Public Policy Issue report stated that in 2010, many US states made budgetary cuts to their non-Medicaid-funded long-term services and support (LTSS) programs. While 31 US states have already made cuts to their disability and ageing services programs, 28 more states were anticipated to follow this trend. Though states have sustained Medicaid LTSS due to economic stimulus funding, they need to make cuts to those programs as the stimulus funding will expire in June. Nevertheless, some states have cut some Medicaid services; especially the personal care services (Walls, Gifford, Rudd, Rourke, Roherty, Copeland, Fox-Grage, 2011)

While efficient financial management is critical to survival of the long-term care facilities, addressing safety concerns is no less important. Since these facilities' administrators work in an extremely stressful environment, they need to be very cautious about their patients' and staff's safety. A recent Agency for Healthcare Research and Quality report has revealed that in 2007, 5.2% of the 38.7 million Americans aged 65 years or older reported to suffer from one or more cognitive disorders (Agency for Healthcare Research and Quality, 2011). The high prevalence of cognitive impairments amongst the patient population would directly imply that the administrators should take prudent precautions for their patients' and caregivers' security. Ironically, a recent Office of Inspector General analysis of a stratified random sample of 260 nursing facilities of the total 15,728 Medicare-certified US nursing facilities revealed that 92% of the US nursing facilities employed convicted criminals last year, and 46% of the US nursing facilities employed five or more convicted criminals in the same year. Of all the nursing home employees who were analyzed, 5% had some kind of conviction in FBI-maintained criminal history records. Of those convicted criminals, 44% were convicted to be guilty of crimes against properties including burglary, shoplifting, and writing bad checks. This is in violation of the Federal regulation which prohibits Medicare and Medicaid nursing facilities from employing criminals convicted by a court of law of abusing, neglecting, or mistreating residents; or who have had a finding entered into the State nurse aide registry concerning these complaints or misappropriation of their property (Levinson, 2011).

The cognitively impaired patient populations' threat to the nurses' safety in combination with the nursing shortage make it extremely crucial for the administrators to protect their nurses. The 2004 National Nursing Assistant Survey revealed the vulnerability of the nursing home nursing assistants including the orderlies and the attendants, who constituted nearly 72% of the nursing homes' direct care workforce in 2006, and their demand is projected to increase further by 18% by 2016. Of the survey's 2888 participants, 35% had suffered work-related physical injuries in previous 12 months and 12% had been victims of the residents' human bites in the same duration. The rates of nursing assistants' assaults including their being bitten by residents were particularly higher in nursing homes having Alzheimer care units, or mandating overtime, or where the nursing assistants were not given sufficient time to assist residents with their Activities of Daily Living (Tak, Sweeney, Alterman, Baron, Calvert, 2010). What is even more unfortunate is that the US Bureau of Labor Statistics testifies that in 2009, the hourly mean wage rate for nursing aides, orderlies and attendants in nursing homes was \$11.58, which was lower than those working in general medical or surgical hospitals (US Department of Labor, Bureau of Labor Statistics). Can \$11.58 per hour ever be a justifiable compensation for risking anybody's security and dignity in the name of human service? It is not surprising that the nurse assistants' turnover in nursing homes is significantly determined by their experiences of work-related violence, organizational characteristics, facility ownership, turnover of top management and registered nurses, and staffing patterns and levels (Tak et al., 2010).

While the study conducted by Tak et al suggested that the nursing home nursing assistants are exceptionally vulnerable, a more recent study concluded that in contrast to the nurses working in all other healthcare settings, there were no statistically significant differences in dissatisfaction and burnt out rates amongst the nursing homes' direct care nurses and non- direct care nurses. This satisfaction survey was published in *Health Affairs*. It revealed that of the 95,499 participant nurses across more than 600 different health care settings, professional dissatisfaction and burnt out rates were greatest amongst the nursing home nurses. Of the many alarming findings of this study, the most distressing was that 37% nursing home nurses reported feeling burnt out in their existing jobs. Other startling findings were that of all the nurses providing direct patient care, 27% of nursing home nurses were dissatisfied with their current occupations and 47% of nursing home nurses reported that their workload caused them to miss important changes in their patients' conditions; 51% of the nursing home direct care nurses were dissatisfied with their health benefits, and 60% of the nursing home direct care nurses were dissatisfied with their retirement benefits (McHugh, Kutney-Lee, Cimiotti, Sloane, Aiken, 2011).

The above mentioned studies imply that workforce management is a very critical area of long-term care administrators' responsibilities, to balance the staff's talents in various shifts, increase staff's satisfaction and efficiency, and ultimately decrease dependence on expensive agency staffing. Not only is the long-term care staff's performance a major determinant of the residents' experiences, staffing is also one of the core measures in the Medicare's Five-Star Quality Rating System, which significantly influences the consumers' and caregivers' choice of a long-term care facility (Hanover, 2011).

As the US long-term care administrators are responsible for meeting stringent requirements of an extremely regulated industry; they also need to keep up with all the latest advances in today's rapidly changing healthcare environment. To illustrate, the MDS version 3.0 with *section M: Skin Conditions*, which was implemented in October 2010, has posed additional challenges for long-term care administrators to meet its sophisticated data and accuracy requirements. This in turn requires the administrators to devote their wound nurses or team to document the comprehensive data constantly, which therefore need to invest more time. These facilities also need to re-design their pressure ulcer documentation forms, wound policies, procedures, and guidelines; based on revised criteria and streamlined wound etiologies. The etiologies of the wounds developing post admission or readmission would require greater attention which may be beyond the LPNs' scope of practice and may require the administrators to compose or hire an inter-professional team (Krasner, 2010). Another recent example is that the 21 measures recommended by the National Quality Forum shall be used by the CMS for their online database called *Nursing Home Compare*, which is widely used by consumers for choosing their provider of choice from 17,000 US nursing homes (National Quality Forum). While these changes are made for improving the quality of care, they also imply that long-term administrators need to be extremely vigilant to the demands of their rapidly changing external environment.

Indeed, the US long-term care administrators face the challenge of managing multiple managerial areas efficiently, since these facilities are "*micro-cosmos*" of the healthcare delivery, where an exceptionally high risk work force serves an exceedingly vulnerable patient population. Therefore, it is not possible to determine which of the long-term care administrators' various managerial responsibilities; out of financial management, quality management, patient safety, work-force safety, work-force management, and adapting to ever changing regulations; shall be prioritized at the expense of the other. Nevertheless, with the increasing demands of the nation's changing demographics and the health-care reform, these issues will continue becoming more complex and demand even more attention in future. Therefore, it may be appropriate to conclude that the viability of the long-term care facilities significantly depends on their administrators' ability to perform all these managerial functions competently and concurrently.

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TRACK
DISTANCE LEARNING

ASYNCHRONOUS DISTANCE EDUCATION (E-LEARNING) IN A HEALTHCARE ADMINISTRATION PROGRAM

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ABSTRACT

The purpose of this paper is to examine the use of asynchronous e-learning in a health care administration program. Asynchronous e-learning will be defined and the benefits and limitations of this type of learning will be stated. Ten key questions for online course redesign will be presented. A description of what to expect in an online course as proposed by the College of Health Sciences at the University of Wisconsin-Milwaukee will be described. Specific courses in the Health Care Administration program will be given as examples of how asynchronous learning can be beneficial to university students.

DEFINITION OF ASYNCHRONOUS DISTANCE EDUCATION

Asynchronous learning, or asynchronous distance learning, is one of the two basic types of distance learning offered by colleges and universities. The other basic type is synchronous learning which will not be the topic of this paper. For most students, taking distance learning courses, asynchronous distance learning is the best for them. Asynchronous e-learning does not require the student (or the professor) to log in at specific times or to “attend the class” at the same time as fellow students. Most communication during classes with universities offering asynchronous distance learning occurs via e-mail, discussion boards and forums.

Asynchronous e-learning, commonly facilitated by media such as e-mail and discussion boards, supports work relations among learners and with professors, even when participants cannot be online at the same time. This is a key component of flexible e-learning. In fact, many students take online courses because of their asynchronous nature, combining education with work, family and other commitments. Asynchronous e-learning makes it possible for learners to log on to an e-learning environment any time and download documents or send messages to professors or peers. Students may spend more time refining their contributions, which are generally considered thoughtful. The asynchronous e-learning platform for this paper is called Desire to Learn (D2L).

BENEFITS AND LIMITATIONS OF ASCHRONOUS E-LEARNING

Communication increases a student’s ability to process information. Almost every sentence in the asynchronous discussions of a smaller group, and a vast majority of sentences of the larger groups can be classified as content related. This is a remarkable result-imagine if learners on campus spent more than 90% of their time discussing issues related to course content. These results can also be interpreted as troublesome, if e-learners seldom meet face to face (F2F) and if professors mainly rely on asynchronous e-learning, students might feel isolated and not part of learning communities, which is essential for collaboration and learning. The cognitive model of media choice proposed by Robert and Dennis (2005) theorizes that asynchronous has more time to comprehend a message because an immediate answer is not expected. In fact, according to Koch’s estimate (2005) an exchange of 600 words requires about 6 minutes for complex group tasks in F2F settings, while exchanging the same number of words over e-mail would take approximately one hour. When communicating asynchronously, the receiver has more time to comprehend the message, since the sender does not expect an immediate answer. The asynchronous e-learner better supports cognitive participation.

The asynchronous e-learning platform allows students the freedom to explore the intellectual demands of the specific learning situation in manners comfortable or efficient to the learner. Traditional asynchronicity, the

expectation that students will on their own time work through course material, has allowed, but not fostered multiple orientations or paths to learning. E-learners are able to gain contrast, alternative sources, and explore concepts in new ways in a time and location amenable to the learner. Learners are not expected to do all of their learning in the classroom. There are other ways that learning is asynchronous. In any classroom of learners there are many different paces, patterns and paths to learning any subject or skill.

10 KEY QUESTIONS FOR ONLINE COURSE REDESIGN

Excellence in asynchronous e-learning does not simply occur in and of itself alone. As with other forms of complex, higher level tasks and skills, the excellent online course is a result of prior thought and planning. The following 10 questions, and the answers specific to any given online course, are key to the successful design of online courses. These questions represent a course design approach often referred to as “backward thinking:” starting with the desired end results and working backwards to discover ways to achieve them.

- What do you want students to know at the end of the online course?

Answering this “backwards thinking” question requires the development of specific and measurable learning objectives for the course. Specifically, what levels of understanding, what specific knowledge or uses of knowledge do you want and expect for your students? What specific techniques should your students be able to demonstrate?

Perhaps even more important, how will you measure whether the objectives have been met or how well they have been met? What specific types and pieces of evidence are needed to demonstrate mastery of each objective?

- What online activities will best help students to meet your course objectives? What online activities will best help students produce the evidence you need to determine if they have met the course objectives?

What kinds of e-learning activities can be used to best leverage the online learning environment? Even master teachers soon find out that what works “like a charm” in F2F classes is not as effective in e-learning. As a case in point, consider the traditional use of quizzes and tests to demonstrate and document students’ mastery of course materials. Unfortunately, assuring honesty and detecting cheating in an online testing environment are nearly impossible. So instead of using tests to document student achievement, in an online course one might consider reframing testing into a tool for helping students learn the material. Keeping in mind that the course objective might be for your students to master specific materials, the goal of the quiz is to facilitate the learning or application of that specific material. In that case, open book and even perhaps team and group testing might better serve the actual learning objective, as opposed to only demonstrating achievement.

Since you will not be lecturing as in a traditional F2F course, alternative ways to effectively and interestingly deliver course content online must be identified.

Think about a specific topic or lecture that you usually present to your F2F class. How will you make that portion of your course content available online? Using voice-over-PowerPoint, creating scripted narratives, film clips, links to web sites, and making additional reading materials available are all alternatives to “live, real-time” lecture. However, remember, because e-learning is asynchronous, students will be absorbing this information on their own, without your commentary or skill of delivery. Make certain that these materials are presented in “digestible chunks” that are interesting and of a reasonable length.

- Traditional testing is not the only way to assess your students’ work in an online environment. What alternative means of assessing or documenting student learning are available to you online?

Returning to the “backwards thinking” design discussed earlier, once a learning objective has been identified, the e-learning professor must identify alternate methods of documentation and demonstration. If, for example, the learning objective is to be able to apply a specific model to a specific situation, what might be ways other than testing, for students to demonstrate their ability to do so? If the professor does not want group work to document a specific learning objective, an assignment can be submitted electronically to a dropbox for the professor to read and grade. Based on the premise that adult students learn best by actually “doing” and by learning from each other, many

e-learning courses make extensive use of discussion forums with clear and pointed instructions for teams of students to, for example, “apply the model to the situation described in the attached case study.” In such cases, a clear and fair grading rubric, assigning point ranges for quality and quantity of contributions to the discussion, can be used to assess and grade each student’s contribution and mastery of the model.

E-learning students are dispersed among numerous locations, will probably come from very different backgrounds, and will likely never meet you, or each other, F2F. How can a cohesive and well functioning peer group of online learners be developed and nurtured?

In today’s age of instant messaging, texting, tweeting, and online social networking, many students will be very skilled in talking to other students, as well as to the professor, through e-mails and discussion forums. However, these up-to-date networking methods tend to encourage the use of acronyms, abbreviations, and emoticons that are inappropriate in higher education or professional settings. Professors must require and consistently reaffirm professional communication standards among themselves and their students.

- Students often have very unrealistic ideas about the amount and kind of work required for an online course. How can students frame their expectations about online learning?

The first step is framing expectations for both the professor and for the students, regarding e-learning. Once the amount of work, effort, and technical skill required for the professor and for the students in an online course is clearly understood, these expectations and requirements need to be clearly delineated for the students. How often are students expected to go to the course site to check for announcements? How quickly can students expect an email reply to a question to the professor, and vice versa?

Many students seem to think that online courses are going to be easier than F2F courses. It needs to be made clear that e-learning courses have the same learning objectives and the same standards for mastery as F2F courses. In addition, the lack of specific time constraints for “class attendance” is both a blessing and a curse. Asynchronous e-learning courses are not “learn at your own pace” and require self-discipline and excellent time management skills. There need to be clearly communicated deadlines for submitting work, participating in discussions, and taking tests.

Finally, students need to know the technical computer specification requirements for successful access of course materials, participation in, and completion of course work. One way to ensure basic technical abilities are present is to have students go on a “scavenger hunt” in which each item in the hunt is the successful achievement of, for example, a sample quiz, cutting and pasting from the course home page, accessing a website, submitting to a dropbox, and participating briefly in an online discussion.

- Asynchronous discussion forums and small group work can play a key role in online courses. What new learning opportunities will the use of asynchronous discussion and small group work provide, and how would you address and leverage them?

As stated previously, many students are already adept in online, electronic discussion and networking. The use of discussion forums and small group work in e-learning can be seen as an educational extension of these skills. In both discussions and group work, students are assessed on both the quality and quantity of their contributions. Thinking and writing are two distinct brain functions and these activities require students to use both. Finally, in every F2F course there are students who prefer to be passive learners; they sit and listen but rarely participate. In an asynchronous e-learning environment of discussion forums and group work, students only earn their grade by participating and contributing, which is automatically documented electronically by the e-learning course management system.

- There is a common tendency for faculty to overcompensate when teaching online courses and require their students (and themselves!) to do more work than they normally would in a F2F course: this is often referred to as the “course-and-a-half syndrome.” How can the appropriateness of course requirements and their implications for your own workload be determined?

As with all other complex skills, e-teaching expertise is gained with experience. Because so many of the “tried and true” teaching techniques used in F2F courses do not translate well into the online environment, it can take some time to determine what is appropriate and what is not for your specific course and students.

That said, starting with a “backwards thinking” approach can help the professor to step away from the “I’ll do it the same, only electronically” approach to e-course design. Deciding in advance exactly what you want your students to achieve and then designing activities specifically fitted to the online environment to help students achieve those goals and objectives can go a long way towards avoiding “a course and a half.”

In addition, if the e-learning course has the same name and course number as the F2F course, the professor must be able to document that the online course objectives are, if not exactly the same, similar enough to justify it being the same course as the F2F version. The paths to meeting the course objectives might (and likely should) be different, but students in the e-learning course and the F2F course should have the same outcomes, skills, and ability to meet the learning objectives.

- Students sometimes have difficulty orienting themselves to the course management system (in the case of this paper, D2L), course Web site, and to other instructional technologies used in an online course to deliver course content or promote online interaction. What steps can be taken in advance to assist students to become familiar with D2L course? What are some strategies to promote online interaction and success?

A number of techniques, such as scavenger hunts, leveraging the students’ social networking skills, and clearly delineating expectations, have been discussed above.

Professional networking can be a resource to professors too. Does the university offer support and/or training in online teaching, group work, use of the course management system, setting up and grading discussion forums, or course assessment techniques? Can other professors be found who have demonstrated e-learning skills and experience, either on campus or in one’s professional organization? What are tips and techniques they use to facilitate e-learning?

As in F2F teaching, often the way to motivate students is to assess and assign course points to the desired task or behavior. Make certain students understand the line between their responsibilities and the professor’s. Accessing the help desk or solving their own technical problems is part of the student’s learning experience in online courses. Encouraging problem solving within and among the students themselves is appropriate.

- How will you decide if your online course redesign is a good one? For instance, during the initial offering of your course, how will you determine whether mid-semester adjustments are needed?

Because the professor does not see the students F2F it can be difficult to “see” how the class is going. A mid-semester assessment or occasional short class assessments (SCAs) can provide invaluable feedback and evidence to stay the course or make needed adjustments. An example of an SCA might be asking the students to answer two questions such as these in two sentences or less: What do you like best so far in this class? What do you like least? Or: What is working best for you in this class? What is not working for you in this class?

Of course, as with all teaching – both online and F2F- to some extent, you can judge the success of the course by the students’ performance in discussion forums and other tasks specifically designed to leverage the e-learning aspects of the course. If students have extensive clarification or process questions, or the results of such exercises are less than expected, perhaps you are asking the wrong types of questions, perhaps the grade weight of the task is not quite right, or perhaps you need to rethink the design of the task.

WHAT STUDENTS CAN EXPECT IN A UWM ONLINE CLASS

Online courses in the College of Health Sciences (CHS) at the University of Wisconsin – Milwaukee (UWM) provide students the opportunity to learn in a 21st century environment, with highly motivated faculty and staff, using modern instructional techniques. No two online classes are the same, but this list provides an idea of what can typically be expected in an online class.

- **Textbooks are usually required:** Most online classes have reading and other assignments that are taken from a textbook. Textbooks for courses in the CHS are available at the UWM bookstore (online ordering available), or the Panther bookstore, or from online book vendors.
- **Course website:** Online course materials, quizzes and discussions are managed through D2L, the same course management system used by over 700 UWM professors. Tutorials and training for use of the D2L system are provided within courses and on campus for general use.
- **Technology:** You will need a computer with capability to run internet browsers and the course software. Some professors use additional technology. You will be alerted to any of these requirements either before or at the beginning of the course. Most additional technology is available to students at no cost. Examples of these are iTunesU and Studymate. UWM maintains 5 campus computer labs. Some are open 7 days/weekend for extended hours each day.
- **Technology assistance:** UWM maintains a 24 hour help desk. Technology assistance is available in person, online and by phone.

Students must be able to:

- ✓ use a Web browser efficiently
- ✓ know how to change the browser's settings.
- ✓ know how to bookmark a Web page
- ✓ enter a URL to get to a Web page.
- ✓ use a word processor.
- ✓ save a file and find it again.
- ✓ copy and paste text.
- ✓ open a file that has been downloaded from the Internet.
- ✓ know how to tell what type of program is needed to open a file.
- ✓ know what to do if the computer freezes.
- ✓ know how to view a streaming video.
- ✓ know how to subscribe to a podcast.
- ✓ send and receive e-mail messages with attachments.

These are skills routinely used in most classes at UWM.

EXAMPLES OF COURSES USED AS ASYNCHRONOUS E-LEARNING IN HEALTH CARE ADMINISTRATION

HCA 102 health care delivery in the U.S.

Description of the course: This course is an introduction to the health care delivery system in the United States. Content will be conducted as forums of discussion emphasizing contemporary issues related to health care professionals, facilities, organization patterns, reimbursement and quality.

The goal of the course is to instill an appreciation for the complexity of the health care delivery system and produce knowledgeable people who will intelligently help guide the direction of health care.

HCA 102 is an online Desire to Learn (D2L) course. This is not a hybrid course so there will be no face to face contact. Some of the advantages of online modes of communication include ease of use, convenience, accountability and documentation.

There will be a quiz online and a written answer due every other week for the course. The final exam and optional extra credit will be due in week 14. The final grade is an average of the quiz grades, written assignments

and the final exam. Extra credit will be the equivalent of points required to move up a grade level (e.g., B- to a B, or C+ to a B-).

For the written assignments which are called Discussion Forums the students will be working in a group of eight students each. Students determine which group they are assigned to by checking the discussion section. The group score will be a rubric of 0, 1, or 2. A score of 0 will be given if the forum question is not completed. A score of 1 will be given if the forum answer uses less than 3 references using the American Psychological Association (APA) format. A score of 2 will be awarded if they answered the question well using 3-5 references using the APA format.

Discussion question rules:

1. Each student must participate in discussing each question. Proof of participation is posting in the Discussion section. Each student in the group must post at least one discussion point, question, and contribution for each question.
2. The “Final Answer: to each discussion question must be included in a Word document attached to the Drop box and titled Final Answer Group X.”
3. The “Final Answer” must be at least 150 words long.

The discussion questions for each unit are as follows:

Unit 1 Discussion Question-Is health care a right or a privilege?

Unit 2 Discussion Question-Would nationalized health care in the U.S. raise or lower the cost of health care to: Private citizens? The government? Businesses?

Unit 3 Discussion Question-Why is health care unaffordable for some people?

Unit 4 Discussion Question-Why are there more specialist than generalist physicians in the U.S.

Unit 5 Discussion Question-According to the U.S. Bureau of Labor Statistics which health professions are growing the fastest and why?

Unit 6 Discussion Question-1. Which section of Medicare covers/pays for ambulatory services? 2. Between 2009 and 2010 has the reimbursement rates for Medicare ambulatory services gone up or down? By how much?

Unit 7 Discussion Question-1. According to the WHA web-site what are the 5 multi-hospital system in the Milwaukee area? 2. What is driving health care costs in Wisconsin? 3. What is the average cost of a stay in the hospital in the Milwaukee area?

HCA 220: LEADERSHIP FOR HEALTH CARE PROFESSIONALS

Course description

This completely online course is an introduction to theories, principles, and practices of personal and organizational leadership. The purpose of this course is to help students learn how to lead themselves, other individuals, and groups within health organizations.

Text

Cellucci, L., and Wiggins, C. Essential Techniques for Health Care Managers, Health Administration Press, Chicago, IL. 2009. Additional materials and readings as assigned.

Course objectives

At the conclusion of this course, students will be able to:

1. Describe leadership in terms of the facets of leadership and leadership characteristics
2. Discuss the leadership roles, skills, and activities of healthcare professionals
3. Apply ethical principles and the 4 point ethical model for leadership to a case study
4. Present evidence for the strategic importance of diversity
5. Analyze the decision model and how to use it to implement change
6. Identify the underlying foundations of communication and demonstrate the importance of communication fundamentals in the formation and success of teams and in conflict management
7. Recognize the importance of delegation and apply time management techniques in their own lives
8. Analyze the components of EQ to understand their place in healthcare leadership

How this course works

HCA 220: Leading Health Care Professionals is a completely online course; there will be no face-to-face contact. All course communication, work, and activities will be completed online using D2L (Desire to Learn). The advantages of a completely online course include ease of use, convenience, accountability, and documentation.

Students are responsible for reviewing assigned PowerPoint lectures, completing the assigned readings, participating in on-line discussions, completing quizzes and tests on time, and working in groups with other students in the completion of course activities and assignments.

This is an 8 week summer course with 8 learning modules. Each module's description, details, materials, assignments, and requirements will be found in our D2L content section. It is strongly advised that students diligently keep up with the course readings, discussions, and assignments as the material and topics will move forward very quickly.

Course requirements

Course Introduction Scavenger Hunt: 4pts

Each student must complete the scavenger hunt before accessing Quiz #1

Quizzes: 7 @ 3 pts for a total of 21 points

There will be 7 quizzes. All quizzes are open book, multiple choice, and will be taken on D2L on over specified days and times.

The primary purpose of the quizzes is to encourage students to read and to think about the materials prior to entering the discussion forums. The quizzes will focus on the assigned readings, PowerPoints, and any additional materials supplied for the current module.

Please note that students must take the module quiz before entering into that module's discussion forum.

The quizzes will become available at 12:01 a.m. of the first day of availability and will be closed at 11:59 p.m. on the last day of availability. If a student misses a quiz, the score for that quiz will automatically be zero. *Quizzes cannot be made up or taken at a later time.*

Discussion and Response Forums: 5@ 5 pts for a total of 25 points

Students will be placed into forum teams and will conduct all their course discussions and responses within their team. There will be 5 discussion and response forums in the course. Each forum will have its own forum spec sheet which will list the opening and closing dates for that forum, the specific questions for discussion, the word number parameters, and posting protocols.

Each student will receive a grade for each forum, ranging from excellent (4-5 pts), good (3-4pts), average (2-3pt), Poor (1-2 pts), Fail (0pts). Please refer to the Discussion and Response grading rubric later in this syllabus.

In general, each student on the team must post at least one original discussion point, one response or question to another student's point, and two additional contributions to on-going discussions. Proof of participation is a posting in the discussion section.

Short Class Assessments (SCAs): 3@ 2pts for a total of 6 points

At 3 times throughout the class students will be invited to provide assessment and/or feedback regarding specific topics or course processes. The dates for these SCAs are posted in the class schedule.

Time Management Assignment: 2 parts @ 3 pts for a total of 6 pts

Each student will choose one time management technique discussed in the text book and create a plan to implement it throughout the 8 weeks of this course. The plan is due in the dropbox on June 6, 11:59 p.m. and can earn 3 pts. At the end of the course, students will write a short ½ - ¾ page assessment of the time management technique they used. The assessment is due on July 24, 11:59 p.m. and can earn 3 pts. There is a more detailed discussion of this assignment in our course content section on D2L.

Team Ethics Case Study: 1 @ 8 pts

The "Pornography and the University Computer" case is available in the content section of our course. Each student will be asked to post an original answer to the Case Study Question, and at least two additional comments, questions, or contributions to the on-going discussion. Finally, the team must prepare a "final answer" of no more than 500 words and submit it to the Case Study dropbox between Friday June 18 at 12:01 a.m. and Sunday, June 20 at 11:59 p.m. The Case Study assignment will earn a team grade.

One Pager: 1@ 15 pts

A One-Pager is a short, one page paper that is structured in a very specific way. Points are only earned when specific items are present and the paper is formatted exactly as specified. If a specified item is not present, zero points are earned, if the item is present and done adequately, one point is earned, if the item is done excellently, two points are earned. Very specific instructions for each one-pager can be found on our D2L course space.

Paper Exchange: 1@ 5pts

In a specifically designated time period prior to each one-pager's due date, the professor will assign exchange teams and students will exchange and critique each other's final drafts. One copy of the final draft will be submitted to D2L at the time of the exchange to assure that the paper is truly a final draft. Students earn 5 points for full participation in each of the paper exchange sessions.

Final Exam: 1 @ 10 pts

The Final Exam will be cumulative and in the same format as the weekly quizzes. It will open at 12:01 a.m. on Thursday, July 22 and closes at 11:59 p.m. on Saturday, July 24.

TENTATIVE COURSE AGENDA

Week 1: Tuesday June 1- Sunday June 6
Course Introduction and Scavenger Hunt, Time Management
Scavenger Hunt deadline: Friday, 11:59 pm
Quiz #1: opens 12:01 a.m. on Thursday, closes 11:59 p.m. on Saturday
Time Management plan deadline: 11:59pm Sunday

Week 2: Monday June 7 – Sunday June 13
Defining Leadership, Leadership Theories and Styles
Skills for Effective Management

Discussion forum #1: Wednesday – Sunday
Quiz #2: opens 12:01 a.m. on Monday, closes 11:59 p.m. on Thursday

Week 3: Monday June 14 – Sunday June 20 SCA #1
Ethics, Diversity
“Pornography and the University Computer” Case Study Assignment:
Discussion Tuesday – Thursday
Team Case Study due: Thursday - Sunday
Quiz #3: opens 12:01 a.m. on Monday, closes 11:59 p.m. on Thursday

Week 4: Monday June 21 – Sunday June 27
Decision Making, Managing Change
Quiz #4: opens 12:01 a.m. on Monday, closes 11:59 p.m. on Thursday
Discussion forum #2: Tuesday - Saturday

Week 5: Monday June 28- Sunday July 4
Communication
Quiz #5: opens 12:01 a.m. on Monday, closes 11:59 p.m. on Thursday
Discussion forum #3: Tuesday - Saturday

Week 6: Monday July 5 – Sunday July 11 SCA #2
Teamwork, Delegation
Quiz #6: opens 12:01 a.m. on Monday, closes 11:59 p.m. on Thursday
Discussion forum #4: Tuesday - Saturday

Week 7: Monday July 12 – Sunday July 18
Conflict, Emotional Intelligence (EQ)
2nd one pager exchange: Monday - Friday
2nd one pager due: Wednesday - Sunday
Quiz #7: opens 12:01 a.m. on Monday, closes 11:59 p.m. on Thursday

Week 8: Monday July 19 – Saturday July 24 SCA #3
Leadership, Course wrap up
Discussion forum #5: Tuesday – Friday
Time Management Assignment due Wednesday - Friday

Final exam: opens 12:01 a.m. on Thursday, closes 11:59 p.m. on Saturday

Reading and PowerPoint assignments

All reading assignments should be completed by the day listed. Additional readings and materials may be assigned throughout the semester. All readings on this sheet are from the Cellucci and Wiggins text unless otherwise noted. All PowerPoints can be accessed in the content section of our D2L site

Week 1: Chapter 13, Time Management
PowerPoint: Time Management

Week 2: PowerPoint: Defining Leadership
PowerPoint: Leadership Introduction
Chapter 2 - Skills for Effective Management
PowerPoint: Introduction to the Healthcare Industry
PowerPoint: Management
PowerPoint: Skills for Effective Management

Week 3: Chapter 3, Ethics

	Chapter 4, Diversity PowerPoint: Ethics PowerPoint: Diversity
Week 4:	Chapter 5, Decision Making Chapter 6, Change is Constant PowerPoint: Decision Making PowerPoint: Change Assessment PowerPoint: Change Management
Week 5:	Chapter 8, Communication PowerPoint: Communication
Week 6:	Chapter 9, Delegation Chapter 7, Teamwork PowerPoint: Delegation PowerPoint: Teamwork
Week 7:	Chapter 10, Conflict PowerPoint: Managing Conflict PowerPoint: Emotional Intelligence PowerPoint: EQ, continued
Week 8:	Chapter 12, Leadership PowerPoint: Leadership PowerPoint: Leadership and Course wrap up

Online discussion forum rubric

Criteria	Excellent	Good	Average	Poor
Timely discussion contributions	4 postings well distributed throughout the discussion period	3 postings distributed throughout the discussion period	2 postings somewhat distributed	1 posting
Responsiveness to discussion and demonstration of knowledge and understanding gained from assigned reading and/or viewing material	very clear that readings and/or material viewed were understood and incorporated well into responses	readings and/or material viewed were understood and somewhat incorporated into responses	postings have questionable relationship to reading and/or viewing material	not evident that readings and/or viewing material were understood and/or not incorporated into discussion
Adherence to on-line protocols	all online protocols followed	1 online protocol not adhered to	2-3 online protocols not adhered to	4 or more online protocols not adhered to
Points	4-5	3-4	2-3	1-2

0 points for no participation in the forum

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DISTANCE LEARNING STRATEGIES FOR THE NEW ON-LINE EDUCATOR

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ABSTRACT

The transition from traditional classroom teaching to online instruction can be an insecure process for instructors. With this change in pedagogy, many instructors are now venturing into uncharted or unfamiliar territory. E-learning is defined as instructional content or learning experiences delivered or enabled by electronic technology. E-learning may include diverse learning strategies from CD-ROMs, computer-based instruction, and video conferencing. Eighty four percent of four year colleges offer distance courses. Eighty-five percent of faculty who teach online courses reported that their students learned as well or better than on campus students. They report that students' control of skill development and knowledge is now the responsibility of the individual rather than the institution. All of this can be confusing for the new instructor when moving away from the standard classroom.

Instructors may initially question: How do I teach on line? Is teaching and learning different? Is it more difficult than classroom instruction? Concerns for a new online educator are centered on the preparation and support for online instruction. Instructors must now master a new medium of instruction. Questions arise related to the delivery of content, control of the environment, and managing the process of online learning.

Course Development Strategies: establishment of a syllabus with course guidelines provides students with information about the instructor, objectives, outcomes, and policies. Contact information, even including a photo, can create an atmosphere of comfort, allowing students: to put a face to a name. A detailed course description is a necessity as it is the student's first exposure to the course content schedule, assignments, and policies. A policy disclosing academic honesty should be made available to students. The presentation of material should be varied, in addition to PowerPoint slides, include audio/video links, links to relevant web pages, and reference notes to the text that provide an assortment of learning styles. for students. In traditional classrooms mood is set by the instructor; in an online classroom students rely on the written word. I found adding humor makes students feel more comfortable and facilitates further dialogue in chat rooms, discussion boards, and with the instructor.

Lessons Learned:

1. **Communication:** Establish guidelines identifying the type of communication required, such as discussion boards and chat etiquette in public forums. In addition, specific guidelines or expectations must be developed for responses to discussion board questions and other communication.
2. **Discussion assignments:** discussion assignments should include significant cooperation between students. For example, assignments which require only "participation" may not have a clear focus. To facilitate significant input in asynchronous online discussions some guidelines may be useful: students should be required to participate, discussions should be task oriented and engage the learners in the content, and instructors should post guidelines for discussions and pose questions which may have more than one right answer.
3. **Feedback:** Instructors are required to provide feedback. Feedback to students should be of two types; acknowledgement feedback and information feedback.
4. **Deadlines:** Online education allows students to work at their own pace. The establishment of regular deadlines allows students to spend time on tasks while still enjoying the needed flexibility that online education offers.

5. **Independence:** allow students to mold their own learning by allowing flexibility in project topics according to a set of detailed guidelines.

These steps can allow instructors to begin to develop, the needed online teaching tools such as collaboration, planning, and a willingness to use alternative teaching methodologies than those used in face-to-face instruction.

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CHANGING CURRICULUM DESIGN FROM TOTALLY ONLINE TO HYBRID: IMPROVING STUDENT OUTCOMES IN A BACCALAUREATE HEALTHCARE MANAGEMENT PROGRAM

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ABSTRACT

This paper is designed to describe changes made to the online curriculum for Health Care Management students after assessing the student's perceptions about learning online and then evaluating program outcomes. Although students perceived no difference in learning online, their performance in the Exit Interview process was mediocre. After a two year offering of hybrid classes, their performance in the Exit Interview process was vastly improved.

University based online learning has grown exponentially in the last 12 years and while studies have shown success in acquisition of theoretical knowledge little has been studied about knowledge application. Fuqua, Gritzmacher, and Cody (2009) completed a study to identify how students perceived contribution to learning, impact on grades, workload differences, comparison of stress, ability to know the instructor and interaction with other students between their online course experiences and traditional classroom courses. In this study, students preferred online classes for convenience and did not think there was a difference in their learning outcomes. Faculty, however, were not impressed with the students ability to apply theoretical knowledge to actual management situations required in the Capstone course/Exit Interview evaluation.

Faculty adjusted curriculum design away from totally online offerings to hybrid offerings. In the seated classes the faculty could effectively thread the information gained in one course to show applicability to other courses. They identified the building blocks to emphasize the interaction between and among ideas. This contact with faculty who are experience in the field encouraged the student to use the theoretical knowledge gained from the literature and apply it to management situations and planning.

While classes were conducted online, students often needed remediation and reexamination (33%) to successfully complete the Exit Interview. On a scale of zero to forty, the average (mean) grade was twenty-six. After changing the classes to the hybrid format, only 9.3% of students needed remediation and reexamination. The mean grade has risen to 34. While this is an ongoing process and further changes to the curriculum are being considered, this has made a significant impact on our strategic planning for the program.

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CRNA AND FACEBOOK UTILIZATION IN HEALTHCARE

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ABSTRACT

Facebook and other social networking tools have been used to connect hospitals with patients, to use it during surgery and many other uses in the healthcare delivery system. A survey was taken of students in a nurse anesthetist program in a university. Questions were asked about their use of Facebook. The students indicated that they connected with health care groups using Facebook. Most students were willing to grant access to friends, family, and classmates. They were less likely to grant access to prospective or current employers and faculty. Access to patients, strangers, and physicians was even more restricted. Most students were not aware of the school policies related to the use of social networks. The results show that students should be careful about what they post of social networks. They may have repercussions with current employers or future employers.

INTRODUCTION

As of April 2010, 660 hospitals used social network tools, 308 hospitals had YouTube channels, 458 had Facebook pages, 507 had Twitter accounts and 85 had blogs (Bennett, 2010). It is important to note that this is only one segment of the healthcare industry. The term social media is an umbrella term for blogs, social networks, photo video and podcasts (Morrison, 2009). The internet and social networking are not only here to stay but have been considered the healthcare communication channels of the future (Sharp, 2010). To put social media in proper perspective, it is necessary to consider that there are over 500 million users of Facebook in 2010, with 150 million users accessing Facebook from a mobile device. Fifty percent of this 500 million log on daily spend over 700 billion minutes per month on Facebook and shared over 30 billion pieces of content (Facebook, 2010).

Internet has become a rapidly growing communication channel linking patients with other patients, patients with providers and providers with providers. Web 2.0 describes the user-generated content sites like Wikipedia and Yahoo Answers and Health 2.0 is defined as the use of social software to promote collaboration between patients and the medical industry (Morrison, 2009).

Hospitals are beginning to use social media to answer patient questions enhancing customer service and in 2009 there were 367 hospitals it and accounting for 10,000 Tweets from 267 Twitter Accounts (Bowles, 2009; Woods, 2009). In 2010 there were 557 hospitals with social networking sites (Squazzo, 2010). In 2009 Henry Ford Hospital used Twitter to connect with 1900 individuals and answer questions in real time during brain surgery. According to Shirky (2008), these networking sites in hand of the providers and patients will change totally the doctor/patient relationship.

Social networks and providers

Sermo is a social network exclusively for medical practitioners—physicians share research, exchange observations, medical diagnosis and provide support to each other in a confidential environment. Sermo was founded in 2006 and had 111,000 members 2009, while Epocrates started in 1998 has over 200,000 members (Peskin, 2009).

Medscape was started as a social network for physicians and generated a user population close to 100,000 physicians. While discussions include topics related to medical practices and procedure there is also a substantial amount of “gossip” ranging from physician dating to baby mix ups (Morrison, 2009).

Pharma SURVEYOR helps doctors and patients maintain drug records to reduce unintended drug interactions and will conduct “what-if” scenarios evaluating drug combinations (SURVEYOR Health Corporation,

2009). There are numerous sites available to medical providers to communicate with each other Doc2Doc, 1 Healtheva, SocialMD, and many more.

According to Massachusetts Medical Society online social network use among physicians grew from 50% in 2008 to 300% in 2009 among physicians 45-54 (Avitzur, 2009). Another study of physician weblogs use, by the Robert Wood Johnson Foundation found only about one percent of physician blogs contained any information that may be traced to an individual patient (Lagu, 2010).

The advantage of social networks for healthcare professionals is to enhance the ability to facilitate communication among professionals—physician can post problem and have numerous pieces of feedback within a short time frame—also may give a voice to alternative providers, nurses, PA or other professionals, who may feel they do not have an opportunity to express their professional opinions in their traditional environment (Lagu, 2010).

Social networks and patients

Web-based and social media tools making it easier for patients to find health information, locate physicians, set appointments even review their medical records.

Study by Sarasohn-Kahn in 2008 found 60-80% of respondents searched for medical information on line (Sarasohn-Kahn 2008). Social sites like Inspire providing forum for patients share health problems respond/ask questions about treatments with other patients. Purpose driven networks like Patients Like Me in 2008 grew 10% a month with a goal of one million patient participants by 2012 (Swan 2009). Online support group sites like Patients Like Me and Daily Strength provide support communities for patients to connect with others with the same or similar condition.

The Department of Health and Human Services has developed Center for Social Media using social media tools to reach target audiences (CDC, 2008). Websites like Vitals and HealthGrades provide independent physician ratings. ZocDoc lets you book appointments with physicians in New York City.

Some websites provide medical treatment consultation—(American Well, Breakthrough, MyChoiceMD.com) - Swan (2008) found five sites that offered formal interactions with physicians in some form of question and answer forum. Health mega-portals like WebMD and Revolution Health contain information that is reliable and easily accessed.

Pew Internet and American Life Project indicates that 53% of internet searchers looking for health information consult Wikipedia, 37% read medical blogs, 12% use Twitter and 39% use social networking sites (Pew Research Center, (2010). Lo& Parham (2010) have stated that there haven't been any rigorous studies evaluating the impact of social networking on Web 2.0 to coach patients to take an active role in their healthcare.

Facebook alone described by a study between December 2007 and January 2009 identified 757 created groups associated with some medical condition (Farmer et al, 2009).

Social networking and legal issues

Social networking is a revolutionary way of sharing and communicating information which can have a profound impact on the physician/patient, physician/physician and patient/patient relationship but it also produces huge potential legal and ethical issues. Potential downside of social networking is minimum amount of controls—HIPAA and patient privacy—allows use of patient data without their consent for three situations—treatment, payment, health care operations. Social networks don't recognize borders or geographic boundaries, but licensing is a state not federal responsibility.

Study published in the American Journal of Infection Control April 2009 looked at whether Twitter and other social networking tools spread misinformation about health and medicine (California healthcare foundation, 2010). Analyzed over 52,000 Twitter status updates that mentioned antibiotics between March and July 2009. Discovered that out of 52,000 approximately 700 were classified under “misunderstanding and/or misuse” That converts to about 1.3% (California healthcare foundation, 2010).

If you make comments about patients with sufficient specificity that the patient can be identified you most likely are violating HIPAA. We have become such information driven society health providers may guilty of breaching legal and ethical mandates without giving is a second thought. Problems of privacy may be minimized if providers interact via social networks that require registration however it appears that websites do not require verification of claims such as proof of license.

The University of Pennsylvania reviewed 271 medical blogs and found that in general the conversations posed a risk that patient confidentiality could be compromised (Crawford, 2009). Privacy not given enough priority—57% physicians gave enough information to determine their identity, 42% presented patient information.

HIPAA target transactions between providers and insurers (Hartley and Jones, 2004) since most social networking sites are not health providers HIPAA privacy rules may not apply (Sanchez Abril-Cava, 2008). However Nursing 2010 in the Advice section advised that if confidential information about a patient is discussed inappropriately by a nurse at any time a HIPAA violation has occurred. So is HIPAA an issue—yes and no. It is not an issue for individual patients but certainly it is for health providers especially when communicating through a health network.

When individuals use social networking sites like MySpace, Facebook and Twitter they are supplying information to marketing researchers. These researchers data mine and use the information for marketing goods and services in a given area (Sterling 2010). Health care providers who use social networking sites to share information are providing marketing data—ethical considerations.

While rapidly developing technologies like social networking and blogging are changing the way providers communicate with each other and the outside world it presents complexities that challenge medical professionalism, privacy and in some cases tort liability.

Social networking and health professional education

While social networking provides advantages to health students and professionals also raises significant professional issues. Conversations take place in an online setting where private discussions become public interactions challenging the professional mandate to insure privacy and project a professional image (Cain et. al. 2009). Perhaps an extreme but meaningful insight into the complexities associated with insensitive “mass” communication via social networking was demonstrated by Farnan et. al.(2009). in a case study involving medical undergraduate education. The students produced a video in the anatomy lab which was probably an excellent Halloween production with blood drinking from plastic skulls and dancing plastic skeletons but at a minimum was grossly unprofessional and insensitive to the contributing public (Farnan et. al. 2008). Based on responses to a questionnaire survey of pharmacy students Cain et. al.(2009), suggested that there may be a generation gap in online social activities between younger generations and older generations concerning usage, accountability and professionalism. Close to 1/3 of the pharmacy student survey respondents felt that professional students should not be held to a higher standard than the general population regarding their online personas; and while 90% indicated it was important to be cautious with Facebook profiles a third of them indicated that they posted information they would not want a faculty member, employer or patient to see. A significant inconsistency. Cain suggested that perhaps “e-professionalism” issues should be integrated into the pharmacy curriculum. (Cain et.al. 2009)

Social networking conversations may be recorded indefinitely can be searched replicated, altered accessed by others without the knowledge of those in the conversation. (Cain 2009). A serious question that needs to be asked—are students so used to social networking that they ignore the public nature of the communication channel. Nicastro reported that in 2009 60% of 80 medical school deans surveyed reported incidents of students posting unprofessional information on websites (Nicastro, 2009).

The purpose of this research study was to determine the prevalence and use of social networking technologies within CRNA’s students.

METHODS

In this study, we examined students' use of social networking profiles and their perceptions regarding the appropriateness of information they post, as well as how such information is accessed and used by other parties following a modified version of Peluchette and Karl's survey instrument (Peluchette and Karl 2008, 2010).

The present study used a sample of students enrolled in a certified registered nurse anesthetist graduate program at a medium-sized university located in the Midwestern part of the United States. Participation was voluntary. The survey instrument consisted of three sections: (a) demographic items including gender, age, academic major, hours worked per week, and social network use; (b) students' perceptions regarding the image they feel they portray on their social network profile; and (c) students' beliefs regarding who is or should be viewing their social network profiles.

In addition, individuals were asked about the length of time that they have participated in Facebook, number of friends, number of groups belong, number of time log on to Facebook, number of healthcare groups belong, number, and how else they use it.

The students were then asked if they knew whether their school had policies covering student-posted online content, blogs, or social networking sites. Finally, individuals were asked if they had seen any incident that they would consider violation of patients' confidentiality or HIPAA.

Statistical Package for the Social Sciences (SPSS) Version 18 was used to analyze the study data (SPSS IBM Company, 2010). The value, $p < .05$, was the level of significance used during study analysis.

RESULTS

There were 78 responses to the questionnaire. There were 29 (37.2%) males and 49 (68.2%) females. The individuals sampled were predominately Non Hispanic Whites (94.9% (%)) with only one Non-Hispanic Black, one Asian Pacific Islander and two others. The age of the individuals were young with 32.1% of the individual in the 25-29 age category. There were six (6) individuals or 7.7 %, who were 45 or older (see Table 1).

Table 1: Demographic Characteristics of CRNA students

Age	Frequency	%
20-24	8	10.3
25-29	25	32.1
30-34	16	20.5
35-39	10	12.8
40-44	13	16.7
45 or Older	6	7.7
Total	78	100.0%

Questions were asked about the use of social networks. The use was quite prevalent as represented in Table 2. A large percentage of individuals use Twitter and Blogs. Only 84.6% of the individuals used Facebook. This may be due to the recent problems that Facebook has encountered with security and sharing of information.

Table 2: Utilization of twitter, blogs and Facebook by CRNA students

Network	Yes	%	No	%
Twitter	74	94.9	4	5.1
Blogs	70	90.9	7	9.1
Facebook	66	84.6	12	15.4

Table 3 shows the length of time that respondents had use Facebook. Large percentages of individuals used it from 6 months to a year (37.3%) and 1 to 2 years (25.4%). Also, a large percentage (26.9%) of individuals has used it over 3 years.

Table 3: Participation in time in Facebook by CRNA students

How Long Been Participating in Facebook	Number	%
Less than 6 months	3	4.5%
6 months to 1 year	25	37.3%
1 to 2 years	17	25.4%
2 to 3 years	4	6.0%
Over 3 years	18	26.9%
Total	67	100.0

Respondents were asked how many friends they had on Facebook. The responses showed a wide disparity (see Table 4). Large percentages of individuals (31.7% and 39.8% respectively) had 101-200 friends and 201-500 friends. In fact, 9.5% of the individuals had over 500 friends. In contrast 11.1% had less than 50 with 7.9% having 51-100 friends.

Table 4: Number of friends on facebook by CRNA students

How Many Friends on Facebook	Number	%
Less than or equal to 50	7	11.1
51-100	5	7.9
101-200	20	31.7
201-500	25	39.7
Over 500	6	9.5
Total	63	100.0

Respondents were asked how often they log on Facebook. Table 5 Shows the majority of individuals logged on at least once a day with 25.4% over 3 times a day and 34.3% one or two times a day. Only 14.9% said that they logged on less than once a week. From the data, it appears that most individuals perceive logging on as a daily or weekly routine to “catch up with friends”. Thus, use of Facebook is fairly routine event.

Table 5: Frequency of log ons in Facebook per day and/or per week by CRNA students

How Often do you log on Facebook	Number	%
Over 3 times a day	17	25.4
1 or 2 times a day	23	34.3
2or 3 times a week	12	17.9
Once a week	5	7.5
Less than once a week	10	14.9
Total	67	100.0

The respondents to this survey were students studying to be CRNA's. The respondents were asked how many health care related groups on Facebook were they members. Only 4 (14.8%) had no memberships. Most individuals belonged to 1 or 2 groups. This would suggest that most students found some interest in using this social networking tool for a professional reason. Table 6 provides the results.

Table 6: Number of healthcare related groups reported by CRNA students

How Many Health Care Related Groups on Facebook	Number	%
None	4	14.8
1	10	37.0
2	7	25.9

3	4	14.8
5 ≥ 10	2	7.4
Total	27	100.0

Individuals were asked about their concerns in various groups accessed their Facebook profile. Specifically, “I would have no concerns with ----- accessing my Facebook profile. The results are given in Table 7. The results suggest that most individuals have no problem with friends, family and classmates accessing their profile. The results reveal that this is not the same for employers, faculty, physicians, patients, and strangers. For prospective or current employers responses are spread out about equal across the spectrum. Access for faculty was slightly more receptive with 50.0% at moderately or strongly agrees. The students were less likely to want to give patients access (53.9% was strongly or moderately disagree). Strangers were not wanted with vast majority of the responses (74.3%) being strongly or moderately disagree. Physicians were somewhat spread out across responses. The percentage for strongly or moderately agree was 43.4%. In summary, friends, family, and classmates are welcomed, whereas, faculty, employers, physicians are less welcome. Patients and strangers were not welcome.

Table 7: Access given to individuals by CRNA students

Group	Strongly Disagree	Moderately Disagree	Neither Agree Nor Disagree	Moderately Agree	Strongly Agree
Friends	4 5.1%	4 5.1%	6 7.7%	23 29.5%	41 52.6%
Family	4 5.1%	4 5.1%	3 3.8%	25 32.1%	42 53.8%
Classmates	3 3.8%	6 7.7%	7 9.0%	21 26.9%	41 52.6%
Prospective or Current Employer	16 20.5%	12 15.4%	16 20.5%	13 16.7%	21 26.9%
Faculty	10 13.2%	13 17.1%	15 19.7%	15 19.7%	23 30.3%
Patients	26 34.2%	15 19.7%	13 17.1%	6 7.9%	16 21.1%
Strangers	44 56.4%	14 17.9%	9 11.5%	3 3.8%	8 10.3%
Physicians	12 15.8%	11 14.5%	20 26.3%	13 17.1%	20 26.3%

The next section dealt with items of controversy and school policies. Individuals were asked if there were things that they would not want current or future employers to see. Sixteen individuals (21.3%) said that they had photos they would not want shown. Seven individuals (9.3%) stated that they had comments they would not want shown. Also, individuals were asked if they had seen any items posted by fellow students that they would consider unprofessional. Twenty-four individuals (30.8%) said that they had been items considered unprofessional. Only one individual stated that they had seen such a violation of patients’ confidentiality or HIPAA incident. The types of incidents were examined. Table 8 lists the type of unprofessional incidents seen. The largest type was profanity, followed by intoxication.

Table 8: Type of incident report by CRNA students

Type of Incident	Number	%
Profanity	16	57.1
Language	3	10.7
Intoxication	8	28.6

Negative comments about organization	1	3.6
Total	28	100.0

The results are given in Table 9. For both on-line content and blogs, the majority students did not know whether the school had any policy.

Table 9: Knowledge of school policies given by CRNA students

Policies	Yes	%	No	%	Don't Know	%
Professionalism policies cover on-line content	4	5.1	3	3.8	71	91.1
Address blogs and social networking sites	4	5.1	4	5.1	70	89.7

DISCUSSION/ CONCLUSION AND PRACTICAL IMPLICATIONS

Social networking sites are here and are being used on a regular basis. The vast majority of the respondents in this survey uses these sites with most of them logging on daily and has been doing so for a long period of time. The sites are used to keep up with friends, family, etc. The data suggests that Facebook is a important tool to connect of a large group of people. Most students had no problem with friends, family, and classmates accessing their profiles. There was more concern with physicians, faculty, and employers. Allowing patients to access the file was mixed, with strangers a strong no.

Problems arose with some people having posting pictures and comments that the individuals would not want seen by current or prospective employers. There were also incidents of unprofessional behavior by the use of profanity or intoxication. Most students do not know whether their school had a policy regarding the content of social networks or their use. As a teaser at the end of the paper we should make some comment about whether it is appropriate to incorporate social networking issues into the curriculum for Certified Registered Nurse Anesthetists.

CONCLUSION

Facebook is a social networking tool that has been used for some time. The results show that students should be careful about what they post of social networks. They may have repercussions with current employers of future employers. Students should be made aware of school policies. If schools do not have policies, then they should consider developing them. The major responsibility for appropriate conduct rests with the user.

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TRANSPARENCY IN LEARNING AND ASSESSMENT: THE USE OF E-PORTFOLIOS

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ABSTRACT

Franklin University, founded in 1902, is an accredited non-profit institution of higher learning, offering three undergraduate healthcare management majors, and, in 2011 a Master's in Healthcare Administration (MHA) and a Bachelor of Science in Nursing.

How do we know if students graduating from our healthcare administration programs have the necessary knowledge and competencies to be successful in healthcare administration? To answer this question, Franklin University will use ePortfolios. Many educational programs have embraced electronic portfolios as a learning and assessment tool. However, they are rarely used in healthcare educational programs.

The ePortfolio tool will assess six aspects of the student learning experience in the MHA program: communication, management, and leadership skills, business planning and management, quantitative knowledge, and assessment of the healthcare educational experience. Students will meet two times during the course of study. The timeline of the portfolio building, facilitation, and evaluation are illustrated below.

Timeline	Program Stage	Assessment Stage	Review Body
Beginning of the MHA program	MHA program orientation	Introduction to the portfolio assessment structure and elements.	Internal reviews
In the middle of the MHA program	Program progress check	Portfolio progress check – review and planning.	Internal reviews
By the end of the MHA program	Program wrap up and review	Presentation and evaluation of the Portfolio	External and internal reviews

Over the course of time the Master's in Healthcare Administration program plans to gather data and results to assess the efficacy of portfolios as an effective learning and assessment tool in healthcare administration. Results will be shared periodically through professional associations and professional social media reporting.

INTRODUCTION

How do we measure if students are making progress with the required knowledge and competencies necessary to be successful in healthcare administration? How do we periodically assess the nature and level of deficiencies in order to provide the needed scaffolding for the students? As educators we have a responsibility to ensure we are preparing students for the complexities of managing healthcare organizations. Aside from that, in order to become a recognized accredited program, The Commission on Accreditation Healthcare Management Education (CAHME) specifies in its Accreditation Criteria, programs will monitor, document, and measure student competencies and knowledge, using “a range of assessment methods driven by adult learner principles”. (The Commission on Accreditation Healthcare Management Education retrieved from the internet January 11, 2011).

The concept of transparency in learning and teaching promotes the benefits of making learning and formative assessment visible. Electronic portfolios are recognized by educators as one of the ways to achieve the goal of making learning and assessment visible. Multiple purposes of accountability, assessment, and support for learning have been entrenched in the practice of electronic portfolios in higher education (Fagin, Hand, & Boyd, 2004; Barrett, 2004). According to Hassall ePortfolios are broadly defined as “purposeful collections by their owners”, who electronically present their various types of artifacts as evidence of their learning activities to different

audiences (Hassall, 2008). Lorenzo and Ittelson define ePortfolios as “a digitized collection of artifacts including demonstrations, resources, and accomplishment” used as an administrative tool, a source of individual reflection, exchange of ideas, and feedback. (Lorenzo and Ittelson) (An Overview of ePortfolios; Educause Learning Initiative: ELI Paper July 2005; retrieved January 2010 from Internet.)

Many educational programs have embraced electronic portfolios as a learning and assessment tool. However, they are only rarely used in healthcare educational programs.

This paper will describe how the Master of Healthcare Administration Program at Franklin University proposes to use ePortfolios as a learning and assessment tool to promote student learning and to measure the knowledge and competencies of students enrolled in its program.

FRANKLIN UNIVERSITY

Franklin University has served the higher educational needs of central Ohio for over 100 years. Accredited by The Higher Learning Commission of the North Central Association of Colleges and Schools, and the International Assembly for Collegiate Business Education (IACBE), Franklin University is a leader in adult education ascribing to:

- Ensuring academic quality
- Providing access to educational opportunities
- Adapting to the needs of students, and
- Responding to changes in society, professions, and the business community

Annually 11,000 students attend Franklin University. The University’s student body is diverse in both background and experience. The average age of the undergraduate is 32, and the average age of a graduate student is 36. Student’s participant in classes from across the country and around the world via face-to-face and online courses and majors.

Franklin continually seeks new ways to provide educational opportunities to busy, working adults and it would only seem appropriate that an ePortfolio tool would meet both the needs of these students as well as the University’s and the MHA Program as a learning experience and assessment tool.

HEALTHCARE MANAGEMENT PROGRAMS

Currently there are over 550 students enrolled in three undergraduate healthcare majors:

- Allied Healthcare Management
- Healthcare Management, and
- Healthcare Information Systems Management

Organizationally the majors fall within the Department of Health and Public Administration. The Department is scheduled to become its own college within the University in 2011. The Healthcare Management major is an Association member of the Association of University Programs in Healthcare Administration and a member of the Higher Education Network of the American College of Healthcare Executives. A Master of Healthcare Administration and a RN-BSN program are scheduled to start in the fall 2011.

The master of healthcare administration program:

During the recent economic downturn the healthcare industry has been one of the few bright spots in terms of employment. Regionally in central Ohio, major healthcare employers have announced significant expansion programs which will add thousands of healthcare positions. As this planned expansion continues there will be the need for more healthcare managers to lead both expanded existing and new programs. The Department of Labor indicates healthcare management positions will grow faster than the average management position in the future (www.dol.gov). This potential growth in healthcare management positions has been reflected in the growth of the undergraduate healthcare management programs at Franklin University, which reflect over a twenty (20%) growth

each year over the past three years. Given the current national emphasis on healthcare reform, changing demographics, and medical advances it would be only reasonable to expect the need for healthcare managers will grow at a rapid pace.

TARGET AUDIENCE

While BA and BS degrees are essential for entry level positions in healthcare, it has become increasingly important to have a master's degree if one wants to move up in any healthcare related organization. To that end the proposed Master of Healthcare Administration Program will target adult learners who want to broaden their knowledge and improve their skill base in order to advance. The primary target audience for the Program includes healthcare organizations, physician practices, pharmaceutical companies, health insurance companies, management consulting, medical equipment suppliers, banks and other financial institutions, long-term care facilities, professional societies and state and federal agencies.

CULMINATING PROGRAM EXPERIENCE

The Program will promote high-quality, professional healthcare management education to support and improve the delivery of healthcare services by developing graduates who will have the appropriate education, experience, communication skills, general management skills, leadership skills, business planning skills, and quantitative skills that will fit the organizational objectives employers are seeking in the complex world of healthcare delivery.

Program description:

The Master of Healthcare Administration at Franklin is intended to provide the student who wants to excel as a leader in the delivery of healthcare services with a broad conceptual understanding of the healthcare industry and who recognizes the importance of life-long learning and career development.

The Program is expected to provide students with a learning environment that integrates individual student perspectives from an array of disciplines and from a variety of healthcare settings and other sources. The Program is intended to prepare these individuals to lead and manage by bringing together healthcare management and business theory and practices in a business model.

The focus of the Program is on working managers and professionals from a variety of disciplines who have 3-5 years or managerial experience in the workplace.

Curriculum Design: The MHA Program is uniquely designed for the busy professional. The curriculum and course work is carefully planned to respond to the ever-changing world of healthcare. All courses are designed to be applicable to diverse environments and healthcare settings. Learning methodologies include case studies, lectures, team projects, and culminating in a portfolio capstone project incorporating the outcomes expected in the Master's. The curriculum will be that of blended study with two one and half day on-site sessions during the course of the Program. Forty credit hours in an eighteen (18) month cohort environment are required for graduation. The Program will utilize the on-line resources of Franklin University as the primary source of off-campus study and communication between the student(s) and faculty. Through this medium assignments and projects will be discussed and completed, announcements made, meetings held, and informal communications between faculty and students, and students to students will be facilitated.

Program mission and competencies:

The mission of the MHA Program is to meet the intellectual and career objectives of healthcare professionals who: 1) want to excel as leaders in the delivery of healthcare services, and 2) recognize the importance of life-long learning and career development in healthcare management as a career choice.

The MHA Program has adopted a competency model which reflects the competencies and skills sets using the National Center for Healthcare Leadership (NCHL) competency model. The MHA competency model

comprises three (3) areas and twenty-six (26) competencies relevant for graduate study: Leadership, Management, and Problem-Solving. (www.nchl.org)

The Leadership area includes those skills required to help individuals make decisions, motivate others, and manage change:

- Accountability
- Change Leadership
- Impact and Influence
- Information Technology
- Relationship building
- Self-confidence
- Collaboration
- Communication skills
- Self-development
- Team leadership
- Community orientation

The Management area includes those skills necessary to optimize the management of healthcare organizations:

- Organizational awareness
- Performance measurement
- Process management and organizational design
- Project management
- Human resources management
- Interpersonal understanding
- Professionalism
- Talent development

The Problem-solving area is intended to provide students with those skills necessary to achieve tangible and long-lasting organizational results:

- Analytical thinking
- Financial skills
- Information seeking
- Innovative thinking
- Achievement orientation
- Strategic orientation

E-PORTFOLIOS

Going back to the original question posed at the start of this article: How do we know if students graduating from our healthcare administration programs have the necessary knowledge and competencies necessary to be successful in healthcare administration? We propose the use of ePortfolios to answer that question.

ePortfolios are not a new idea in higher education. Evolved from traditional portfolios, many institutions in the new Millennium have been embracing electronic portfolio systems in various areas of higher education with multiple purposes of accountability, assessment, and support for learning. Currently, there has been no statistics collected to record the number of higher education institutes using ePortfolio; however, a glimpse into the usage of several ePortfolio platforms give us a general idea of the popularity of ePortfolio in teaching and learning. Up to 2010, over 500 colleges, universities, and higher education organizations used LiveText (a closed source ePortfolio system) to measure and evaluate student learning. Launched as an open source effort in 2006, Mahara, a free and open ePortfolio system, has been adapted by a similar number of institutes. These institutions, as Strudler and

Wetzel predicted in 2005, have implemented portfolios mainly for three reasons: to identify areas that need improvement; to demonstrate the alignment of curriculum and student outcomes with state and national standards; and to make learning visible. The latter two purposes, making learning visible and aligning with assessment efforts, tie closely to the notion of transparency in learning and assessment. These concepts will be elaborated on in a later section.

E-PORTFOLIO AS AN INSTRUMENT TO SUPPORT TRANSPARENCY IN LEARNING AND ASSESSMENT TO MEET ADULT LEARNERS' NEEDS

Compared to ePortfolio, the concept of transparency in learning and assessment is a newly introduced concept to academia. Mary Kalantzis, President, of the Australian Council of Deans of Education, raised the question on the methods schools can use to become knowledge producing communities and not just receivers and transmitters of knowledge. One notion of achieving this is through promoting openness and transparency in learning communities. Transparency has been historically a term used in human-computer interaction. Working on a project on socially guided machine learning, dePalma (2010) from Georgia Institute of Technology describes it as a term that “is applied towards mechanisms that allow the user to peer into the internal working state of the machine and provides the ability to modify that state.” Translated into plain English, transparency is where internal workings are made visible. Electronic portfolios, with its features to nurture individual learning, implement formative assessment and hold accountability, are an instrument that has the potential to embrace transparency in learning and assessment. While it has a wide application in education, it has been adapted especially to meet the needs of adult learners.

As mentioned previously, the majority of Franklin University students are adult learners: the average age of the undergraduate is 32, and the average age of a graduate student is 36. Cercone (2008) identified one of the prominent characteristics of adult learners as having the “need to be active in the learning process.” The practice of transparency in learning and assessment makes the cognitive learning process visible to both evaluators and students. More important, it makes the associated assessment visible to identify successes and deficiencies, so students can make adjustments accordingly. Another characteristic identified, “adults need to self-reflect on the process of learning for transformational learning.” (pp. 23) Self-reflection is a way to make the inner cognitive process visible. ePortfolios have been recognized for its ability to support the learner’s self-reflection (Hassall, 2008). The adult learner also “requires a climate that is collaborative, respectful, mutual, and informal.” (pp. 22) Such an atmosphere can be created using ePortfolio to promote periodical and formative evaluation.

E-PORTFOLIO AS AN ASSESSMENT TOOL AT FRANKLIN UNIVERSITY

Assessment at Franklin University is an ongoing, faculty-driven process aimed at helping Franklin understand and improve student learning. Efforts are directed toward the improvement of institutional effectiveness and have evolved to be not only thorough and comprehensive, but also manageable and effective.

To fulfill this goal, Portfolio assessment will be used in the MHA program at Franklin University to review, understand, facilitate and evaluate the learning of a student over a period of time. The use of Portfolio assessment also will include the evaluation of program outcomes by internal and external reviewers. To be specific, the use of portfolio assessment will serve three purposes:

Curriculum—We believe using portfolios will enable program faculty to broaden their curriculum to include areas they traditionally could not assess such as leadership, communicate skills, etc. Program faculty can also base their design/re-design of courses on the evidence portfolios collect.

Instruction & Learning—Portfolio assessment appears to compliment the use of instructional strategies centered on teamwork, projects, and applied learning. Portfolios are student centered, which allows for engaging students in self-reflection.

Assessment—Portfolios allow for internal and external reviews. For internal review, it allows for an extended view of growth in learning, understanding, and application. It also allows for an extended view and assessment of the process as well as the product. For external review, it allows for external assessors— evaluation panels, employers, and so on to have access to the students’ product. For accreditation, the culmination of the students’ portfolios can provide strong evidence they have met the competencies established by the program.

The portfolio assessment will assess six aspects of the MHA program including communication skills, managerial skills, leadership skills etc. Each assessment area and evaluation effort will be tied to the each course to facilitate and collect evidence. The portfolio assessment structure is illustrated as below:

Assessment Area	Courses
Communication Skills	MBA 713-Human Resources
Managerial Skills	MHA 735-Healthcare Delivery Systems MHA 762-Global Health MHA 735-Healthcare Delivery Systems
Leadership Skills	PSYC 603-Managerial Psychology MHA 742-Health Law and Ethics
Business Planning & Management	MHA 772-Healthcare Strategic Management MHA 752-Health Policy
Quantitative Knowledge	MBA 733-Financial and Managerial Accounting MHA 745-Healthcare Financial Management
Assessment of Healthcare Education Experience	MHA 772-Healthcare Strategic Management

Table 1.1 *ePortfolio Components: Assessment Area and Courses*

The portfolio will be built, facilitated and evaluated throughout the program. As the students will meet two times during their study in the MHA program, part of the two face-to-face meetings will be used for portfolio building and evaluation purposes. The timeline of the portfolio building, facilitation and evaluation is illustrated as below:

Timeline	Program Stage	Assessment Stage	Review Body
Beginning of the MHA program	MHA Program Orientation	Introduction to the Portfolio Assessment structure and elements.	Internal reviews
In the middle of the MHA program	Program progress check	Portfolio progress check – review and planning.	Internal reviews
By the end of the MHA program	Program wrap up and review	Presentation and evaluation of the Portfolio	External and internal reviews

Table 1.2 *Assessment Time Line of ePortfolio*

In summary, student portfolios as a program evaluation tool tie directly to four strategies of the 2009 Franklin University Assessment Strategy Planning. MHA student portfolios provide the ability to facilitate the following assessment efforts:

1. Portfolio assessment provides a multi-faceted assessment model.
2. Portfolio assessment is a streamlined process.
3. Portfolio assessment provides stronger linkages between assessment and curriculum re-design.
4. Portfolio assessment provides transparency to all stakeholders.

CONCLUSION

Along with students there are many stakeholders expecting healthcare management programs to provide graduates with the necessary knowledge and competencies to be successful in their careers. One such method educational institutions have used have been portfolios. Franklin University proposes to use ePortfolios as both a learning and assessment tool in its Masters of Healthcare Administration Program. The Program plans to gather data and results over a period of time to assess the efficacy of portfolios as a truly effective learning and assessment tool in healthcare administration. Results will be shared periodically through professional associations and professional social media reporting.

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TRACK
PHARMACOECONOMICS,
PHARMACEUTICAL INDUSTRY,
AND
WELLNESS

THE EFFECT OF DIRECT ADVERTISING TO CONSUMERS (DTCA) ON MARKET SHARE AND QUANTITY IN PHARMACEUTICAL DRUGS, AND CONSUMER WELFARE

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ABSTRACT

The purpose of this paper is to investigate the effects of direct advertising and promotion to consumers (DTCA) in pharmaceutical drugs industry. In this paper, we address the following two important questions:

(1) Is there a statistically significant effect of direct advertising to consumers (DTCA) on market share? Our results will either support or refute the proposition advanced by medical providers and insurers.

(2) Is there a statistically significant effect of DTCA on quantity? Our results will either support or refute the proposition of the pharmaceutical firms.

Our empirical results show that there the effect of DTCA on market share is substantial and significant, and the effect of DTCA on quantity is less pronounced and marginally significant. Accordingly, the empirical results demonstrate empirical support for the propositions argued both by the pharmaceutical firms and by the medical providers and insurers.

INTRODUCTION

The purpose of this paper is to investigate the effects of direct advertising and promotion to consumers (DTCA) in pharmaceutical drugs industry. The effects of prescription drugs advertising have been riddled with controversy. Proponents argue that DTC advertising primarily has a market-expanding effect: the ads inform consumers of new treatment options and, therefore, generate new doctor visits. If true, this could improve patient welfare, because many diseases are under diagnosed. According to this proposition, the DTC effect would be found mainly on quantity demand (and not on market share). Opponents argue, however, that DTC advertising has a business-stealing effect that misleads patients in to demanding heavily advertised drugs, leading to inappropriate drug use and the unnecessary purchase of expensive drugs. Not surprisingly, pharmaceutical firms support the former position, while insurers and medical providers generally agree with the latter view. According to this proposition, the DTC effect would be found mainly on market share (and not on quantity demand).

From the research perspective, there are three interesting questions that have practical implications. First, is there an effect of direct advertising to consumers (DTCA) on market share? If there is such an effect then that establishes some support for proposition of the medical providers. Second, is there an effect of DTCA on quantity demand for the product category and brands? If there is such an effect then that establishes some support for proposition of the pharmaceutical firms. Third, is there an effect of DTC on both quantity demand and share simultaneously? If there is an effect on both quantity demand and share then that establishes some support for both the propositions.

In this paper, we address the following two important questions:

(1) Is there a statistically significant effect of direct advertising to consumers (DTCA) on market share? Our results will either support or refute the proposition advanced by medical providers and insurers.

(2) Is there a statistically significant effect of DTCA on quantity? Our results will either support or refute the proposition of the pharmaceutical firms.

There have been several analytical and empirical studies that examine the effect of consumer advertising on market share but most of such studies have been in other product categories. However, this study focuses on the pharmaceutical drugs category. Pharmaceutical drugs product category is different and unique in many ways. First, products in pharmaceutical industry cannot be placed in the market without detailed examination and explicit regulatory approval from the Food and Drug Administration (FDA.) The approval process consisting of three phases – Phase I, Phase II and Phase III – is quite often long and complex. The FDA has to issue a New Drug Approval (NDA) order before the product can be placed in the market. The FDA also determines and regulates whether a drug should be prescribed by a physician (Rx) or can go directly to the counter (OTC). Finally, the FDA also determines whether a drug should continue to be prescription driven even when it is placed OTC.

Second, advertising in the pharmaceutical drugs category is also regulated. Advertising and promotion in pharmaceutical industry come in two forms – advertising to physicians (DTP), and direct advertising to consumers (DTC). There is a substantial history of regulatory legislation and guidelines with regard to DTC – the subject of our interest and this study.

Given all these factors, and the fact that health care and pharmaceutical drugs constitute a very significant component of our economy, the investigation of advertising effects on market share is important and worthy of our attention.

The rest of this paper is organized as follows. First, we provide a brief overview of the relevant literature. Next we describe the data, and the statistical models. We follow this with presentation of the empirical results and a discussion of the results. We close with identification of future research needs.

BRIEF OVERVIEW OF RELEVANT LITERATURE

The effects of advertising in the pharmaceutical industry have been studied by several scholars. In a study, Berndt et al. (1995) found that the sum of the elasticities of direct marketing efforts at the category level is about 0.76, suggesting decreasing returns to scale to overall advertising at the product category level. They examined the branded anti-ulcer (H2-antagonist) prescription drugs up through May 1994.

Wosinska (2001), and Ling, Berndt and Kyle (2002) examined the data after the FDA's 1997 clarification of DTCA guidelines. Wosinska found that that direct advertising efforts to consumers positively impact total therapeutic class sales, but only impact an individual brand positively if that brand has a preferred status on the third party payer's formulary.

Ling, Berndt and Kyle (2002) found that within the prescription drugs market, DTP has positive and long-lived impacts on market shares but DTCA has no significant impact on market share.

Kalyanaram (2009) finds that there is a positive and significant effect of DTCA on market share when advertising decision is modeled as an endogenous decision. In another study also, Kalyanaram (2008) found significant DTCA effect on market shares of both prescription and the over-the-counter pharmaceutical drugs, though such effect was different in magnitude in prescription and OTC drugs.

In a recent study, Dave and Saffer (2010) find that “broadcast DTCA positively impacts own-sales and price (elasticities of 0.10 and 0.04 respectively), while non-broadcast DTCA has a relatively smaller impact on both.” Further, simulation studies by the authors suggest that “expansions in broadcast DTCA account for 19% of the overall growth in prescription drug expenditures, with two-thirds of this impact driven by an increase in demand and the remainder due to higher prices.”

In marketing literature, there has been extensive work on measuring the effect of advertising on market share and demand. For example, managers, advertising practitioners and researchers have affirmed the significant effects of advertising on demand and market share (Corkindale and Newall 1978, Ghosh et. al. 1984, Simon and

Arndt 1980, Steiner 1987, Bronnenberg 1998, Vakratsas and Ambler 1999, Hanssens et. al. 2001, Vakratsas et. al. (2004). These academic studies have generally concerned themselves with frequently purchased, mature product categories, where the competitive environment is stable and, advertising budgets are set.

DATA

In this study, we examine the annual data for six years, 1997-2002, for four therapeutic classes of prescription drugs. The prescription (Rx) drug categories are: recent anti-depressants (SSRIs plus serotonin/norepinephrine reuptake inhibitors (SNRIs)), proton pump inhibitors (PPI), antihistamines drugs, and statins. These drugs are fairly general in application: they treat a large variety of ailments, are indicated for different patient populations and are prescribed by a number of different clinical specialties.

The anti-depressants category consists of six brands. The brands and their FDA approval dates are Celexa (1998), Serzone (1994), Effexor XR (1993), Paxil (1992), Zoloft (1991), and Prozac (1987). The proton pump inhibitors (PPI) category consists of three brands. The brands and their FDA approval dates are Aciphex (1999), Prevacid (1995) and Prilosec (1989). The antihistamines category consists of five brands. The brands and their FDA approval dates are Astelin (1996), Allegra (1996), Zyrtec (1995), Semprex-D (1994), and Claritin (1993). The statins category consists of five brands. The brands and their FDA approval date are Zocor (1996), Pravachol (1993), Lescol (1991), Lipitor (1991), and Mevacor (1991). So we have a total of 19 brands. These drugs are fairly general in application: they treat a large variety of ailments, are indicated for different patient populations and are prescribed by a number of different clinical specialties. The four drug classes were chosen to capture the market for commonly prescribed brand-name drugs for four common chronic conditions, and represent a significant share of the pharmaceutical market. Degree of substitutability and lack of generic substitutes were also important considerations.

Sales in units and physician detailing data were obtained from a health care consulting firm, Verispan. Average price was obtained from Pharmaceutical Red Book. The advertising and promotion directed to the end-consumer (DTCA) was obtained from Competitive Media Reporting(CMR). FDA Orange book provided the data regarding the dates of approval and market entry of each one of the drug brands. Market shares were constructed from product-level data on sales for the drugs in each of the four classes.

STATISTICAL MODEL AND CALIBRATION

We model overall market share in each period as a function of price and advertisement efforts modified by order of entry effect. All variables except order of entry are expressed as ratios to the first brand to enter the category. The formal equation is:

$$S_{it} = (E_i^{\alpha})(Qual_i^{\lambda})(P_{it}^{\beta})(DTP_{it}^{\delta})(DTCA_{it}^{\eta}) \quad (1)$$

where:

S_{it} represents the market share of the i^{th} entrant as a ratio of the market share of first entrant in the category i at time t

E_i represents the order of market entry (2, 3, 4, 5 ...) of the brand i

$Qual_i$ represents a measurement of the perception of the quality of the brand i

P_{it} represents the price of the i^{th} entrant as a ratio of the price of first entrant in the category i at time t

DTP_{it} represents the advertising effort directly to the physicians of the i^{th} entrant as a ratio of the advertising effort (DTP) of first entrant in the category i at time t

$DTCA_{it}$ represents the advertising effort directly to the consumers of the i^{th} entrant as a ratio of the advertising effort (DTCA) of first entrant in the category i at time t .

$$Q_{it} = (E_i^{\alpha})(Qual_i^{\lambda})(P_{it}^{\beta})(DTP_{it}^{\delta})(DTCA_{it}^{\eta}) \quad (2)$$

Where:

Q_{it} represents Quantity sold for brand i at time t .

The multiplicative forms of share and quantity models allow for nonlinear response and interaction effects between the variables.

The share and quantity models developed above are linear time series cross-sectional models from the estimation point of view. We linearize the basic terms of equations by taking logs of both sides of them. Taking log on both sides of the above model, we have the following specification:

$$\log(S_{it}) = (\alpha)\log(E_i) + (\lambda)\log(Qual_i) + (\beta)\log(P_{it}) + (\delta)\log(DTP_{it}) + (\eta)\log(DTCA_{it}) \quad (3)$$

$$\log(Q_{it}) = (\alpha)\log(E_i) + (\lambda)\log(Qual_i) + (\beta)\log(P_{it}) + (\delta)\log(DTP_{it}) + (\eta)\log(DTCA_{it}) \quad (4)$$

Since we do not have quality measurement for the brands, we use brand-specific constants to account for the quality measure. Of course, the brand-specific constants would also account for other (other than the quality measure) variations unique to the brand.

$$\log(S_{it}) = (\omega_i)(B_i) + (\alpha)\log(E_i) + (\beta)\log(P_{it}) + (\delta)\log(DTP_{it}) + (\eta)\log(DTCA_{it}) \quad (5)$$

B_i now represents the brand-specific constants for each of the brands. However, we now have an individual parameter, (ω_i) , associated with each brand-specific constant (B_i).

Since there are a total of 19 brands in the four categories, the total number of brands with the ratio data is 15 brands (one brand is the pioneer in each one of the three categories). Hence, we incorporate 14 brand-specific constants (15 brand-specific constants would lead to singularity).

EMPIRICAL RESULTS AND DISCUSSIONS

Our empirical results show that the effect of DTCA on market share is substantial and significant, and the effect of DTCA on quantity is less pronounced and marginally significant. Accordingly, the empirical results demonstrate empirical support for the propositions argued both by the pharmaceutical firms and by the medical providers and insurers. These results are consistent with the findings of Kalyanaram (2008, 2009 and 2010) and the recent findings of Dave and Saffer (2010).

However, additional research is required to decompose the effects of DTCA on market share and quantity demanded. Modeling the effect of direct advertising as simultaneous effect on both quantity demand and share will be a productive approach.

The study may benefit from more sophisticated estimation methodologies such as varying-parameters approach, inclusion of heterogeneity, and Bayesian updates. In this varying-parameter methodology, the parameter estimates are dynamically and more flexibly estimated and therefore, the estimates would be theoretically superior. Another estimation methodology that could be productively employed is incorporation of heterogeneity in the parameter estimates, and, of course, this is a powerful approach that would produce unbiased estimates. A third approach would be to adopt a Bayesian methodology where the estimates are updated based on the new information about data.

While it is likely that more sophisticated estimation methodologies would provide slightly better estimates, many empirical studies have shown the OLS estimates to be quite robust.

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PHARMACEUTICAL PROMOTIONS AND THE PHYSICIANS-PATIENT RELATIONSHIP: PATIENT ORIENTATION OR PHYSICIAN ORIENTATION?

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ABSTRACT

This paper investigates the means that pharmaceutical organizations use to diffuse medical information, and examines the effects of the process on the physician-patient relationship. For pharmaceutical firms, a *patient orientation* can clearly be useful in determining a promotional approach when patients desire much greater information. Moreover, this approach may be able to promote compliance and result in better outcomes. On the other hand, a *physician orientation* may be preferable when treatment regimes and choices are particularly complex. In these cases, the physician has a more difficult diagnostic task in having to weigh benefits against side effects, and consider alternative drug treatment choices. This could also result in better outcomes.

These alternative paths for diffusing medical information pose difficult choices for pharmaceutical firms. There are potentially both positive and negative effects of these information-directed strategies on physicians-patient relationships. A decision model is proposed to enhance physician-patient relationships and pharmaceutical decision-making as to the use of promotional tools. Research propositions are advanced to clarify issues and develop guidelines for studies to test the proposed model. Implications for pharmaceutical strategies are then discussed and public policy questions are raised.

INTRODUCTION

In an era of greater patient autonomy and patient choice, informing patients has clearly become a critically important priority within medical systems. Proponents of direct to consumer (DTC) pharmaceutical advertising argue that better informing patients can improve the functioning of medical systems. However, what is characterized as the “informed patient” may simply reflect changing social norms, including the desire for increased consumer choice, a demand for greater physician accountability, and the widespread (and increasing) usage of digital information tools to access new sources medical information (Fox & Jones 2009).

The problem is that the discussion of strategies to inform and therefore empower patients seldom explicitly examines the implications of information strategies on the key element of the health care system, namely the physician-patient relationship. The issue is an important one, since it is now largely accepted that the physician-patient relationship is a central component of effective medical practice. The primary responsibility for informing patients, however, frequently rest with physicians and their affiliated healthcare organizations.

Given the changes in the physician-patient relationship and the social changes ensuing from the development of information technologies, there may be alternative and better paths for diffusing medical information. Patients and providers each have different perspectives; and the way that different medical systems function in terms of cost and quality is additional concern to improving treatment (Kay 2007). Pharmaceutical companies offer a different role within the US healthcare system in diffusing medical information, since advertising by pharmaceutical firms is permitted in the US. The problem is that physicians often have negative views of DTC pharmaceutical advertising. And there are potentially disruptive effects of this advertising on the physician-patient relationships.

Pharmaceutical companies clearly face difficult choices in taking steps to diffuse medical information. They can either attempt to empower patients with information, or through traditional detailing approaches, they can emphasize the process of getting information to doctors about new medications, taking a traditional approach. New

technologies create opportunities for informing doctors and patients, and discussion of feasible options should be considered.

This paper examines both the positive and the negative effects of information-directed strategies by pharmaceutical companies on physicians-patient relationships. A new pharmaceutical promotional model is proposed that can potentially enhance physician-patient relationships and enhance decision-making. Research propositions are advanced to clarify issues and develop guidelines to test the proposed model. Implications for pharmaceutical strategies are then discussed and public policy questions are raised.

THE PATIENT-PHYSICIAN RELATIONSHIP

The patient-physician relationship has been subject to considerable research attention over the past two decades. In the medical literature, discussion of the patient-physician relationship has commonly been in the context of physician control over treatment and the necessity to talk to patients to acquire information that is used to diagnose disease conditions. The importance of the patient relationships to physicians tends to be framed within the context of their performance of diagnosis, and other important medical tasks.

For physicians, gathering accurate information from patients is essential. The diagnostic process of examining patients, and then collecting information on patient symptoms, is tied to effective communication. This process also promotes relationship ties that are also considered very important. Strong relationships are associated with better patient compliance to ensuing treatment regimes.

Compliance is certainly a sensitive area of critical concern. As Gordon and Edwards note (1995, p. 7), estimates of noncompliance have ranged from a low of 8 % to as high as 95%. This variability in compliance rates clearly alludes to outstanding problems in medical treatment systems.

In the context of many clinical settings, the importance of physician-patient relationships for a doctor is the process of best managing patient decision making. While doctors are sometimes paternalistically assumed to be the “central” or “controlling” actors in the patient-physician relationship, the issue is a complex one. Doctors clearly control treatment regimes and need to inform patients. Research indicates that many doctors, in fact, see the biomedical activities performed and resultant recommendations given as important to their professional identity as medical practitioners (O’Flynn and Britten 2006). This role can, in fact, be quite supportive, appropriate, and functional for many patients. In fact, less informed and less communicative patients can often face significantly greater treatment risks, so physician initiative is important. There may be few remedies that exist in a given medical system to ameliorate the lack of sufficient patient involvement in their own care. The problem appears to be especially problematic in certain cases, such as treatments for depression (Loh et al. 2006).

Physicians play a crucial role, having the ethical and legal responsibility to inform patients about potential treatment choices. Informed consent is now standard. “Shared decision-making” (SDM) has been called the “crux” of patient-centered care (Weston 2001), and it is now widely recognized that patients need to be informed.

Yet it is also clear that many patients lack the competency, the inclination, or a sense of active involvement. Many have a sufficient degree of knowledge to effectively participate in decision-making or be comfortable in making choices. Patients have different degrees of preference in medical decision-making, and these have been shown to clearly vary substantially by education and health literacy factors (Smith et. al. 2009). In one study (Levinson et. al. 2005), it was found that 52% of respondents preferred to leave the final decision up to their doctor.

Factors other than symptoms, testing, diagnosis, and treatment occupy patients. Perceptions center on how they interpret and cope with the effect of their symptoms on their quality of life (Fraenkel & McGraw 2009). Operative definitions of SDM tend to vary considerably. Measurement of SDM is inconsistent (Makoul & Clayman 2006). A gap clearly exists between the laudable idea of greater patient participation in choice and the realities of clinical practices in health systems. Godolphin (2009) cites examples to indicate that SDM occurs at good or adequate levels in only about 10% of the cases. White et. al. (2007) found that for end of life decisions, only 2% of decisions met their 10 criteria for SDM.

There are unquestionably systemic barriers in medical system to fully operating and engaged conversations between patients and physicians that are favorable to SDM. The most frequently cited hurdle is that the fact that most physicians have limited time (Légaré et. al. 2008). Time regularly restricts doctors, limits them in their instructional capacities to fully inform patients. And the problems of providing detailed information are much more likely to surface when medical conditions are especially complex and treatment procedures are multifaceted.

Godolphin (2009) argues that many patients do not expect SDM; and furthermore, they do not overtly object to the absence in SDM by the physician. Moreover, Godolphin asserts that patients are generally “disempowered” in their encounters with physicians. Clearly this is true only in the sense that patients are commonly much less proficient with medical information than doctors, reliant on their care, and may feel dependent.

The now standardized efforts to train doctors to better communicate with patients have resulted in improved outcomes and greater levels of satisfaction. The question is to what extent that doctors, within their medical practice, individually need to function to assist the process of improving patient’s medical literacy and patients education. Given the costs of a physician’s medical education, physician time is unquestionably very valuable.

In practical terms, physicians cannot be responsible for providing medical information with a great deal of depth and detail. Doctors tend to provide information sufficient to promote interaction with patients on specifically relevant treatment options. And since the majority of patients lack the medical background to comprehend complex medical conditions, information provided to patients is necessarily simplified. Of course, the problem that patients’ lack of understanding is often reflected in the patient’s ensuing lack of compliance to a physician-initiated treatment regimes.

INVOLVEMENT IN MEDICAL DECISION MAKING

Studying two selected groups of patients, those from high and low educational levels, Smith et al. (2009) found that different patient groups conceptualized their involvement in decision making in strikingly diverse ways. Differences and similarities were interesting. Both groups described how aspects of the patient-physician relationship (e.g. continuity, negotiation, trust) and the practitioner’s interpersonal communication skills influenced their involvement in decision making.

However, those with a higher education conceived the process of involvement as that of sharing responsibility with the doctor. Higher education participants described wanting respect for their professional status, with the doctor treating them as equals. For this group, this also specifically entailed verifying the credibility of the information, exploring options beyond those presented during their consultation, and, most notably, helping others in their health decisions and acting as information resources.

In contrast, participants with lower education levels in the study conceived their involvement in terms of consenting to an option recommended by the doctor. They took responsibility for the ultimate decision in the sense of agreeing or disagreeing, and to valued doctors conveying empathy. The process also included relatives and friends who sought information on their behalf and who potentially played a key role in their decisions (Smith et al. 2009).

Clearly, educational level is an important requirement to greater patient involvement in decision making. Greater participation is associated with improved satisfaction and clinical outcomes. Yet stimulating involvement may work for some, but clearly is not appropriate for all patients. Patients’ preferred roles in decision making reflect their need for additional information (Fraenkel 2010). Some recommend that clinicians determine each patient’s preferred decision style or levels of uncertainty, and tailor their interactions accordingly (Kiesler & Auerbach 2006).

The ease and convenience of increased access to sophisticated medical information through the internet has influenced a certain segment of patients to become much more activate and informed. Such “highly informed and involved” (HII) patients and caregivers, those that learn more about disease states, treatments, and medications, may develop a qualitatively different relationship to physicians. They may also influence other patients through blogging, social media, online discussions, participation in a listserv, or other online group forum.

Some doctors may worry that some HII patients may be too “insistent” consumers of health care services. However, effective strategies should be formulated to assist these patients that participate in discussions of medical issues and in diffusing knowledge. Especially important is the fact that they may view their role as helping others in health decisions, becoming important information resources. HII patients have the potential to be important change agents in medical systems.

PHARMACEUTICAL COMPANY PERSPECTIVES

Pharmaceutical companies have an important place in health care systems. They have increasingly taken an active role in diffusing medical information system in the US through active promotional efforts. Many are poised to spend more on these efforts, especially if they are deemed to be practical and effective. Actions and strategies of these companies vary. Yet pharmaceutical firms also need to consider the information needs of both doctors and patients to improve these efforts.

Patient-physician relationships are an important concern in the context of pharmaceutical promotions. For example, Robinson et al. (2009) found that 55.9% of physicians believed that DTC advertisements affected interactions with patients by lengthening clinical encounters, and 80.7% indicated that this lead to patient requests for specific medications. Finally, fully two-thirds of physicians agreed that DTC advertising was changing patient expectations of physicians' prescribing practices.

Other studies indicate that DTC ads can have either good and bad effects on quality of care, the doctor-patient relationship and affect health service utilization. Murray et al. (2003) note that physicians filled 69% of requests they deemed to be clinically inappropriate. While 39% of physicians perceived DTCA as damaging to the time efficiency of the visit, and 13% saw it as helpful. While thirty-three percent of physicians thought discussing advertisements had improved the doctor-patient relationship, 8% felt it had worsened it.

These findings require careful consideration. Pharmaceutical companies are clearly aware that perceptions of physicians on DTC ads can affect prescribing behavior and change a doctor's relationship with patients. Pharmaceutical sales executives play close attention to doctors through their traditional detailing activities; and the number of sales representatives has increased over the years. While new electronic tools are being developed to assist the detailing process, many questions remain as to the utility of the methods used to diffuse medical information, and questions that are being raised by patients. With respect to organizational strategies to inform patients and caregivers, the diffusion of medical information commonly has medical benefits as well as associated costs. The acquisition of medical information by patients can have potentially damaging effects, particularly on the patient-physician relationship. This complicates decisions regarding the promotional actions to diffuse medical information.

Informed patients can cause added costs or brings about certain types of relationship stressors. For example, the use of a patient directed information strategies by a pharmaceutical company may complicate medical practices by requiring additional physician attention to patient inquiries. Physicians often react to these situations by complying with patient requests, even those that are not medically warranted or “better” for patients. On the other hand, developing better informed patients, and involving them in choice, can improve compliance and support the development of more effective medical management practices.

A DECISION MODEL TO ENHANCE PATIENT-PHYSICIAN RELATIONSHIPS

For pharmaceutical firms, a *patient orientation* can clearly be useful when patients desire much greater information, particularly HII patients. This approach may be also able to promote compliance with treatment and result in better patient outcomes. On the other hand, a *physician orientation* may be preferable when treatment regimes and choices are particularly complex. In these cases, the physician has a much more difficult diagnostic task in having to weigh benefits against side effects, and consider alternative drug treatment choices. Better informed physicians would be more capable at making decisions, and greater detailing could also result in better outcomes. These alternative paths for diffusing medical information create difficult choices for pharmaceutical firms.

A decision model is proposed in Table One to guide the development of pharmaceutical strategies, considering the goal to enhance physician-patient relationships and avoid potential conflict. This model is an aid to pharmaceutical firm decisions in their use and development of promotional tools. The chart examines four possible decision quadrants, corresponding to the decision influence of patients and physicians in “fully shared” or ideal decision making approach.

Table 1. Promotional Strategy Decision Model to Enhance Patient-Physician Relationships (PPR)

		Physician’s Decision Influence	
		Low	High
Patient’s Decision Influence	Low	More detailing, Less DTCA, Decision conflict (P3)	Detailing Favorable PPR (P2)
	High	DTCA Favorable PPR (P1)	Hybrid Promotions Relationship conflict (P4)

First, DTC advertising is deemed especially appropriate in situations in which patient information decision making is high, and the doctor influence is low. In these situations, the HII patient would likely be prevalent. Such patient would be hypothesized to have a positive relationship with the physicians, since there would be less decision conflict with a doctor that prefers patient decision making.

Next, the reverse situation of high physician involvement and low patient involvement is also like to result in a positive patient relationship with a physician. In these cases, the doctor would tend to take the initiative and make appropriate recommendations to the patients on the proposed medical options. Traditional detailing is deemed especially effective in these situations. As noted, situations of disease complexity may necessitate a dominant physician influence in decision making. Or the patient may prefer to interpret the situation as one in which the doctor’s role has greater centrality.

The situation in which both the patient and the physician are highly involved calls for a hybrid promotional approach. While the situation could lead to conflict, it would be appropriate for a third party such as a pharmaceutical firm to enhance greater awareness. Besides DTC advertising and traditional detailing, there may be additional options. These could include e-detailing and other approaches to better inform doctors and patients. A pharmaceutical firm could also create greater awareness through a much broader range of tools including internet sites, blogs, social media, postings, and discussion boards. There may be further opportunities to promote greater awareness of disease conditions and treatments through the development of new digital tools that could promote communication among many stakeholders, including patients, physicians, hospitals, specialized clinical practitioners, researchers, and non-profit associations.

Finally, there may be situations in which both patient involvement and physician involvement are low. In these situations, the literature suggests that it is likely that doctors would be more accountable in making medical decisions out of a sense of professionalism. The situation may call for special attention among medical staff to

better assure patient compliance. Third parties such as pharmaceutical firms and hospitals could also develop supportive means to promote patient compliance to treatment. There may be further means to promote greater involvement through cooperative strategies, and the development of digital communication tools.

In table two, the above decision model is expressed as a table of research propositions. The propositions may be used to guide the development of pharmaceutical strategies in terms of better examining the patient-physician context. These considerations may allow better treatment of the goal to enhance physician-patient relationships and avoiding potential conflict. Given the central importance of the PPR, this model may contribute to improving medical practices.

TABLE 2. Research Propositions on Pharmaceutical Promotion Decisions

- P1. DTCA will enhance PPR when patient decision influence is high, and physician decision influence is low.
- P2. Detailing will enhance PPR when patient decision influence is low, and physician decision influence is high.
- P3. Detailing is more appropriate than DTCA to enhance PPR, when patient decision influence is low, and physician decision influence is low.
- P4. DTCA and detailing are both necessary to PPR when patient decision influence is high, and physicians decision influence is high. A hybrid approach, including a variety of information tools, could be effective.

DISCUSSION

The proposed decision model to enhance physician-patient relationships and pharmaceutical decision-making obviously requires further examination. The issue is important, given that miscommunication in physician patient communication can lead to incorrect diagnosis, improper use of medications, and failure to receive follow-up care. Since medical knowledge is increasing, often at a rate faster than formal training courses can accommodate in training physicians, third parties may provide a means to improve medical outcomes.

The composite amount spent on pharmaceutical marketing in the US has been cited to be around \$12 billion annually (Hafemeister & Bryan 2009, p. 492). It is expensive to communicate information to physicians through detailing, and expensive, in terms of time, for physicians to absorb the information. Moreover, better informing patients is one additional means diffuse medical information, and this may also help to avoid patients' interests being compromised. By integrating push and pull strategies with the use of new information tools, directed to both physicians and HII patients, pharmaceutical marketers can best maximize the process of diffusing medical knowledge. This complementary approach to diffusing knowledge arguably allows for the aptly considering the needs of selling to time pressured physicians. A "hybrid detailing" approach that utilize multiple digital tools may enhance physician time and also promote more accurate diffusion of medical knowledge to patients. Better knowledge diffusion can also further support and improve relational approaches between doctors and patients. Pharmaceutical firms are advised to be more focused on information and educational support.

Clearly there are medical situations in each quadrant of the decision model, and these certainly vary by disease conditions and by treatments options. Patient and physician decision influences may also vary by region, geography, and by social or cultural factors. Pharmaceutical firms have a prominent role in affecting the physician patient relationship through promotion activities in the US, and studies indicate that DTC ads increase the use of the advertised products. There are opportunities to enhance treatment and curtail abuses, particularly by engaging better doctor conversations with patients. New information strategies can make tangible improvements possible. Additionally, other third parties such as hospitals, medical staff, NGOs and public health organizations also play a part in affecting the patient physician relationship. There are opportunities to enhance these relationships with new perspectives, and these can be facilitated with new and developing digital tools.

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“HELP! I’VE GOT MAIL”: THE IMPACT OF EMAIL ON STRESS IN THE WORKPLACE

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ABSTRACT

*“The single biggest problem in communication is the illusion that it has taken place.”
George Bernard Shaw*

Email is a system that allows text-based messages to be exchanged electronically, and has become an integral component of communication in the professional work environment. While the benefits of nearly instantaneous transmission of information are many, the use of email can precipitate stress. Stress may occur when the demands placed on an individual exceeds the capacity to cope. Stress manifests itself physically, emotionally, spiritually, mentally, and relationally.

Stressors related to the utilization of email may include volume of messages received, frequency of interruptions to respond to emails, problems with technology, self-imposed expectations to respond to messages, and the perception of others of availability to respond immediately. This paper will examine the impact of the stressors and principles of email etiquette.

PHARMACEUTICAL DRUG MARKETING ACT (PDMA) OF 1987: IT SEEMS TO GOING NOWHERE FAST

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ABSTRACT

The U.S. Congress mandated an electronic pedigree (e-pedigree) system in the pharmaceutical drug supply chain with the Pharmaceutical Drug Marketing Act (PDMA) of 1987¹. Congress amended the PDMA in 1992. The Food and Drug Administration (FDA) delayed requiring compliance with the PDMA until 2007, and even then complete compliance was not required. A small drug wholesaler sued the FDA over the order implementing PDMA compliance, and even now an injunction from a federal court has suspended part of the implementation of the PDMA. In the vacuum left by the federal court injunction, the State of California mandated an e-pedigree system to implement “track and trace” for prescription drugs; later that year California suspended the implementation of its e-pedigree law until 2011.

In late 2010, the implementation of the PDMA is still a work in process and its complete implementation is still uncertain. Litigation^{2,3}, and other delays have continued as of this writing and the outcome has been clouded by a number of other factors including the recent passage of the Health Care and Education Reconciliation Act of 2010 (Pub.L. 111-152, 124 Stat.)⁴

The PDMA was signed into law nearly a quarter of a century ago, the implementation has been spotty, halty, an undertain. A number of challenges, economic, political, social, and legal have slowed progress. Presently, legal challenges and world economic conditions have further slowed the process.

This paper discusses the implications of the following issues which are delaying a more timely and full implementation of the 1987 legislation:

1. United States domestic economic conditdions directly or indirectly realted to healthcare.
2. Some states have ‘kicked the can down the road’ when it comes to adopting certain parts of the PDMA.
3. Political and legislative uncertainties in the United States healthcare industry.
4. International political uncertainties, especially in Europe, Asia, Africa, and other areas.
5. Retail and pharmaceutical leaders have, in some instances, refocused on other more viable opportunities and pressing problems.
6. Unresolved technical and logistical problems still persist.
7. Unresolved property and legal issues relating to the full implementation of the Act.
8. And other miscellaneous problems yet to be resolved.

The paper concludes with an attempt to ‘crystal ball’ the future of the PDMA and offers suggestions on its future.

¹ The Prescription Drug Marketing Act (**PDMA**) of **1987** (P.L. 100-293, 102 Stat. 95) and signed into law by the President April 12, 1988; **amended** by the Prescription. Drug Amendments of **1992**.

² **RxUSA Wholesale Inc. v. Alcon Laboratories Inc.** et al., Eastern District of New York Judge Denis R. Hurley has dismissed a \$2.3 billion Dismissed for Lack of Evidence of Market Power or Conspiracy.

³ **RxUSA Wholesale, Inc, v.** Department of **HHS**, 467 F. Supp.2d 285 (E.D.N.Y. 2006), aff’d, 2008 U.S. App. LEXIS 14661 (2d Cir. 2008)). This case is still in litigation as of this writing.

⁴ The Health Care and Education Reconciliation Act of 2010 (Pub.L. 111-152, 124 Stat. 1029) is a law that was enacted by the 111th United States Congress, by means of the reconciliation process, in order to amend the Patient Protection and Affordable Care Act (Pub.L. 111-148). It was signed into law by President Barack Obama on March 30, 2010.

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HEALTH ORIENTATION, PHARMACEUTICAL DTC ADVERTISING, AND PATIENT COMPLIANCE

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ABSTRACT

The purpose of this research is to propose a conceptual research framework that investigates the effects of direct to consumer advertising (DTCA) on patient compliance under the moderating influence of patient health orientation. Eight hypotheses are proposed based on theoretical evidence of causal relationships between DTCA variables and patient compliance, and the moderating effects of patient health orientation on the DTCA – compliance linkage.

INTRODUCTION

The purpose of this paper is to propose a conceptual framework addressing the effects of direct to consumer advertising (DTCA) on patient compliance with patient health orientation as a moderator. The effects of DTCA on compliance are unclear from extant literature. While some research has found the effect to be positive, some others have found it to be negative. Of course, any potential compliance effects of DTCA are likely to be moderated by a complex set of factors that include ad type, content and delivery channel, current regulatory structures, economic effects, and an intricate web of consumer, physician, pharmacist, nurse and drug company stakeholders. The health orientation of patients, conceptualized in terms of health consciousness, health information orientation, health beliefs, and information search, are potential moderating factors in the DTCA-compliance linkage.

PATIENT COMPLIANCE

The compliance problem has been called the ‘holy grail’ of healthcare marketing (Van der Pool, 2003). A patient’s noncompliance with drug regimens can render drugs ineffective. Poor compliance occurs regardless of the severity of the potential consequences, even among patients with kidney transplants and frequent seizures (Cramer, 2001).

Poor compliance is attributed to 125,000 premature deaths each year in the US (Loden and Schooler, 2000). The annual cost of non-compliance to the US economy is estimated at \$100 billion (Johnson and Bootman, 1995). Lost sales due to non-compliance have been estimated to cost pharmaceutical companies \$15-20 billion annually (Beavers, 1999) and pharmacies \$2.8 billion through 140 million unfilled prescriptions (Schering Lab, 1992).

Compliance has been a topic of both tremendous importance and disagreement in the healthcare community. (Wosinka, 2005) Non-compliance with physicians’ drug therapy recommendations or instructions has been proven to have an enormous impact on both the general health of patients as well as the overall costs of healthcare. The impact of lack of compliance is felt across a wide spectrum of patient illnesses, including those with the greatest potential consequences. Pharmaceutical companies must also contend with numerous barriers and hurdles that prevent greater compliance rates.

DIRECT TO CONSUMER ADVERTISING (DTCA)

DTCA is viewed by many in the industry as a way for pharmaceutical manufacturers to move beyond their “arm’s-length relationship” with the end user and appeal directly to the consumer. (Wosinka, 2005, p. 323) DTCA adds the potential for increased patient compliance by allowing pharmaceutical companies to reach out to patients directly through a variety of media outlets. Numerous studies have shown that DTCA creates and/or strengthens the patients’ understanding of the drugs’ benefits, and thus any potential links to increased compliance are of great interest to pharmaceutical firms. (Wosinka, 2005) However, though compliance may indeed prove to be a very

real benefit of DTCA, it is but one spoke on a much larger wheel; many have argued that DTC advertising of prescription drugs by manufacturers is misleading, causing current patients, potential patients, and non-patients to get a wrong sense of the drugs' uses and effects. The critics of DTC advertising believe that many advertisements often overstate the effectiveness of the drugs, indicate or suggest uses of the drug, which have not been approved, or create an imbalance of benefits and side effects. (Nelligan, 2002) With the ethics of DTCA in question, the perceived benefits of increased compliance may not outweigh the many potential negative health outcomes caused by this form of advertising.

Direct-to-consumer advertising (DTCA) of pharmaceutical drugs is currently legal in only two countries (US & New Zealand), but nevertheless has generated much controversy surrounding its potential benefits and detriments to all facets of consumer health. Principal among the proposed benefits is the idea that DTCA can play a pivotal role in fixing the long-lingering and expensive problem of patient non-compliance with drug therapy regimens.

EFFECTS OF DTCA ON PATIENT COMPLIANCE

Currently, two landmark studies examining the DTCA – compliance link have shown potential compliance benefits resulting from a “spillover effect” encompassing advertising from all competing medications for the same condition, thus advancing the idea of DTCA as a general reminder for consumers with that particular condition. In one of the studies, a possible negative compliance trigger was also revealed. Further clarity on both the general effects of DTCA as well as the DTCA-compliance link will be gained as more data is collected and methods of study become more advanced. Current studies do not conclusively show that DTCA increases patient compliance, but that can potentially change if ads are formulated to better inform and educate the consumers.

One idea is that the positive imagery depicted in many DTCA ads, especially on television, may trigger an enhanced placebo response among patients, which may in turn lead to increased adherence. Few can debate the power of the heavily studied placebo effect: in one study, roughly one-third of patients reported relief from pain, cough, headache, depression and other conditions after taking a placebo. (Almasi, 2006) In this vein, many DTC advertisements are distinctly crafted to stimulate positive emotions from viewers. Consumers can routinely turn on the television and see allergy sufferers frolicking through beautiful fields, or arthritis sufferers painlessly and happily engaging in all their favorite activities. (Almasi, 2006) These and similar advertisements may condition patients “to elicit the positive feelings that were portrayed in the advertisement, which could enhance the medication’s clinical effect...[and] improve patient adherence and outcomes.” (Almasi, 2006, p. 284-285) In addition, the reward-based imagery in DTC advertisements depict highly positive potential payoffs for a patient’s adherence to his or her physician’s recommended treatment regimen, and patients exposed to such positivity may be more inclined to follow their specific treatment instructions. (Almasi, 2006)

Direct-to-consumer advertising of pharmaceuticals may also improve compliance through reassurance. Seeing an advertisement on national TV or in a popular magazine for a drug they are taking can reassure patients that they have made a good health decision in taking that medication. (Mahon, 2006) In March-April 1998, Prevention magazine collaborated with the American Pharmaceutical Association to conduct a telephone survey of 1,200 U.S. adults to gauge reaction to DTCA. (Liebman, 1998) In the study, three out of ten patients already taking medication indicated they would be more likely to take their prescribed medicine after seeing the relevant advertisement. (Wosinka, 2005) In addition, 34% of consumers currently taking a medication felt better about taking the drug after seeing it advertised, while 27% said the ad increased the likelihood that they would take their medication. (Liebman, 1998)

There also exists a growing belief that the level of informational content that patients can glean from being exposed to DTCA is a key driver of the advertisements’ ability to increase compliance and adherence. In a survey seeking to identify preferred drivers of greater compliance, 70% of patients surveyed indicated that being more informed about both their medical condition and what their medication does would drive them to be more compliant with their regimens. (Eagle & Kitchen, 2002) Other studies reinforce the importance of the informational utility of DTC advertisement in boosting compliance levels. In fact, the informational utility of DTCA may very well be a key component of a larger paradigm shift within the doctor-patient decision-making relationship. Traditionally, health care decision-making has been a “paternalistic process,” with the patient delegating authority to the physician “to make a therapeutic decision in the patient’s best medical interests. (Deshpande, Menon III, Perri & Zinkhan,

2004, p. 501) Here, patient involvement is limited, in large part due to the unidirectional flow of information from physician down to patient. (Deshpande, Menon III, Perri & Zinkhan, 2004) The physician, as the sole decision maker, is thus the primary target of pharmaceutical manufacturers, leaving the patient out of the information loop and minimizing any potential contributions he or she might bring to the decision-making process. (Deshpande, Menon III, Perri & Zinkhan, 2004)

In recent years, however, the growth in popularity of DTCA has played a significant role in the shift of healthcare to a shared decision-making process. (Deshpande, Menon III, Perri & Zinkhan, 2004) This is based on trust. In the shared decision-making process, patients are equally involved in decisions regarding their health care, working with their physicians to weigh potential risks and benefits of treatment options and together reaching a collaborative decision. (Deshpande, Menon III, Perri & Zinkhan, 2004) The shared decision-making model “may lead to increased patient satisfaction...increased knowledge of the disease and therapeutic options, and better treatment outcomes such as compliance and adherence to drug dosage regimens.” (Deshpande, Menon III, Perri & Zinkhan, 2004, p. 501) A 1979 study showed better adherence to treatment regimens by patients who played a larger participatory role in their therapeutic decision options. (Deshpande, Menon III, Perri & Zinkhan, 2004) Additionally, the initiation of the drug therapy process after high-profile advertising led to more compliant patients, likely due to increased levels of motivation. (Wosinka, 2005)

This new, bi-directional information exchange between patient and physician is, in part, due to patients’ increased exposure to the informational properties of DTC advertising, but just how much information consumers are obtaining from DTCA is up for debate. DTCA awareness among consumers is near ubiquitous, but whether or not awareness translates into “factual knowledge about the drug that can engender a more informed decision-making process” is not yet proven. (Deshpande, Menon III, Perri & Zinkhan, 2004, p. 503) The actual utility of DTC ads is likely a function of their clarity and ability to convey information that is clear and understandable to the patient. (Deshpande, Menon III, Perri & Zinkhan, 2004) Thus, DTCA comprehension is a key factor. In a 1999 random telephone sampling of 1,205 consumers, more than “40% of sampled consumers [reported] having used DTC ad information in their decision-making process...18.6% used information provided in the ad to discuss a medical condition, and 13.4% requested their doctor for a drug based on an ad they had seen/heard”. (Deshpande, Menon III, Perri & Zinkhan, 2004, p. 509) On the one hand, less than half of the survey respondents used DTCA information when making health care decisions. On the other, positive opinions of DTC ad utility led to a greater usage of DTC information by consumers in their decision-making, indicating that there is still room for greater DTC ad utility to engender increased patient participation and, consequently, motive greater levels of compliance and adherence. (Deshpande, Menon III, Perri & Zinkhan, 2004)

Perhaps most studied is the theory that DTCA works to reinforce compliance by serving as a reminder. (Harker and Harker, 2007) When a patient comes across a DTC advertisement for a medication that they are currently taking, the advertisement may remind them to either take their medication according to their prescribed regimen, or to fill or refill their prescription. (Mahon, 2006) In the aforementioned Prevention magazine study from 1998, 25% of consumers said seeing an advertisement for their specific drug reminded them to refill their prescriptions. (Liebman, 1998) Beyond the benefits of own-advertising, there is also some evidence (reviewed later) that condition-wide advertising by all brands serving that condition type serves to raise adherence levels among patients taking a medication in that category, though not necessarily the most-advertised brand (Wosinka, 2005).

DTCA valence is another important factor. DTCA messages can be subtly one-sided or extreme versus moderate/balanced/two-sided. Balanced messages enhance credibility in consumer communications (Hunt and Smith 1987). Two-sided arguments are more persuasive than positive arguments when the initial attitude of the consumer is neutral or negative (Crowley and Hoyer (1994).

Amidst the heavy speculation on DTCA’s positive effects on compliance, several arguments persist that DTC advertising could potentially decrease compliance. Eagle and Kitchen (2002) assert that “there is, as yet, no empirical evidence that DTC drug promotion decreases compliance.” (p. 294) In fact, Eagle and Kitchen point out an increasing amount of empirical data indicating just the opposite. Despite this, some believe that DTCA’s heavy focus on advertising only new, profitable drugs actually serves to damage any short-term compliance benefits that were previously gained. (Almasi, 2006) Because DTCA is such an expensive medium, all DTCA for a particular drug is likely to cease when the drug’s patent expires and the drug consequently becomes less profitable. (Almasi,

2006) Once DTCA stops generating a competitive ROI, advertising for that drug is stopped and all compliance benefits gained will likely be lost. (Almasi, 2006) DTCA may also adversely affect compliance if patients do not first encounter risk information for the drugs from other sources, a problem exacerbated by the lack of a legal requirement for doctors or pharmacists to discuss risk and side effects with patients. (Wosinka, 2005) Increased exposure to risk and side effect information in DTC ads, which patients might otherwise ignore in its “fine print” form on the actual medication, may cause shock in some patients and lead them to temporarily or permanently suspend their treatment regimen. (Wosinka, 2005)

The lack of empirical data available to support these or other theories has rendered many claims of increased or decreased compliance purely speculative. (Wosinka, 2005) The history of the DTCA/compliance argument, like much of the rest of DTCA’s controversial existence, is rife with empty theories and contradictions. In one survey, 72% of physicians were in agreement DTCA promoted patients’ adherence to instructions, but a second survey of physicians, funded by the pharmaceutical industry, found that 54% of doctors did not agree that DTC ads increase adherence. (Frosch, Grande, Tarn & Kravitz, 2010) And while 82% of respondents to a nationally representative survey of the public thought that DTC advertisements promoted compliance with doctors’ instructions, only 23% of patients recruited from physician waiting rooms gave an indication that they would be more apt to take an advertised medication (Frosch, Grande, Tarn & Kravitz, 2010).

Hence, the following four hypotheses may be proposed:

H1: DTCA Information has a positive effect on patient compliance

H2: DTCA Comprehension has a positive effect on patient compliance

H3: DTCA Trust has a positive effect on patient compliance

H4: DTCA Valence has a positive effect on patient compliance

The proposed conceptual framework is outlined in Figure 1

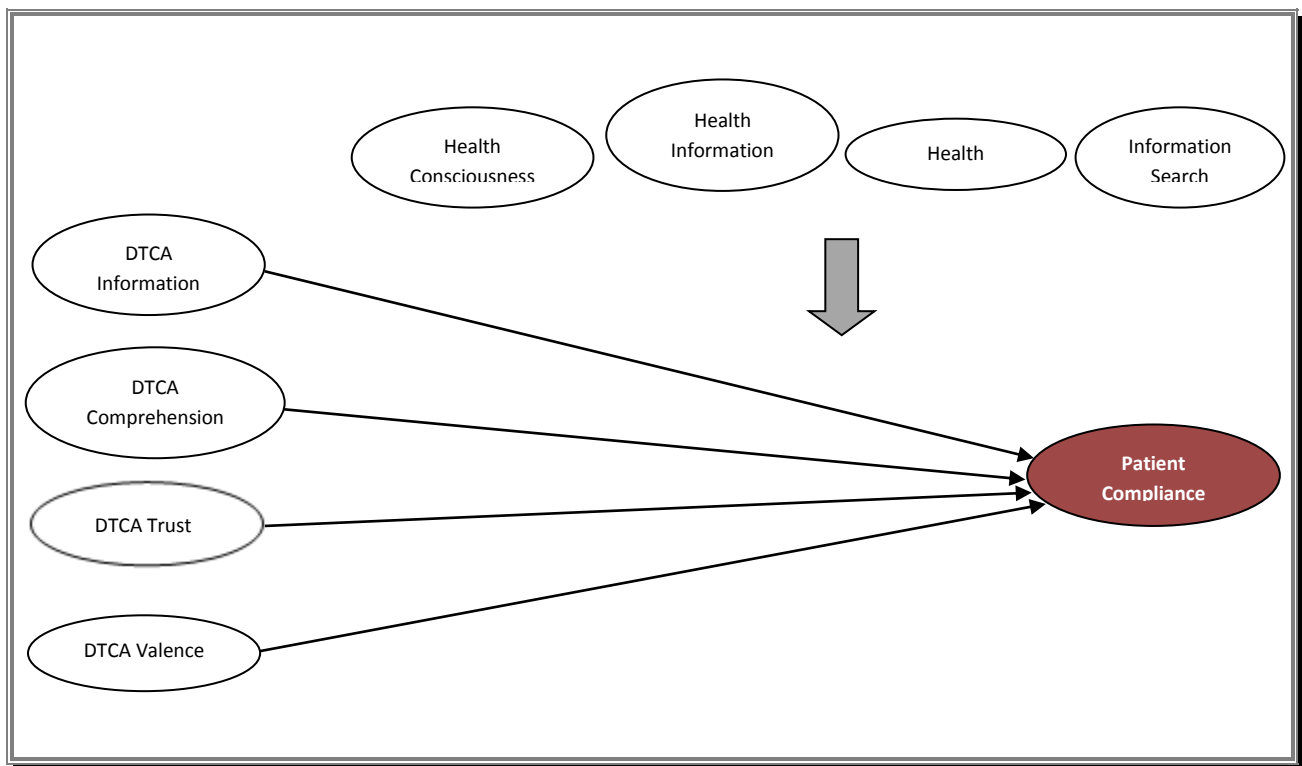


Fig 1: Proposed Conceptual Framework

MODERATING EFFECT OF HEALTH ORIENTATION

Health orientation is one of the emerging approaches to segment healthcare consumers. Health orientation is a motivational variable that taps into consumer interest in maintaining a healthy life and propels the enactment of health behaviors (Dutta-Bergman, 2004). The attitudinal and motivational differences with respect to health issues describe the health orientation of people. Their motivation to be and stay healthy shows to what extent they are willing to take some certain actions for the sake of their health. The level of motivation is directly proportional to the attention and the comprehension of the person towards that specific topic. There is evidence from past research that consumer participation in issues of personal health and active search for relevant information, in other words, health orientation, is indicated in four different categories namely, health consciousness, health information orientation, health beliefs, and information search.

Health consciousness refers to “the extent which health concerns are integrated into a person’s daily activities” (Jayanti and Burns, 1998). These people try to stay healthy not only when they need medical assistance but also they are in favor of taking preventive steps such as exercising and eating right in order to keep their body healthy. Health information orientation indicates the level of motivation of a person in order to seek health information. These people are self-motivated to read and watch stories about their health and eagerly look for various ways to gather information either on remaining healthy or their treatment in case of a medical assistance. Health beliefs refer to the awareness of the individuals about some specific health behaviors such as eating healthy, exercising, maintaining a healthy body weight, not smoking etc. It is rather a general measure that shows the perception of the people towards some particular activities. Information search is defined as the degree to which consumers involve in their treatment or the medical process by seeking out extra information in addition to what they are told by their physicians. (Dutta-Bergman, 2004) In today’s world, it is easy to attain the required information through many media communication tools such as newspaper, television, radio. Furthermore, internet or the people who had experienced the same disease before would be important sources.

Research on the moderating effects of health orientation on patient compliance is rare. In this paper, four additional hypotheses are proposed that discuss the moderating effects of health orientation on the influence of DTCA on patient compliance.

The patients who have health consciousness would be willing to keep themselves healthy and try to comply with healthcare regimen as well as take preventive steps if necessary. Their lifestyle, thus, will make them more concerned about health issues and we hypothesize that it will be easier for them to process DTCA information and improve their compliance. However, we believe for a person who adopts healthy living in a conscious manner, adhering to medication regimen will be easier.

H5: Health consciousness positively moderates the influence of DTCA on patient compliance

Health information orientation implies the desire of gathering extra information on health issues or a specific treatment in addition to what is provided by the physician. Consequently, we believe a well-informed person will ably comprehend healthcare and medication advice and likewise his/her satisfaction level will be affected proportionally. We assume knowledgeable patients will be more likely to know what they are looking for prior to receiving the treatment or service. As a matter of fact, it will be easier for them to understand DTCA. Therefore, we believe health information orientation has a positive effect on patient compliance. This segment of consumers will be more conversant with new treatment methods and in that sense they will be more aware of what they should be getting in terms of following the regimen. As having the most up-to-date information about a medical process, a patient would easily evaluate the service in the hospital as well as the treatment of the physician. For instance, if there is a newly-developed treatment regimen for a specific disease which is more convenient, most probably a well-informed patient would be looking forward to hearing that from the physician. If she/he is not offered that treatment, trust bounds would definitely be damaged and vice versa.

H6: Health information orientation positively moderates the influence of DTCA on patient compliance

Health beliefs pretty much go hand in hand with health consciousness. It shows whether the individuals are practicing some specific health activities in a daily routine. In this research we want to prove that for a person who is exercising regularly, eating properly, not smoking or not consuming too much alcohol, it will be easier to evaluate

the health service. Since they are already sacrificing for the sake of their health, they will be much aware of what they are looking for. In this research, we hypothesize that health beliefs of a person will have an influence on their attitude towards DTCA as well as their compliance behavior in the health care situation. We presume that if a person has the self-discipline in his/her daily life, he/she will have a better understanding of the value of the DTCA in compliance.

H7: Health belief positively moderates the influence of DTCA on patient compliance

Eagerness and the enthusiasm of a person for additional information is also an important element of health orientation. Research shows that it is directly related to how patients evaluate DTCA information to affect their compliance behavior. We hypothesize that information seeking is an important moderating variable in the DTCA – compliance relationship..

H 8: Information search positively moderates the influence of DTCA on patient compliance

CONCLUSION

Every year, the nagging combination of patient non-compliance with drug therapy regimens and the lack of suitable compliance-boosting actions available to the pharmaceutical industry are responsible for a large sum of avoidable deaths and an even larger sum of unnecessary healthcare expenses. Through this lens, the emergence and prominence of legal direct-to-consumer advertising (DTCA) in the United States and New Zealand has provided drug manufacturers with a potentially potent tool in the battle for greater compliance. Segmenting consumers and patients based on their health orientation, and delivering targeted DTCA messages to highly health oriented consumers might help in alleviating the compliance problems to some extent.

Many in the field are hopeful that this newfound direct feed to health oriented consumers can raise drug therapy adherence in a number of nuanced ways. Advocates of the medium indicate that DTCA can fight non-compliance by reminding health oriented patients to learn more about their medication, reassuring them that it is safe, creating a placebo effect that encourages treatment adherence, and by initiating a paradigm shift that places conscious consumers in the driver's seat for many crucial healthcare decisions.

However, the role of DTC advertising as a compliance aid is not yet a foregone conclusion. As a relatively new medium, it is difficult to reach sound conclusions regarding its benefits and detriments, as well as stakeholder views and reactions and how those might positively or negatively affect involved healthcare outcomes. The current state of DTCA research is a fragile patchwork of myriad small-scale indicators; newer, larger studies continue to emerge daily, often either contradicting or supporting earlier research, and often using more advanced and extensive methodologies of study. Currently, only two studies (on depression and hyperlipidemia) have sought to look deeply for a DTCA – compliance connection. Within these, only certain potential DTCA/compliance linkages were probed, and the resulting conclusions revealed both positive and negative compliance outcomes in the studied patient populations. The sheer infancy of the debate at hand is evidenced in the fact that current research is not yet yielding concrete answers, but rather creating more questions.

If any clear takeaway can emerge from the DTCA – compliance debate, it is that more research is needed. Current and past findings lay a clear groundwork for where the logical next steps can be taken. Specifically, additional studies are needed in three key areas: health orientation of consumers, DTCA content, and medication compliance. A key takeaway from DTCA studies is the massive paradigm shift towards a consumer-driven healthcare decision model. As DTCA ads bypass physicians and pharmacists and reach the consumer directly, understanding the different reactions of consumer segments to these ads and identifying various triggers will allow pharmaceutical manufacturers to tailor ad content for optimal patient outcomes. Secondly, the current content of DTCA ads requires further critical scrutiny before the medium can be seriously considered as a vessel of positive health benefits, including compliance. As seen earlier, DTC ads have been found to lack educational value, which is perhaps why certain studies have shown that consumers do not find the ads informative, effective, or motivating. Nevertheless, health oriented consumers remember the ads and retain the limited information presented, and this combination of lack of pertinent information and consumer retention often results in the formation of misconceptions about both the nature of DTCA and the advertised drugs. Such misconceptions can potentially lead to inappropriate healthcare or compliance behavior. In addition, though the elderly consume the most ethical drugs

per capita, they are the least responsive to DTCA, indicating a potential content disconnect that can be likely be rectified through further research and refinement. Finally, more research is needed on all possible compliance-stimulating components of DTCA advertising. Many benefit theories have been proposed, but few have been studied. Does the positive imagery of DTC advertisements trigger a compliance-enhancing placebo effect? If so, where is the ethical balance between choosing imagery that will stem non-compliance but might mislead consumers? In fact, all three areas of recommended research are intertwined; further study in compliance will eventually lead to better DTCA content, which will in turn stimulate more positive consumer health orientation.

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TRACK
FINANCE AND ACCOUNTING ISSUES
IN HEALTHCARE

THE AMERICAN PRODUCTIVITY AND QUALITY CENTER APPROACH REVISITED: AN APPLICATION TO HOSPITAL PERFORMANCE EVALUATION

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ABSTRACT

This paper applies the American Productivity and Quality Center (*APQC*) approach to the evaluation of hospital performance. This performance measurement enables individual hospitals to make estimates of their cost containment and productivity relative to an industry wide benchmark. Controlling for patient acuity, this application converts conventional performance data into two measurements: an efficiency indicator comparable to those of Data Envelopment Analysis (*DEA*) and Stochastic Frontier Analysis (*SFA*), plus a price recovery ratio to facilitate the establishment of a cost-quality connection.

INTRODUCTION

The healthcare industry constitutes a significant and increasing share of gross domestic product (*GDP*) in the United States. Yet, the healthcare sector continues to struggle to control costs while simultaneously increasing productivity. Hospital costs in 2007 accounted for 31% of total health expenditures, increasing from \$9.2 billion in 1960 to \$696.5 billion in 2007, the last year for which data is available (National Center for Health Statistics, 2010a). It has been estimated that (Washington Post, July 24, 2005), between 33% to 40% of Medicare's \$300 billion annual third party payment in 2005 was wasted on inefficient healthcare expenditures, and that year Medicare spending accounted for 20.5% of total healthcare expenditures in the U.S. (National Center for Health Statistics, 2010b). Significant cross sectional variation in healthcare costs between hospitals and regions exists (Bopp and Cebula 2009), and consequently there have been significant calls in the literature for efficiency (Harrison and Ogniewski, 2005; Hsu and Hu, 2007; Kumar and Nunne, 2008) and performance analysis (Weng et al., 2009) of hospitals.

The introduction of a diagnosis-related-group (*DRG*) prospective payment system by Medicare in 1983 produced major changes in the efficiency emphasis of hospitals. *DRGs* evaluate patient types in terms of cost and profitability. The variation in hospital efficiency has led to a widening gap between healthcare cost and quality. Recently for example, Louisiana simultaneously ranked the highest in Medicare cost and the lowest in healthcare quality while New Hampshire ranked highest in healthcare quality but only 47th in terms of cost. These discrepancies have compelled Medicare to reexamine its current monitoring system and to require hospitals to improve their performance reports in several critical areas.

While hospitals emphasize management of *DRG* product lines, this system does not address hospital productivity. Since various studies (Folland and Hofler 2001; Eldenberg and Kallapur 1997) provide evidence of hospital administrator manipulation of budgeted patient volume, variable costs and contractual adjustments, it is vital to ensure that cost controls include productivity objectives. At the forefront of the development of productivity and cost management, the American Productivity and Quality Center (*APQC*) suggests that conventional profitability be disaggregated into productivity, cost and price recovery components. The productivity change ratio is used to measure the technical efficiency of the firm, and the cost and price recovery change ratios measure profitability changes due to product cost margins. While this approach has been successfully applied to firms in the industrial/commercial sectors, it has not been applied to the healthcare industry. We propose a modified *APQC* approach that measures the productivity and profitability performance of hospitals. The paper illustrates the incremental information content that can be derived from conventional performance data by adopting the *APQC* approach.

The next section theoretically distinguishes operational and financial measures of performance. Section three provides field data of a conventional hospital product performance system. Section four explains the *APQC* approach. Section five modifies the *APQC* approach by incorporating the effect of patient acuity in hospital productivity and profitability. Section six concludes the paper.

PRODUCTIVITY AND PROFITABILITY

Productive efficiency is an economic measure to evaluate how well an organization is utilizing resources to generate outcomes. There has been an increasing interest in measuring the productive performance of healthcare services. In frontier efficiency studies, actual inputs relative to outputs by unit are multi-dimensionally compared to the best unit performer, defined as the efficiency frontier. Frontier studies are conceptually closer to true technical and allocation efficiency.

Comprehensive research has been undertaken on frontier measurement of hospital productivity using Data Envelopment Analysis (*DEA*) (see Hollingsworth, 2003 for a review). *DEA* is a fractional linear programming model for deriving the comparative efficiency of multiple-input/multiple-output decision-making units. *DEA* provides management with information regarding the relative best practice hospitals in the observation set and locates the relatively inefficient hospitals by comparison with best practice ones. In addition, it indicates the magnitude of these inefficiencies. Some applications of *DEA* analyze performance over time using the Malmquist productivity change index. There is also increasing use of parametric techniques such as Stochastic Frontier Analysis (*SFA*) for frontier studies (Jacobs, 2001). Specifications need to be established to develop ranges of inefficiency to act as signaling devices rather than point estimates.

Despite their differences in assumptions and design, *DEA* and *SFA* studies generate similar mean inefficiency estimates (Folland and Hofler 2001; Zuckerman et al. 1994). Given the current state of knowledge on estimation techniques however, individual hospital estimates are reportedly sensitive to variations in the choice of research methods (Cremieux and Ouellette, 2001). Some hospitals have rushed into productivity improvement plans only to find themselves experiencing greater difficulties in interpreting the results.

It is important to distinguish and simultaneously evaluate the productivity (efficiency) and profitability (cost containment) aspects of hospital performance. Expenses and financial ratios reflecting the current labor mix, technology, and payment reimbursement schemes are essential to hospital performance. Suppose that all hospitals produce a single healthcare output, y , with two inputs: labor (x) and capital (k). The production frontier can be described by the following function $y = f(x, k)$. For individual hospitals, the actual output produced and inputs used may be fitted to the production function with: $0 < \theta < 1$, such that $y = f(\theta x, \theta k)$. Efficient hospitals are located on the production frontier, $\theta = 1$. Hospitals not on the frontier, $\theta < 1$, are using more inputs than efficient ones in order to produce a given amount of outputs. Put differently, given the actual inputs, x and k , and the output of hospital A , an efficient hospital could produce the same output with only a fraction θ of the inputs used. Parameter θ can be used as a measure of the hospital's productive efficiency.

Where p is the price of output y , w is the cost of the labor input x , r is the cost of capital, k , an efficient profit-maximizing hospital will choose inputs x and k so as to:

$$\text{Max}_{x, k} : py - wx - rk \quad (1)$$

The first-order conditions are:

$$\begin{aligned} p^* \partial f / \partial x &= w \\ p^* \partial f / \partial k &= r \end{aligned}$$

The solution to the above is the optimal input for a profit-maximizing hospital. The optimal input bundle (x^*, k^*) depends on the unit cost allocated as well as unit productivity. Under the second-order condition, $\partial^2 f / \partial x^2 < 0$, it is straightforward to see that the optimal quantity of input depends negatively on the cost of the inputs. Since the optimal amount of capital declines relative to cost, $\partial k^* / \partial r < 0$, hospitals that have a lower cost for capital will tend to operate with a higher capital / labor ratio than others but what will be the effect of the differential cost of capital on the profitability of hospitals? First, let (x^*, k^*) be the optimal input bundle for an efficient hospital. Then

consider the change of the hospital's profit if it can reduce the cost of capital. Differentiating the hospital's profits with respect to the change in capital cost:

$$d\pi^*/dr = d[pf(x^*, k^*) - wx^* - rk^*]/dr \quad (2)$$

By the envelopment theorem,

$$d\pi^*/dr = \partial\pi^*/\partial r = -k^* < 0 \quad (3)$$

Hence, a lower cost of capital will lead to higher profit. On the other hand, the effect of cost of capital on the profitability as measured by the rate of return on capital is not straightforward. Differentiating the rate of return on capital with respect to r yields:

$$\begin{aligned} dR/dr &= d[pf(x^*, k^*) - wx^*/k^*] \\ &= [(p\partial f/\partial x^* - w)/k^*] \partial x^*/\partial r + \{p\partial f/\partial k^*/k^* - [pf(x^*, k^*) - wx^*]/k^{*2}\} \partial k^*/\partial r \end{aligned} \quad (4)$$

Using the first-order condition, the above equation can be simplified as:

$$dR^*/dr = 1/k^*(r^*) \partial k^*/\partial r \quad (5)$$

Since $R^* > r$, otherwise the hospital will lose money, and $\partial k^*/\partial r < 0$ we have

$$dR^*/dr > 0$$

Hence a lower cost of capital of an efficient hospital leads obviously to a lower rate of return. So if two hospitals are equally efficient, the one with the lower cost of capital will have higher total profit but a lower rate of return on capital than the other unit. However, if the hospital in addition is technically more efficient than the other unit, then the comparison of profitability would be ambiguous. While the production function describes the substitutability between physical inputs and outputs, the cost function describes the relationship between costs and outputs. In the case of substitutable inputs, resource allocation required for technical efficiency must be optimized inclusively of cost parameters.

CONVENTIONAL HOSPITAL PERFORMANCE EVALUATION SYSTEM: A FIELD STUDY

In a bid to improve cost efficiency, an increasing number of hospitals have subscribed to commercial programs that assist in evaluating performance. eOPTIMISTM is a web-based performance management tool provided by the GE Medical Systems Healthcare Solutions. The program generates a series of annual reports, including performance variance, labor mix, workload volume, and peer group comparison for each cost center. This allows participating hospitals to track and monitor costs against external benchmarks. A standard custom comparison report is prepared for each cost center, providing information on department operating statistics, labor productivity and cost ratios. The report selects a sample compatible with the host hospital/department in organizational, operational and socioeconomic characteristics and measures the average performance of the sample as well as that of the best performer in the reference group. All the monetary values in the report are adjusted for regional differences (see Table 1).

Table 1

Panel A: Emergency Department No. 1

	Yr 1	Benchmark	Yr 2	Benchmark	Yr 3	Benchmark
Patient treatment spaces	16	N/A	16	21	16	N/A
Patient visits	37,190	11,507	37,933	48,266	37,810	58,017
Worked hours-staff	95,160	13,762	101,220	112,506	108,375	130,513
Worked hours-management	9,427	N/A	9,662	N/A	7,807	7,846

Worked hours-RN	43,354	693	49,156	N/A	56,186	76,702
Worked hours-other care	31,740	12,298	32,773	N/A	32,795	4,393
Worked hours-other support	9,573	275	9,105	N/A	10,607	22,557
Worked hours-overtime	13,058	2,364	12,620	4,644	15,369	12,173
Paid hours-staff	107,979	16,114	114,380	126,538	124,378	154,276
Paid hours-non payroll	10,824		14,872	6,158	9,111	401
Labor expense	3,870,604	282,742	3,912,466	2,804,821	4,259,277	3,195,484
Other operating expense	716,475	69,858	693,071	290,516	733,910	6,542,743
Medical supply expense	607,083	48,724	539,262	30,032	592,836	501,602
Hours worked/Patient visit	2.85	1.20	3.06	2.46	3.11	2.26
Hours paid/Patient visit	3.19	1.40	3.41	2.75	3.53	2.67
Hours paid/Adj. discharge	4.04	0.38	4.23	5.35	4.15	3.37
Cost Ratios						
Staff average rate/Hour	30.13	14.53	27.42	21.13	27.67	23.99
Exp/Patient visit: Labor	96.24	20.35	93.44	66.91	97.68	63.95
Exp/Patient visit: Operating	19.27	6.07	18.27	6.02	19.41	12.33
Exp/Patient visit: Medical supply	16.32	4.23	14.22	0.62	15.68	8.65
Exp/Patient: Total	115.51	26.42	111.71	72.93	117.09	76.28

N/A: Not available.

Panel B: Emergency Department No. 2

	Yr 1	Benchmark	Yr 2	Benchmark	Yr 3	Benchmark
Patient treatment spaces	26	18	26	20	25	22
Patient visits	39,832	47,185	40,195	44,618	39,601	56,677
Worked hours-staff	85,152	67,166	103,044	72,422	98,269	82,424
Worked hours-management	6,116	2,078	6,830	N/A	3,906	N/A
Worked hours-RN	35,611	50,787	47,563	56,377	50,131	50,560
Worked hours-other care	28,591	N/A	33,749	9,075	28,091	N/A
Worked hours-other support	12,788	14,300	13,392	6,987	13,734	17,609
Worked hours-overtime	6,377	N/A	5,759	3,378	6,314	19,831
Paid hours-staff	96,713	74,008	115,483	77,933	114,117	94,675
Paid hours-non payroll	40,207	N/A	2,592	N/A	4,380	N/A
Labor expense	3,950,443	1,548,673	3,011,978	1,676,557	3,172,946	2,316,200
Other operating expense	561,002	2,326,873	594,143	2,546,449	580,022	586,048
Medical supply expense	478,042	145,479	500,693	171,398	476,576	323,247
Hours worked/Patient visit	3.15	1.42	2.63	1.62	2.59	1.45
Hours paid/Patient visit	3.43	1.57	2.94	1.75	2.99	1.67
Hours paid/Adj. discharge	7.44	3.59	6.58	3.80	6.50	3.35

Cost Ratios						
Staff average rate/Hour	26.73	21.48	23.11	21.47	23.22	25.92
Exp/Patient visit: Labor	91.73	33.69	67.89	40.49	69.47	43.29
Exp/Patient visit: Operating	14.09	3.84	14.78	5.30	14.65	9.02
Exp/Patient visit: Medical supply	12.00	3.08	12.46	3.84	12.03	5.70
Exp/Patient: Total	105.82	37.52	82.67	45.79	84.12	52.31

N/A: Not available.

Panel C: Emergency Department No. 3

	Yr 1	Benchmark	Yr 2	Benchmark	Yr 3	Benchmark
Patient treatment spaces	18	18	34	20	34	22
Patient visits	33,727	47,185	34,696	44,618	36,070	56,677
Worked hours-staff	67,745	67,166	79,558	72,422	87,656	82,424
Worked hours-management	7,748	2,078	9,937	N/A	11,445	N/A
Worked hours-RN	31,428	50,787	37,571	56,377	41,545	50,560
Worked hours-other care	16,283	N/A	19,663	9,057	23,298	N/A
Worked hours-other support	10,662	14,300	10,201	6,987	10,558	17,609
Worked hours-overtime	4,386	N/A	5,525	3,378	6,891	19,831
Paid hours-staff	77,599	74,008	89,898	77,933	100,779	94,675
Paid hours-non payroll	11,326	N/A	3,023	N/A	N/A	N/A
Labor expense	2,663,142	1,548,673	2,491,681	1,676,577	2,726,279	2,316,200
Other operating expense	491,528	2,326,873	550,890	2,546,449	583,304	586,048
Medical supply expense	362,849	145,479	416,608	171,398	459,907	323,247
Hours worked/Patient visit	2.34	1.42	2.38	1.62	2.43	1.45
Hours paid/Patient visit	2.64	1.57	2.68	1.75	2.80	1.67
Hours paid/Adj. discharge	4.94	3.59	5.29	3.80	5.55	3.35
Staff average rate/Hour	27.70	21.48	24.29	21.47	23.45	25.92
Exp/Patient visit: Labor	73.02	33.69	65.06	40.49	65.54	43.29
Exp/Patient: Operating	14.57	3.84	15.88	5.30	16.16	9.02
Exp/Patient visit: Medical supply	10.76	3.08	12.01	3.84	12.75	5.70
Exp/Patient visit: Total	87.59	37.52	80.94	45.79	81.70	52.31

N/A: Not available.

This report provides basic productivity measures for the cost center in terms of discrete ratios. Although discrete ratios can be a very effective evaluation tool for cost centers, the mutually exclusive use of the ratios can obscure important trends. While presenting information on the different aspects of labor efficiency, the data stop short of capturing the total impact of the cost center operations relative to productivity and profitability. Arya et al. (2004) have shown that employing aggregate measures for performance evaluation prove superior to those constructed specifically to measure individual activity in a sequential production setting. Total factor productivity and profitability analysis is more effective in understanding and identifying trends.

We propose the application of an approach suggested by the American Productivity and Quality Center (APQC) to the estimation of hospital operating efficiency. Using this framework, a hospital may be thought of as a decision making unit. By accounting for all resources consumed in the delivery of care to patients, performance is decomposed into productivity and profitability components.

The profitability margin for the decision making unit in period t is computed as revenues divided by costs and can be defined as:

$$\pi^t = \sum_m p_m^t y_m^t / \sum_v w_v^t x_v^t \quad (6)$$

where, y_m^t = actual quantities of outputs during period t ;
 p_m^t = price per unit of output m during period t ;
 x_v^t = actual quantity of input v during period t ;
 w_v^t = price per unit of input v during period t ;

A profitability change ratio can be defined as the ratio of profitability for the decision making unit in period t to the profitability ratio for a base level o . It can be expressed as:

$$\pi^t / \pi^o = (\sum_m p_m^t y_m^t / \sum_v w_v^t x_v^t) / (\sum_m p_m^o y_m^o / \sum_v w_v^o x_v^o) \quad (7)$$

The productivity ratio for period t is defined as the ratio of standard to actual quantity:

$$\sum_v w_v^t z_v^t / \sum_v w_v^t x_v^t \quad (8)$$

The productivity change ratio captures deviation between actual and standard usages by comparing actual input usage to standard input requirements given actual outputs and output capacities. It can be defined as the ratio of the productivity ratio for period t to the corresponding ratio for a base period o :

$$(\sum_v w_v^t z_v^t / \sum_v w_v^t x_v^t) / (\sum_v w_v^o z_v^o / \sum_v w_v^o x_v^o)$$

The price recovery change ratio incorporates standard input requirements, given current period output and capacities:

$$(\sum_m p_m^o y_m^o / \sum_v w_v^o z_v^o) / (\sum_m p_m^t y_m^t / \sum_v w_v^t z_v^t) \quad (9)$$

It is driven only by difference in prices, and shows the composite ability of firms to maximize output prices relative to input prices.

The productivity change ratio is defined as the ratio of the value of current level output to base level output, divided by the ratio of the value of current-period inputs to base level inputs. The productivity change ratio measures the technical efficiency of the decision making unit. The price recovery ratio is defined as the ratio of the value of output at current period prices to the value at base level prices, divided by the value of inputs at current period prices to the value of base level prices. The price recovery change ratio helps measure the decision making unit's ability to be price efficient (see Banker et al., 1996, 1993).

Employing the data in Table 1, the variables are defined as follows: (i) physical inputs are paid FTEs (excluding physicians/providers), medical supply and patient treatment spaces; (ii) physical outputs are total patient visits; (iii) financial inputs are labor expenses, medical supplies, and other operating expenses; (iv) financial outputs

are total charges. While physical outputs and inputs yield physical (real) productivity measures, output and input prices are derived in order to calculate performance changes due to price recovery. These measures are used together to evaluate the activities of a cost center in terms of what the center accomplishes, as well as the costs of the accomplishment. Such an approach is designed to evaluate the multiple outcomes of cost centers rather than a single output. It provides a mechanism for gaining a better understanding of the relationships between financial resources and the level and quality of results. Similar measures are also adopted by hospitals in performance, or output, budgeting, to link resources cost centers plan to use to the various objectives they try to accomplish (GASB, 1993). Table 2 presents the APQC statistics of three Emergency Departments of an actual field study for a three-year period using the cost of the compatible best performers as the benchmark.

Table 2

Panel A: APQC Descriptive Statistics									
	<u>ED No. 1</u>			<u>ED No. 2</u>			<u>ED No. 3</u>		
	<u>Yr 1</u>	<u>Yr 2</u>	<u>Yr 3</u>	<u>Yr 1</u>	<u>Yr 2</u>	<u>Yr 3</u>	<u>Yr 1</u>	<u>Yr 2</u>	<u>Yr 3</u>
Paid FTEs	57.12	62.14	64.18	65.71	56.77	56.97	42.75	44.67	48.47
Treatment spaces	16	16	16	26	26	25	18	34	34
Patients	37,190	37,933	37,810	39,832	40,195	39,601	33,727	34,696	36,070
Labor expense	3,870,604	3,912,466	4,259,277	3,950,443	3,011,978	3,172,946	2,663,142	2,491,681	2,726,279
Medical supply	607,083	539,262	592,836	478,042	500,693	476,576	362,849	416,608	459,907
Other operating expense	716,475	693,071	733,910	561,002	594,143	580,022	491,528	550,890	583,304
Total charges	5,380,700	4,977,131	6,768,368	4,729,062	5,423,044	7,157,880	3,307,509	3,845,219	6,340,000

Panel B: APQC Approach Ratios

	<u>ED No. 1</u>			<u>ED No. 2</u>			<u>ED No. 3</u>		
	<u>Yr 1</u>	<u>Yr 2</u>	<u>Yr 3</u>	<u>Yr 1</u>	<u>Yr 2</u>	<u>Yr 3</u>	<u>Yr 1</u>	<u>Yr 2</u>	<u>Yr 3</u>
Profitability	1.0359	0.9674	1.2116	0.9478	1.3204	1.6923	0.9402	1.1115	1.6819
Change		0.9338	1.2524		1.3931	1.2147		1.1821	1.5131
Productivity	0.3757	0.6047	0.5743	0.3902	0.4852	0.5008	0.4833	0.5180	0.5155
Change		1.6095	0.9497		1.2434	1.0321		1.0717	0.9951
Price Recovery	2.7567	1.5996	2.1095	2.4286	2.7210	3.3786	1.9454	2.1458	3.2621
Change		0.5802	1.3187		1.1203	1.2416		1.1030	1.5202

- Profitability ratio= (Host total charges)/(Labor expense + Other operating expense + Medical supply expense), all items for host ED.
- Profitability change ratio = Profitability ratio 2003/Profitability ratio 2002.
- Productivity ratio = {[(Host staff average rate x Benchmark hours paid/patient visit) + Benchmark exp/patient visit: operating + Benchmark exp/patient visit: medical supply] x Host patient visits} / (Host labor expense + Host other operating expense + Host medical supply expense).
- Productivity change ratio = Productivity ratio 2003/Productivity ratio 2002.
- Price Recovery = (Host total charges) / {[(Host staff average rate x Benchmark hours paid/patient visit) + Benchmark exp/patient visit: operating + Benchmark exp/patient visit: medical supply] x Host patient visits}

visits}.

- Price recovery change ratio = Price recovery ratio 2003/Price recovery ratio 2002.

Table 2 shows that in the case of ED No. 1 there were more patient visits but less total charges in Yr 2 than in Yr 1. This intuitively explains the decreasing profitability in Yr 2. The *APQC* statistics uncover the fact that an increase in production efficiency and a decrease in price/cost profitability occurred simultaneously in Yr 2, indicating that, while ED No. 1 achieved an increase in its operating efficiency from Yr 1 to Yr 2, the lowering of price to cost margins caused a decline in its cost recovery ratio, resulting in lower profitability. Patient visits dropped and total charges increased in Yr 3 as compared to Yr 2, resulting in a higher profitability due to higher price-cost ratios, offsetting lower production efficiency.

ED No. 2 reduced (increased) its labor rate, and increased (reduced) all other input costs from Yr 1 (2) to Yr 2 (3). The *APQC* statistics show that both productivity and price to cost markups increased in Yr 2 and Yr 3. ED No. 3 maintained profitability increases over the three year period that accompanied an increase in productivity but a decrease in price to cost markups. Together, these results illustrate how an increase in costs does not necessarily reduce profitability when offset by productivity improvements. Appropriate cost management should analyze and report both production efficiencies as well as costs and price margins.

PATIENT ACUITY: A CRITICAL EXOGENOUS VARIABLE

While the *APQC* statistics provide additional information, the bias in distribution looks suspect. Some of the technical efficiency ratios were less than half, while pricing ratios were in some cases threefold that of the benchmark. The biased statistics are likely caused by missing variables. Performance of hospitals is determined by factors beyond as well as under their control. Patient acuity is one element. Acuity is a measurement of patient severity of illness related to the amount of resources required to care for the patient. Patient acuity system indicates the amount of the time required by individual patient. There are two major types of acuity systems: prototype, which classifies by description of care needed, and factor analysis, which classifies by totaling the values assigned to individual indicators. Two types of data are collected, retrospective and prospective care.

Acuity measurements serve four specific objectives in hospital management: (i) projecting and monitoring productivity; (ii) projecting staffing to improve productivity; (iii) charging for care based on acuity, and (iii) providing data for cost. Patient acuity has been rising over the past decade, leading to increased resources consumption. When patient acuity exceeds expectations, the results are invariably understaffing and/or overspending, which results in both technical production inefficiencies as well as cost inefficiencies. In any given reporting period, average acuity for a decision making unit may be unexpectedly high or low, depending on the specific mix of patients during that period. Such fluctuation has to respond with an appropriate adjustment in resources.

Before the advent of patient classification systems, measurement of patient acuity was not possible. For hospitals that currently use patient classification systems, such measurement is now feasible. Efforts have been made to extend flexible budget variance analysis to include acuity in hospital budgeting (Finkler and Kovner, 2000). The traditional flexible budget approach allows any line-item for a fixed cost to be divided into a volume and price variance and to include quantity and price variances on all variable costs. Price variance may be under the control of the decision unit (e.g. poor staffing leading to unnecessary overtime premiums), or may be beyond its control (e.g. estimates by the purchasing department for the unit cost of supplies). Quantity variances arise when paid nursing hours per patient visit rise. Changes in staff efficiency lead to increased (decreased) nursing cost per patient. Quantity variances also occur when workload changes and staff adjustment are not timely. Part of the quantity variance may be consequential to a change in patient acuity levels. When patient acuity information is available, the quantity variance can be separated into the portion due to acuity level.

Acuity level needs to be incorporated into the *APQC* approach in order to improve its implementation in hospitals. This is achievable by using a patient classification system to adjust the number of patient visits by acuity level. Under the patient classification system, each acuity level is assigned a relative value of 1 through 5 in order of severity. The numbers of patient visits can be adjusted by the relative value of each acuity level to arrive at total visit weights. Total visit weights divided by total number of patient visits provides an average visit weight. The adjustment of the number of patient visits by the average visit weight for each decision-making unit and time period holds the exogenous patient acuity variable constant across different decision making units and periods. Table 3

gives the statistics of the three emergency departments under the APQC approach adjusted for retrospective patient acuity.

Table 3

Panel A: Patient Acuity Statistics

	<u>ED No. 1</u>			<u>ED No. 2</u>			<u>ED No. 3</u>		
	<u>Yr 1</u>	<u>Yr 2</u>	<u>Yr 3</u>	<u>Yr 1</u>	<u>Yr 2</u>	<u>Yr 3</u>	<u>Yr 1</u>	<u>Yr 2</u>	<u>Yr 3</u>
<u>Utilization</u>									
Visit level 1	1,899	2,095	2,010	1,173	1,047	1,099	973	1,195	1,143
Visit level 2	11,936	10,080	11,092	7,621	6,678	7,080	8,535	8,189	8,821
Visit level 3	10,206	11,761	11,050	13,537	12,547	12,908	11,321	11,538	12,049
Visit level 4	5,673	5,380	5,564	7,247	9,777	8,418	5,793	6,417	6,433
Visit level 5	7,476	8,617	8,094	10,254	10,146	10,096	7,105	7,357	7,624
Total Visits	37,190	37,933	37,810	39,832	40,195	39,601	33,727	34,696	36,070
<u>Relative Value</u>									
Visit level 1	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44
Visit level 2	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Visit level 3	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65
Visit level 4	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56
Visit level 5	4.01	4.01	4.01	4.01	4.01	4.01	4.01	4.01	4.01

Panel B: Acuity-adjusted APQC Approach Ratios

	<u>ED No. 1</u>			<u>ED No. 2</u>			<u>ED No. 3</u>		
	<u>Yr 1</u>	<u>Yr 2</u>	<u>Yr 3</u>	<u>Yr 1</u>	<u>Yr 2</u>	<u>Yr 3</u>	<u>Yr 1</u>	<u>Yr 2</u>	<u>Yr 3</u>
Profitability	1.0395	0.9674	1.2116	0.9478	1.3204	1.6923	0.9402	1.1115	1.6819
Change		0.9338	1.2524		1.3931	1.2147		1.1821	1.5131
Productivity	0.7133	1.2154	1.1256	0.8623	1.1062	1.1268	0.9859	1.0670	1.0567
Change		1.7039	0.9261		1.2828	1.0186		1.0822	0.9903
Price	1.4432	0.7958	1.0762	1.0989	1.1934	1.5016	0.9536	1.0416	1.5912
Recovery									
Change		0.5514	1.3523		1.0859	1.2582		1.0922	1.5276

The acuity-adjusted APQC statistics in Table 3 show a better fit of the data than the unadjusted statistics reported in Table 2. Both the unusually low productivity and high price recovery ratios have been brought into a range compatible to those reported in previous studies on industrial/commercial firms (Banker et al., 1996; 1993). The reported opposing directions of productivity and price recovery statistics trends complement each other in providing an understanding of the profitability for ED No. 1 and No. 3. The statistics for ED No. 2 show the synergy between productivity and price recovery in affecting profitability. The division of profitability into productivity and price recovery components sheds light on different aspects of hospital/department performance. This provides a basis for management to identify factors affecting each decision-making unit's performance, similar to Malmquist Indexes under DEA (Maniadakis and Thanassoulis, 2004).

The reported field study illustrates exactly how the APQC approach is capable of simultaneously reporting more comprehensive and unbiased cost and productivity data. One of the core financial and operational indicators frequently used by hospitals is net operating revenue generated per FTE personnel. Increase in healthcare spending due to new procedures, new technologies, and new pharmaceuticals reflect positive advances in care. However, in fact, more spending does not lead to more patients receiving expensive but proven treatments, like cardiac bypass or hip replacement. What higher spending often buys is unnecessary care, such as certain types of arthroscopic knee surgery, hormone-replacement treatment, full-body scans and antibiotic overuse, which not only has no value, but also exposes patients to risk and waste time, resources, and money, all of which can be put to better use (O'Kane, 2006). The current incentives embedded in the payment structure reward hospitals for providing units of care regardless of the quality of care. In its landmark report, the Institute of Medicine (2001) identified overuse of care as one aspect of poor quality. A performance evaluation model based on the APQC approach would be a promising measure to counterbalance these incentives by linking profitability (cost recovery) with performance that motivates hospitals to improve quality and achieve better outcomes for patients.

CONCLUSION

Effective 2007, Medicare will further tighten its reimbursement system based on allowable cost for specified procedure with enhanced reporting requirements. Hospitals must develop stringent control over operations and cost so essential to hospital viability. Hospital performance evaluation provides a tool in the battle for operational and financial control of product lines and continuous improvement. Hospital efficiency measurement integrates financial and operational information into comparative ratio trends. Ratio comparison to a benchmark may determine if the decision-making unit is operationally and financially competitive relative to its peers in the same environment. Hospitals need to analyze, develop and implement realistic productivity standards. However, managers of many hospitals find assessing financial and operational performance a daunting task.

The American Productivity and Quality Center (*APQC*) approach is an input-output model capable of disaggregating profitability (cost containment) into its productivity and price recovery components. It has been successfully applied to industrial/commercial firms over the past two decades. This paper shows the potential of the *APQC* approach in making a frontier-type analysis for decision making units in the healthcare industry. The acuity-adjusted *APQC* approach statistics bring piecewise information into a clearer perspective on how to evaluate hospital performance in terms of both productivity and profitability. The modified *APQC* approach provides an alternative method to *DEA* and *SFA* for frontier-type efficiency study of hospital performance.

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PAY FOR PERFORMANCE: IS IT WORKING WITH CHRONICALLY ILL PATIENTS?

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ABSTRACT

High costs and overutilization of healthcare services have caused the Centers for Medicare and Medicaid Services to determine that the compensation to providers should be based on quality improvement. A literature review was conducted using compiled literature published within the past five years. With the aging of the baby boomers, healthcare spending has continued to rise. More care for those who are chronically ill has not meant that they have received better care. This study showed that modest improvements in quality care was achieved over short periods of time using pay per performance, but did not necessarily prove that increased quality of care was a result of financial incentives.

INTRODUCTION

Pay-for-performance (P4P) are programs that reward providers based on outcome-based measures, or other incentives for performance quality (Cheng, Chung, Lin and Lai, 2010). P4P links compensation to outcomes, measures, or goals, and in 2005, 75% of all United States (U.S.) organizations connected pay to measures of performance including in the healthcare industry where more than 100 private and federal programs are being piloted (Rosenthal; Frank; Li; and Epstein, 2005). More than 50% of commercial Health Maintenance Organizations (HMO) utilize P4P, and it has been used in hospitals, primary care, and emergency rooms (Rosenthal et al, 2006); Gavagan, 2010; Glickman, 2010).

Historical perspective

In 1945, President Harry S. Truman presented his idea of a national healthcare plan to the U.S. Congress (Brief History of the Medicare Program, 2010). During the next 20 years the issue of national healthcare was debated. President Truman eventually gave up on the national program, but the Social Security Administration picked up on the concept and used it to create a program within Social Security aimed at insuring their recipients' benefits. This program became known as Medicare. Medicare and Medicaid were signed into law on July 30, 1965 by President Lyndon Johnson (CMS, 2010a).

Medicare provides medical coverage to those U.S. citizens that are 65 years or older, and Medicaid provides medical coverage to indigent recipients. Although Medicare was created for the consumption of senior citizens, 65 years or older, in 1972, Medicare was expanded to cover those younger than 65 years who are considered disabled or diagnosed with End Stage Renal Disease (ESRD), (Eure, 2005).

Initially, Medicare reimbursement was paid on a Fee-For-Service (FFS) basis. That is, physicians and medical facilities were paid for each individual service provided. These practices lead to the overutilization of medical services (Montgomery, 2006). At the end of the 1970s, the Health Care Financial Administration (HCFA) identified this overutilization and began to plan ways to decrease it, and thereby reduced the amount of money that HCFA was spending on medical care (Medicare Prospective Payment System, 2009).

In 1983, Medicare changed from paying hospitals on a fee-for-service basis to a prospective payment system. The prospective payment system paid based on Diagnosis-Related Groups (DRG), (CMS, 2010b). Medicare reimbursed on a prospective payment system for several years and as the popularity of HMO waned and HMOs began to offer more health plan choices, the costs began to rise again. CMS determined they would

compensate based on quality improvement too. This new payment system is better known as Pay for Performance (P4P). With the P4P program “good” facilities or physicians are being rewarded and “bad” facilities or physicians are being punished by performance of quality (Bayley, 2006). Pay for Performance offers financial rewards to providers who achieve, improve, or exceed their performance on specified quality, cost, and other benchmarks (Leapfrog Group, 2006).

Chronic illness

In 2005, 133 million US citizens suffered from at least one chronic illness and counted for 70% American’s deaths (CDC, 2009). Chronic illness is defined as a disease that perseveres for a long period of time and is not cured quickly or is never cured (Medicine Net, 2000). According to the U.S. National Center for Health Statistics, chronic illness is an illness lasting three months or more. Some of the most common chronic diseases are diabetes, heart disease, hypertension, arthritis, stroke, and asthma (Finseth, 2009). Patients diagnosed with a chronic disease need continuous medical treatment over a period of time, and the individuals very rarely achieve positive outcomes (Sipkoff, 2004).

The purpose of this study was to demonstrate that although P4P is beneficial in achieving quality care, there is little to no benefit to private practice providers in treating chronically ill patients.

METHODOLOGY

The methodology of this literature review follows the basic principles of a systematic search, conducted in discrete stages, but is not a comprehensive systematic review, which was not feasible due to time and resource constraints. Although this meant that it was not possible to search ‘grey literature’ or to translate non-English papers for example, the search did identify 25 published papers. The stages in the search included: defining the search strategy, identifying the inclusion criteria, assessing the relevance and validity of the studies retrieved, extracting data, and synthesizing data.

Search strategies

The aim of the search was to retrieve published literature, which complied with the inclusion criteria given below. The terms used in the search strategy were ‘Pay for Performance’ OR ‘Health Care Incentive Payments’ OR ‘Medicare Reimbursement’ AND ‘Quality Care’ OR ‘Patient Outcomes’ OR ‘Performance-based Initiatives’ AND ‘Chronically Ill’ OR ‘Long Term Illness.’ To identify papers, seven electronic databases were searched: Center for Medicare and Medicaid Services, National Quality Measures Clearinghouse (NQMC), Centers for Health Services Research and Agency for Healthcare Research and Quality (AHRQ), PubMed, ProQuest, and Ebscohost. Google and Google Scholar search engines were also explored.

Information related to the aim of this research was gathered and reviewed from quality health care research organizations which included: The Robert Wood Johnson Foundation, the United States’ largest philanthropy organization for quality health care, The Leapfrog Group, a group of private and public health care purchasers, and Bridges to Excellence, a not-for profit organization that monitors quality care of health care providers.

Inclusion, exclusion, and assessments

The search strategy was limited to papers published within the last five years in the English language. Letters and editorials, as well as original papers, reviews, and monographs were all included, including primary and secondary data. Citations and abstracts identified by the search were assessed in order to identify relevant papers. Full text copies of such papers were then reviewed. The literature search was conducted by TH and JH and validated by AC for this research project.

RESULTS

Stuart Guterman, Senior Program Director, Program on Medicare’s Future, testified before the U.S. Senate’s Special Committee on Aging. In his testimony he explained that over the past several years healthcare spending has increased more rapidly than the U.S. economy can handle. With the aging of the baby boomers this problem will

only get worse. His testimony described the Medicare initiatives to improve care for those with chronic conditions (Guterman, 2007). Table 1 describes each initiative.

TABLE 1: Medicare's Chronic Care Initiatives on the Coordination of Care for the Chronically Ill

<i>Initiative</i>	<i>Description</i>
Medicare Case Management Demonstration	The first of the Medicare chronic care initiatives, designed to test case management for beneficiaries with catastrophic illnesses and high medical costs.
Medicare Coordinator Care Demonstration	To examine whether coordinated care programs can improve medical treatment plans, decrease avoidable hospital admissions, and further benefit chronically ill beneficiaries without increasing program costs.
Medicare Disease Management Demonstration	To evaluate the effect of disease management services, coupled with a prescription drug benefit, on the health outcomes of Medicare beneficiaries diagnosed with advanced-stage congestive heart failure, diabetes, or coronary disease.
Medicare Health Support	Pilot program to test population-based chronic care programs that provide self-care support, education, and coordination of care to beneficiaries.
Care Management for High-Cost	To study a variety of provider-centered care management models – including intensive-care management, increased provider availability, structured chronic care programs, restructured physician practices, and greater flexibility in care settings – for high-cost beneficiaries.

Source: CMS 2007

According to Guterman's testimony to Congress in October 2008, the team concluded that attracting beneficiaries to the initiatives was more difficult than anticipated. Initiatives that involved a close relationship between the physician and the beneficiary were more successful than those that did not. Those initiatives included the Medicare Coordinated Care Demonstration and the Care Management for High-Cost Beneficiaries Demonstration (Guterman, 2007). Creating initiatives that can reach a diverse population in many parts of the country has been challenging and complicated to implement (McCall, Cromwell, Urato, Rabiner, 2008). Though improving the quality of care to the beneficiaries seemed possible, the savings to Medicare was in doubt (Guterman, 2007).

According to a 2008 study from the Dartmouth Institute for Health Policy and Clinical Practice, many hospitals received more money from payers to treat the chronically ill than did the most efficient and effective healthcare institutions. However, the higher paid hospitals found that their outcomes fared worse than the most efficient and effective healthcare institutions. Additionally the president and CEO of the Robert Wood Johnson Foundation (RWJF) concluded that more care did not always equal better quality outcomes (RWJF, 2009).

The research showed that the institutions that provided better care did so at a lower cost because more treatment than necessary was not provided to the patients. The study indicated that Medicare actually encouraged overuse with their financial incentives to treat the chronically ill. This fact has become an issue because 75% of the healthcare spending is used for the chronically ill (RWJF, 2008). Additionally, the increased Medicare spending is not necessarily associated with improved survival, ability to engage in daily activities, quality of care, or satisfaction with care (Dartmouth Institute, 2003).

The Dartmouth Institute suggested that the Medicare policy must be changed. Research should be supported through clinical practices and reimbursement based on effective care management with a firm emphasis on primary care. Getting utilization under control is the key to savings. Medicare also needs to set in place a standardized system of reimbursement for all providers. Furthermore, it has been proved that the most efficient and effective systems in place should be benchmarked to other areas across the country to increase quality.

Policy makers and those who pay for healthcare services have supported P4P programs as a way to improve the quality of healthcare. The United Kingdom's (UK) National Health Service introduced P4P contracts after the Institute of Medicine's report was published in 2001 suggesting realigning incentives to improve care. More than

half of commercial HMOs in the U.S. have started using P4P contracts. The U.S. legislature then required CMS do the same for Medicare (Coleman & Hamblin, 2007).

There have been few studies conducted to show the financial incentives on improving health care processes and outcomes. This U.K study has shown that it is possible that the improvements were a result of increased focus on services from the performance measurement and publication of data. Physicians were found to use 'exception reporting' to achieve high-quality targets (Coleman & Hamblin, 2007).

Exception reporting is a practice used by physicians to exclude certain patients from the performance data collection due to the amount of chronic medical conditions. Pay-for-Performance may also undermine other significant quality initiatives by creating the incentive to use dishonest reporting of data, by physicians. Health disparities are less likely to be reduced under these circumstances. The study also showed family practices were less likely to meet quality targets if they had a large number of single-parent or low-income patients (Coleman & Hamblin, 2007).

High-quality care delivery in the current U.S. healthcare industry does not always is achieved (Newhouse, 2002). Under FFS, quality care improvement activities which reduced acute care visits were not billable (Rosenthal, et. al., 2004). The reduced number of visits lowered the standard of effective care for the chronically ill, which in turn led to lower revenues for providers. Pay-for-Performance was put into place to reward healthcare providers for their efficiency of delivering higher quality care while lowering costs (Werner, 2009).

One of the biggest challenges in implementing P4P has been to get providers and payers to agree on quality standards. The standards have been used to determine the quality of the care the providers offered to their patients. Many providers believe standardizing the utilization of services would be wrong for their patients by putting everything down to a checklist of treatments (Montgomery, 2007).

In the UK, Coleman and Hamblin (2007) studied performance data on treatment targets for diabetes management on patients from different ethnic groups. The study was conducted on the UK's National Health Service P4P program before and after its implementation. The black Caribbean group had substantially lower improvements than the white British group in both blood pressure control and glycated hemoglobin levels, underlining pre-existing disparities. Additionally, it was found that the different ethnic groups received different treatment processes. Evidence showed that black and south Asian patients being treated for hyperglycemia received oral medications, whereas white patients more often received insulin prescriptions.

DISCUSSION

The evidence to support the P4P program's effectiveness is weak. Many of the studies showed modest improvements were achieved over short periods of time, but did not necessarily prove that the increased quality of care was the result of financial incentives.

Defining quality can be challenging. Many regard achieving positive outcomes as improving quality. However, when a patient is chronically ill, the outcomes generally remain the same, and quality is not equated with the care provided. Treatment procedures for patients with the same diagnosis can differ from one provider to another in quantity and quality. Because P4P focuses on rewarding providers on their work performance, individual patients may not see a big effect. This research also proved that incentive programs may unintentionally magnify differences in health disparities between various ethnic groups. The short of history on P4P restricted the literature review to the past five years. As P4P is still in the implementation stages, there are a lack of statistics that prove that incentives affect quality of care. Another challenge faced by smaller medical practices has been the limited purchase of technology and equipment needed, or the need to change their practices to enable the quality improvement programs to be implemented (Klein, 2006). With smaller practices, adding new Electronic Medical Record (EMR) may not be feasible (NCQA, 2008). According to Klein (2006), small practice providers have been especially reluctant when there was not a clear financial benefit of the implementation. Larger group practices had been more willing to take a chance that the quality improvement program would pay off in the long run. In the US in 2006, 29.2% of clinic-based physicians stated the use of full or partial EMRs, and its use was greater when the practice increased with a higher number of physicians (Hing, Burt, Woodwell, 2007).

It had been the practice for years to pay physicians to treat patients after they had been diagnosed with a chronic illness instead of providing preventive care. The practice has resulted in 75% of healthcare dollars being spent on the treatment of the chronically ill (Natural Health Journal, 2009). P4P has begun changing the payment structure and has begun to pay for quality outcomes. The limitation of the payment system has been that it has failed to adjust for disease severity or length of illness. Therefore, practices with a large number of chronically ill patients can be reimbursed at lower rates because the quality outcomes would be skewed (National Committee for Quality Assurance, 2008). Additionally, providers who treat patients with more severe conditions can fear unfair penalization because these patients are likely to cause a drop in providers' performance scores (Werner and Asch, 2005).

CONCLUSION

Where larger healthcare providers have available resources to deliver more efficient care to the chronically ill, smaller providers do not have sufficient funding for the necessary continuity of care over longer periods of time that these patients require. Although there are many P4P programs being used by HMOs, employers, and CMS, there is little evidence that they improve healthcare.

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WISCONSIN COUNTY NURSING HOMES STRUGGLE TO STAY IN BUSINESS (WHY)

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ABSTRACT

County long term care organizations struggle to find the best payer source to provide care to the frail elderly, developmentally disabled, and mentally ill. Furthermore, county nursing homes in Wisconsin have been forced to close their operation or be subsidized by county tax levy (Appendix A). In this paper, the author explores contemporary reasons why county nursing homes in Wisconsin are reliant on the tax levy to remain solvent.

INTRODUCTION

Traditionally, the role of Wisconsin county nursing homes was to be a safety net for long term care consumers. Therefore, county homes have a history of providing care for people who did not have appropriate long term care services in their community. However, county nursing homes in Wisconsin have been closing their operations, and therefore cannot be the safety net for the long term care system. The closing of Wisconsin county nursing homes may disrupt the long term care system that once was the safety net for providing care to all people in their respective counties.

The goal of this study is to explore reasons why Wisconsin county nursing homes need to rely on tax levies to remain in business. The research will be divided into three phases. The first phase will focus on interviewing leaders in Wisconsin long term care professional organizations; the second phase will explore trends in long term care; and the third phase will review current payer sources and regulations in long term care. The research is a contemporary multi-prong approach to studying the challenges facing Wisconsin county nursing homes. The intent of this research is to better understand the reasons for Wisconsin county home closures and the changes in tax levies over the past few years. Furthermore, this research paper will lead to more specific research questions which can be researched to create new knowledge and an understanding of Wisconsin county nursing homes fiscal trouble.

METHODS

This study targeted Wisconsin county nursing homes exclusively. The nursing homes studied include all Wisconsin county nursing homes that operate long term care programs for the frail elderly, developmentally disabled, and chronically mentally ill. There are 43 county organizations that were part of this study. Wisconsin has 72 counties; therefore, there are 29 counties in Wisconsin that do not have county operated nursing homes. Each county organization, at a minimum, operates a skilled nursing home that is licensed under State HFS 132 codes and Federal OBRA regulations (Burgess & Schweinberger, 2001). The long term care programs that were part of this study include: Skilled Nursing Facility, Intermediate Care for the Developmentally Disabled, Residential Care Apartment Complex, Community Based Residential Facility, Adult Day Care, Adult Family Homes, and Institute for the Mental Disease, Hospital, Behavior Health Clinic, Independent Apartments, Supportive Apartments, and Memory Care. The aforementioned programs were reviewed via utilizing the organization's web site, personal interviews, and Wisconsin Association of County Homes (WACH) directory.

A literature review was conducted targeting long term care nonprofit county organizations. Furthermore, a more expansive literature review was conducted to determine long term care profitability. Both of these literature reviews produced limited results. Therefore, the research focused on contemporary long term care sources in Wisconsin, to explore reasons why Wisconsin county nursing homes rely on tax levies to remain solvent.

Professional organizations included in this study are: Wisconsin Homes and Services of the Aging (WAHSA), Wisconsin Assisted Living Association (WALA), Wisconsin County Association (WCA), and Wisconsin Association of County Homes (WACH). Wisconsin Homes and Services of the Aging and WALA also have national representation via their parent organization American Association of Homes and Services for the Aging (AAHSA) and Assisted Living Federation of America (ALFA), respectively. These organizations provided continued research information throughout the study.

The research methods used include a survey that was sent to the members of Wisconsin Association County Home (WACH). The survey tool was electronically based and sent to county nursing home administrators' email addresses. Prior to the survey being sent out, this researcher attended a WACH meeting to explain the purpose and method of the survey. The electronic survey was sent to the WACH President who forwarded to the WACH members. The survey recipients were given a week to complete the eleven question survey.

This study examined regulations in the long term care industry. Specifically, the study focused on regulations that govern long term care programs in Wisconsin. The regulations analysis centered on programs such as: Skilled Nursing Facility, Intermediate Care for the Developmentally Disabled, Residential Care Apartment Complex, Community Based Residential Facility, Adult Day Care, Adult Family Homes, and Institute for the Mental Disease. All the above mentioned programs are governed by Wisconsin Department of Health Services (DHS) codes, with the exception of nursing homes, which are both state and federally regulated. The Federal OBRA regulations only apply to skilled nursing homes; which add another layer of rules, laws, and regulations to these long term care programs. In summary, the methods used included a survey of all county homes in Wisconsin, a literature review, interviews with health care consultants/professionals, and contemporary fact finding exploration with state long term care organizations.

RESULTS

Phase I expert interviews

In an attempt to understand the current activity in Wisconsin long term care market, I conducted interviews of organizational leaders from WAHSA, WALA and WCA. WAHSA and WALA represent nonprofit organizations that provided services to the frail elderly, developmentally disabled and mentally ill. The purpose of these interviews was to explore current information that impacts nonprofit county governments and the long term care industry in Wisconsin.

According to Mr. Schoeneck, Financial Director for WAHSA (personal communication, July 13, 2010), the average Medicaid loss for skilled nursing homes in Wisconsin is \$40.39 per patient day, and the average Medicaid loss for county nursing homes is \$68.48 per patient days. Also, county nursing homes provided care for 73% of Medicaid residents each day in their respective nursing homes in 2008. According to the Wisconsin Department of Health Services (Wisconsin Health Care Association Fall Conference, 2009), in 2008 76% of county nursing homes in Wisconsin suffered a net loss in operations. Therefore, county organizations are having the most difficulty remaining solvent as the tax levy grows and tax payers are resistant to increasing their taxes. Furthermore, thirteen county nursing homes in twelve counties have been sold since 1986 (Wisconsin County Homes Association, 2009). This large number of county nursing home sales in Wisconsin underscores the importance for Wisconsin county nursing homes to diversify their programs and implement creative and cost-effective services. Moreover, the assisted living legislative and regulatory trends support diversification of long term care programs (Bersani, 2006).

According to J. P. Murphy, Executive Director of Wisconsin Assisted Living Association (personal communication, July 12, 2010) the number of assisted living beds (38,777) as of November 19th, 2008-has exceeded the number of skilled nursing home beds in the United States. The number of assisted living beds continues to grow while the number of nursing home beds continues to decline (Wisconsin Bureau of Assisted Living, 2009). Furthermore, Wisconsin county nursing homes own only 2% of the assisted living facilities (Wisconsin Bureau of Assisted Living, 2009). Concurrently, according to the Wisconsin Department of Health Services (Wisconsin Health Care Association Fall Conference, 2009), the number of licensed nursing home beds in Wisconsin has decreased by 22.4% from 1995 to 2008. Moreover, Wisconsin's long term care system has undergone a rebalance regarding the location of services for publicly funded clients. In 1995, 61% of the clients received services in an institution, while 39% received services in the community. In 2008, 66% of the clients received services in the

community, while 34% of the clients received services in an institution (Wisconsin Department of Health Services, Wisconsin Health Care Association Fall Conference, 2009). This dramatic rebalancing increased the number of people served through public long-term care system from 49,000 in 1995 to 60,000 in 2008. Therefore, this trend continues to decrease nursing home beds while increasing assisted living beds in Wisconsin.

In an interview with Ms Sarah Diedrick-Kasdorf, Wisconsin County Homes (WCH) Attorney (personal communication, August 12, 2010) two Wisconsin county homes have established a commission to regionalize their county operations. The purpose of the commission is to lower the tax levy and offset Medicaid losses. Moreover, WCH has passed legislation to protect the commission process via passing SB 684 and AB 944. Ms. Diedrick-Kasdorf further explained some of the characteristics of the commission and the process for starting the county regionalization. This information from Ms. Diedrick-Kasdorf, may provide an alternative for Wisconsin county homes to minimize the Medicaid loss for their respective county organizations.

PHASE II TRENDS IN LONG TERM CARE ORGANIZATIONS

The number of facilities that provide care in an institutional setting has decreased since 2001 (Wisconsin Bureau of Assisted Living, 2010). As figure one illustrates, facilities that provide care in a nursing home environment for the frail elderly and developmentally disabled have been reduced from 458 facilities in 2001 to 413 facilities in 2009. Furthermore, figure two shows the increase in assisted living organizations from 2,100 assisted living facilities in 2001 to 3002 assisted living facilities in 2009 (Wisconsin Bureau of Assisted Living, 2010). This 30% increase in assisted living facilities over the past 9 years indicates that more consumers of long term care services are receiving services in an assisted living facility versus a nursing home facility.

Table 1. Nursing Home (NH) & Facility for the Developmentally Disabled (FDD) trend in number of facilities

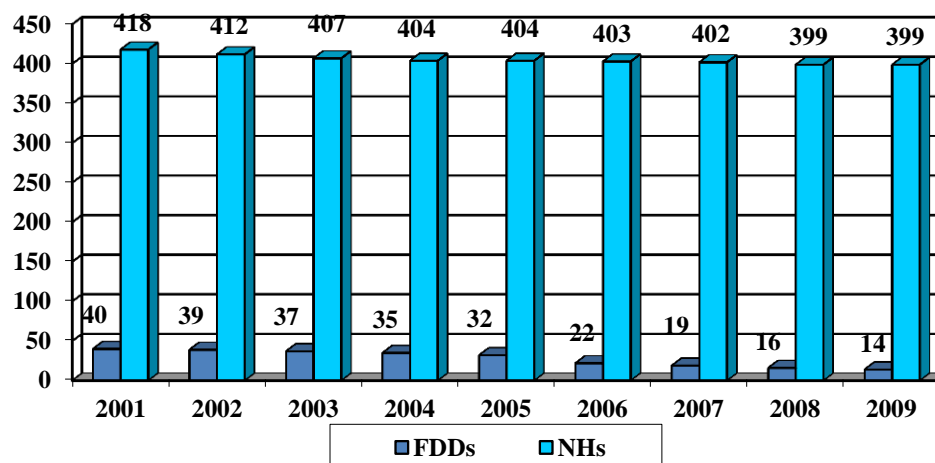
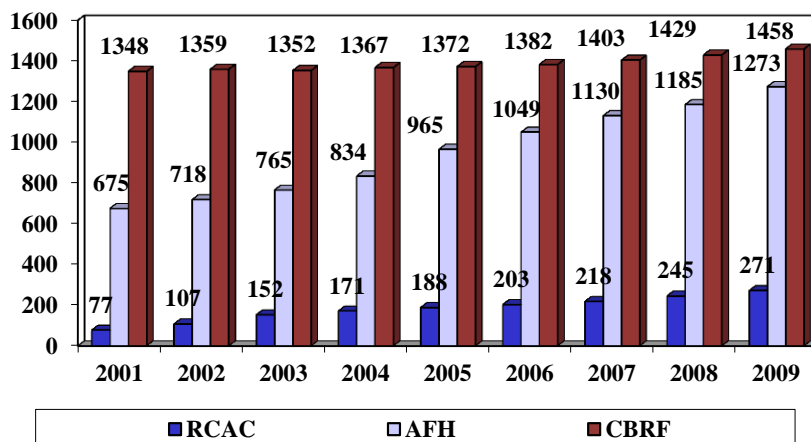


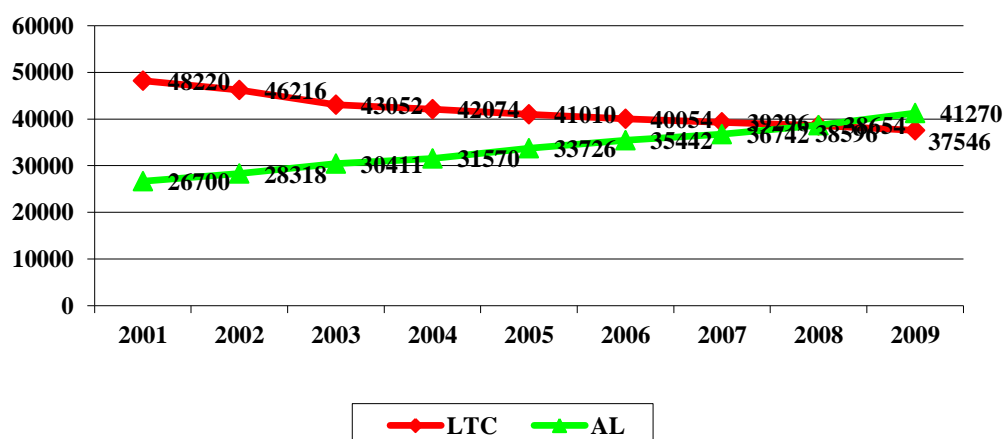
Figure 2. Assisted Living Trends in Number of Facilities in Wisconsin (WALA)



Please note: Wisconsin acronyms for assisted living facilities: Resident Care Apartment Complex (RCAC) Adult Family Home (AFH) Community Based Residential Facility (CBRF)

The trends for number of beds that are licensed or certified in nursing homes are illustrated in Figure 3. Figure 3 illustrates the intersection of nursing home beds with assisted living beds (Wisconsin Bureau of Assisted Living, 2010). This positive trend for assisted living beds and negative trend for nursing home beds indicates the capacity to receive services in assisted living continues to grow. Furthermore, the capacity for consumers to receive services in nursing homes continues to decline. These numbers represent the consumers of long term care in the United States.

Figure 3. Trend in capacity for residents in Assisted Living Facilities and Nursing Homes (WALA) Long Term Care (LTC) Assisted Living (AL)



Trends in Wisconsin county nursing homes

Wisconsin county nursing homes have been slow to diversify their programs to include assisted living facilities. According to Wisconsin Assisted Living Association, only 2 % of the assisted living facilities are owned by government agencies (Appendix B). Based on this researcher's analysis of the 43 counties in Wisconsin, it was discovered that 11% operate a RCAC, 10% operate a CBRF, less than 10% operate an AFH, and less than 5% operate supportive apartments. Furthermore, the counties have downsized their skilled nursing beds to an average of 64 beds per organization. Overall, the number of county organizations that have assisted living facilities is less than 15%. Moreover, the state and national long term care organizations have more assisted living beds than nursing home beds. And the Wisconsin county nursing homes have more nursing home beds than assisted living beds in operation. Therefore, Wisconsin county organizations have not kept up with the trends of increasing assisted living options to consumers of long term care.

Aging trends

According to the 2000 census data, analysis by Mike Edwin, Wipfli Senior Manager in long term care (email communication, July 29th, 2010), the population of adults 65 plus will double from 2005 to 2035. This means the demand for long term care services will also increase. Furthermore, according to Edwin (personal communication, July 29th, 2010), the new generation of people requiring long term care services would rather be served in an assisted living setting than a skilled nursing home. Moreover, the next generation of people requiring services will have greater service expectations. Therefore, the medical model will be replaced with a hospitality type of setting. According to M. Edwin (person communication, July 29th, 2010), organizations need to change their operations now to accommodate for the future demands of long term care. Moreover, skilled nursing home regulations continue to increase in long term care facilities (Edwards, 2003), while assisted living regulations remain more congruent with home like environment (Bersani, 2006).

Current trend analysis based on survey results

The survey results are based on 50% participation from Wisconsin County Nursing Homes (22 out of 44 county nursing homes responded to the survey). All 22 people completing the survey were nursing home administrators. The administrators were given one week to complete the survey. Ninety percent of the people who responded to the survey only operated skilled nursing homes. The other respondents operated some type of assisted living facility. Therefore, less than 20 percent of the people surveyed operated assisted living facilities. The majority of the administrators indicated that skilled nursing services are the least profitable. Moreover, 81% of the administrators indicated that skilled nursing has the most rigorous regulations. Therefore, out of the 22 nursing home administrators who responded, they identified the skilled nursing homes as the worst payer with the highest regulations.

In summary, the survey results indicate that Wisconsin county homes operate skilled nursing homes that are heavily regulated with poor reimbursement sources. Moreover, the trend for number of skilled beds has decreased, and the number of county assisted living facilities is less than 10%.

PHASE III REGULATIONS AND PAYER SOURCE FOR LONG TERM CARE ORGANIZATIONS

J. P. Murphy, WALA Executive Director (personal communication, July 13, 2010), indicated that nursing facilities have many more regulations than assisted living facilities. The biggest difference between nursing homes and assisted living regulations is based on the fact that nursing homes are regulated by both federal and state regulations; while, assisted living programs are regulated by only Wisconsin regulations (Burgess & Schweinberger, 2001). To quantify the regulations, please see table 1, which identifies the number of pages of regulations that each long term care program has to comply with to operate their respective services. The purpose of the table is to provide a sense of how large or small the codes are to each long term care program.

Table 1. Regulations for Long term Care Services in Wisconsin

Licensed Long Term Care Programs:	OBRA Regulations	HFS 132 Regulations	HFS 89 Regulations	HFS 83 Regulations	HFS 82	Total
Nursing Homes	391 Pages	20 pages				411
RCAC			11 pages			11
CBRF				26 pages		26
AFH					7 pages	7

Payer source

According to B. W. Schoeneck, WAHSA Financial Director, (personal communication, July 15, 2010) the average nursing home Medicaid rate for the state of Wisconsin is \$139.52 per patient day. The average nursing home private pay rate is approximately \$212.00 per patient day. Furthermore, based on the county homes 2008-2009 cost report, the average Medicaid loss per patient day is \$68.48 (WAHSA, 2010). Therefore, the private pay rate differential of approximately \$81.00 per patient day is used to offset the Medicaid loss. Moreover, the county nursing homes have an average of 71% Medicaid occupancy in Wisconsin county nursing homes (WAHSA, 2010). Therefore, based on Medicaid as a payer source and the high Medicaid daily census in county nursing homes, it appears that the local tax levies have to make up the differences in expenses versus revenue in county nursing homes.

Wisconsin assisted living organizations' largest payer source is the managed care organizations (MCO), which operate under Wisconsin Family Care. Currently, there are 12 MCO's in Wisconsin which provide individual rates to assisted living service providers (WAHSA, 2010). The rates are determined by resident care level, cost of the facility, and type of program that the assisted living organization operates. Moreover, assisted living organizations in Wisconsin do not have to submit annual cost reports that detail cost and revenue for each program of operation. Therefore, it is not possible to obtain average assisted living rates based on the current data that exist for assisted living organizations?

DISCUSSION

Wisconsin County Nursing Homes are clearly feeling the impact of the underfunded Medicaid program in Wisconsin. While the mission of each county home is to provide long term care services to people in need, the government funding is not keeping up with the increasing cost. Therefore, county tax payers are held accountable to fill the gap via increased tax levies. The gap between the cost per day of a Medicaid resident and the actual daily reimbursement continues to grow larger every year. It is more critical today than ever, that county homes need to diversify services and find other resources for funding. Further research questions regarding county funding should be explored to advance the understanding of the need for county tax levies.

Based on the research, county nursing homes have been slow to enter the assisted living market. Assisted living opportunities for people with moderate to low income may be an area where county nursing homes can offset their current financial issues. As the survey indicates, skilled nursing homes have the highest regulations correlated with the worst payer source. Therefore, county nursing homes may need to reduce skilled nursing home beds while increasing other long term care options to remain solvent.

More specific research is required to better understand the reasons for Wisconsin county home closures, and increase in tax subsidize in the past few years. Furthermore, this exploratory research provides several opportunities for specific research questions that can address Wisconsin county nursing homes fiscal trouble.

LIMITATIONS

A limitation to the survey is the fact that 90% of the county nursing homes that responded only operate skilled nursing homes. Therefore, attempting to explore the most profitable long-term care program in the least regulated environment for counties in Wisconsin is very difficult. Another limitation is based on the fact that Wisconsin county nursing homes do not have a clear representation of all the services that can be provided to people who need care. A further study may choose a sample that would include all non-profit nursing homes. This sample would increase the number of providers and increase the different types of services offered to the elderly.

CONCLUSIONS

Wisconsin county nursing homes have been placed in a no win situation. The nursing homes are asked to provide services for people with developmentally disabilities, chronic mental illness, and the frail elderly while being underfunded to create programs and services. Moreover, the funding has decreased while the regulations have increased. Therefore, county homes have to find resources to operate their organizations outside of the Medicaid program. The current business model that includes one skilled nursing home and no other assisted living program will continue to have difficulty surviving in the future. The mission to care for all people regardless of payer source will continue to play a huge role in the continuum of care provided for all people in Wisconsin.

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Appendix A

County Nursing Home Sales in Wisconsin

Since 1986, thirteen county nursing homes in twelve counties have been sold. The primary reasons these facilities were sold were existing and /or projected operating deficits and projected costs associated with capital projects. Capital project costs include correcting existing code violations, major renovation and replacement of existing facilities. The following is a brief summary of county nursing home sales.

Chippewa County Health Care Center: Chippewa County sold the 353 bed facility in 1986 for \$12,900 per bed. The existing deficit was the primary reason for the sale. The facility served primarily geriatric and chronic mentally ill (CMI) residents and also had some developmentally disabled (DD) residents. Lakeside Health and Rehabilitation Center has gone through several changes of ownership. Snowhill Health Care became the new owner on December 20, 2005 and operates a 100 bed nursing facility.

Park Lawn Home: Manitowoc County transferred ownership of their license for the 99-bed facility in 1996. The county negotiated a sale/leaseback arrangement in which annual lease payments were variable depending on revenues. Projected deficits were the primary reason for the sale. Costs incurred by the county included \$130,000 in legal fees and \$150,000 in employee related costs.

Riverview Health Center: Outagamie County's Riverview Health Center, a 77 bed facility was leased to St. Paul Home, Kaukauna in 1986. The county received lease payments of \$2,000/bed or \$154,000 annually during construction of the new St. Paul Home. Riverview Health Center needed extensive remodeling to correct code violations. Costs incurred by Outagamie County included \$90,000 in employee separation benefits and \$160,000 for the highway department to raze the building and remove underground tanks. The land was sold for \$100,000.

Northview Home: Waukesha County leased the 405 bed facility in 1987 to Lindengrove. Lindengrove paid the county \$60,000 plus \$146,000 (\$361/bed) for interim lease payments during construction of three new nursing homes. Waukesha County incurred \$1.16 million in settlement costs for employees and \$36,000 in legal costs. The cost of maintaining the building was estimated at \$75,000 per year. The building was razed about five years ago. Northview Home residents included geriatrics, CMI's and some DD residents. The county cited increased operating deficits and projected costs of renovation as reasons for selling the facility.

Parkland Health Facility and Middle River Health Facility: Douglas County sold the 119 bed Parkland Health Facility in 1989 for \$119,000 or \$1,000 per bed. The payment was used for lease payments while St. Francis Home South constructed a new facility. The facility served CMI and DD residents. Douglas County estimated that \$1,000,000 was needed for building demolition and asbestos removal. Douglas County sold the 120 bed Middle River Facility in 1993. The county cited increased operating deficits and major renovation costs for the two facilities to correct code violations as reasons for selling the facilities.

Pine View Health Center: Marinette County sold the 155 bed facility in 1993 for \$3,300,000 (\$21,300/bed) to Rennes Group. Proceeds from the facility built in 1983 were used to pay the existing debt on the facility. Pine View Health Center served geriatric and CMI residents and also operated a 20 bed ICF-MR distinct part unit as part of the 155 beds. Projected operating deficits were the main reason for selling the facility.

Center of Care: Eau Claire County sold the 160 bed facility in 1997 for \$34,210 per bed. The facility served geriatric residents. The county cited increased operating deficits as the reason for selling the facility. The county incurred employee separation costs for sick leave, vacation and holiday pay and retirement costs.

Pleasant Acres: Juneau County gave the 60 bed facility to Hess Memorial Hospital. The hospital received over \$500,000 plus land to build a new 60 bed replacement facility that opened in 2001. The county cited increased operating deficits and needing to replace the facility as reasons for transferring ownership of the operations.

Pine View Care Center: Jackson County sold the 100 bed nursing facility and the 36 bed Residential Care Apartment Complex (RCAC) to Real Properties, Inc on March 31, 2007 for \$4,300,000 or \$31,618 per bed. The proceeds of the sale were used for existing debt on the facilities and outstanding liabilities including employee wages and benefits at Pine View Care Center. Jackson County is not sure at this time if the sales price will cover

these costs. The county incurred additional costs for sick leave and vacation pay. The county cited that the freezes in the tax levy and not being able to support additional operating deficits as the reason for selling the facility.

Sunny Ridge: Sheboygan County sold the 210 bed nursing facility to Legacy Senior Services on May 1, 2007 for \$1,000,000 or \$4,762 per bed. Legacy Senior Services paid \$200,000 down with an \$800,000 balloon payment due in six years. Sheboygan County will pay monthly payments to Legacy Senior Services equal to \$3,000,000 over six years as an operational subsidy. Sheboygan County will also give Legacy Senior Services \$1,000,000 to fund capital improvements at Sunny Ridge. The county will also provide some of the county union employees a severance package. Sheboygan County cited increased operating deficits as the reason for selling the facility.

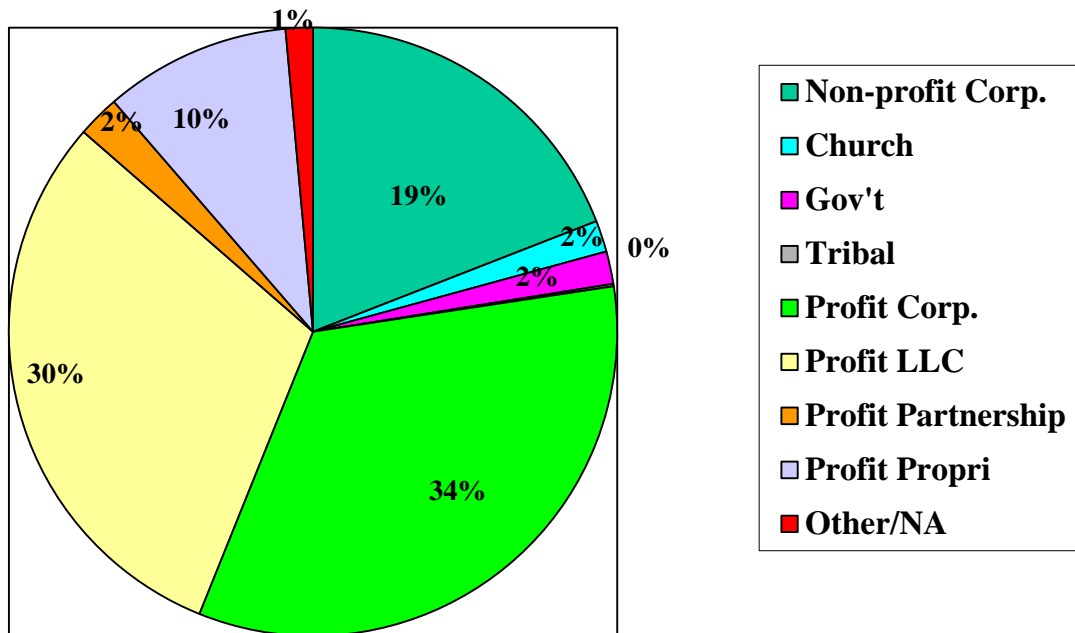
Calumet Homestead: Calumet County sold their 90 bed facility to Rice Management Inc on December 1, 2007 for \$2,350,000 or \$26,100 per bed. Calumet County cited the increased operating deficits that needed to be funded as the main reason for selling the facility. The county is also concerned about the age of the physical plant and the resources that would have been needed in the future to upgrade the facility. Calumet Homestead employees were allowed to apply and interview with Rice Management. Wages remained in the same wage scale for most positions. A 401K pension plan with employer match was established to replace the Wisconsin Retirement Plan. The current health insurance plan was replaced with an “HSA” and a higher deductible plan.

Manitowoc County Health Care Center: Manitowoc County sold their 150 bed facility to Health Dimensions Group, LLC on March 1, 2008 for \$6,000,000 or \$40,000 per bed. The outstanding debt on the facility as of 12/31/06 was \$8,262,600. Manitowoc County operated a county-run nursing home for over 120 years and has been in the current replacement facility since May, 2003. Manitowoc County cited the property tax subsidy and the overall county levy limits as their main reasons for selling the facility. Health Dimensions is not required to admit bariatric referrals who weigh more than 400 pounds and residents requiring more than 3.5 hours of nursing care per day. Health Dimensions also would not be required to admit residents with no pay source unless the county agrees to pay the private rate and the resident meets all other admission requirements according to the contract.

Brian Schoeneck, Wisconsin Association of Homes and Services for the Aging
March 25, 2008

Appendix B

Wisconsin Assisted Living Association Ownership by %-2009



TRACK
HEALTHCARE MARKETING

THERE'S A GROWING MARKET FOR HEALTH INSURANCE, BUT ITS' NOT THE MARKET YOU THINK: HEALTH INSURANCE FOR PETS

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ABSTRACT

The number of homes in the US with pets is increasing, as is the costs of caring for these animals. This paper discusses the economic, health and emotional reasons that individuals chose to live with animals, then examines the market for pet health insurance, the market for which has grown slowly. Notwithstanding the slow growth of this market in the past, reasons for future growth in pet health insurance market are presented.

INTRODUCTION

The sheer number of pets in the U.S. is staggering. According to a 2009-2010 national survey, 62% (71.4 million) homes in the U.S. had a pet, up from 56% in 1988. Although there are more U.S. households with dogs (45.6 million) than cats (38.2 million), cats are the more popular pet in terms of number of animals: there are more pet cats (93.6 million) than pet dogs (77.5 million). But this market is not simply large in terms of numbers of animals; it's also large in terms of dollars spent. In 2009, total spending on pets was \$45.5 billion, with over 26% (\$12.04 billion) spent on veterinarian care. According to the American Pet Products Association, the largest component of annual veterinarian care for both cats and dogs was surgical care (\$532 for dogs and \$278 for cats) with routine care for these animals also being a significant expense (\$225 for dogs and \$203 for cats) (www.americanpetproducts.org/press_industrytrends.asp, downloaded 8/21/2010).

It is now possible to provide medical and surgical treatments for animals at quite similar levels of complexity as for humans. Vets can now implant cardiac pacemakers, provide organ transplants and chemotherapy to treat conditions which would almost certainly result in pet death only a few years ago (Block 2002). Furthermore, the conditions treated are not merely those which are life-threatening: hip replacements for animals are now available, and for those wishing to avoid such invasive procedures for their pets, even injections of regenerative stem cells to arthritic animal joints are now being performed (Manochio 2010). Such advanced diagnostic and therapeutic treatments are certainly not inexpensive. In fact, an MRI is more expensive for an animal than it is for a human, because the animal won't remain motionless for the test and, therefore, must be sedated, adding to the cost (Smith 2005). Some American pet owners now think little of spending \$10,000 to save the life of a pet (Oberthaler 2010).

WHAT KIND OF DECISION: ECONOMIC, HEALTH, OR EMOTIONAL?

Why would anyone spend this kind of money to treat a pet? Possibilities include economic, health benefit, and emotional reasons. Economic reasons for pet ownership and resulting pet care seem untenable. A clear majority of cats (65%) are adopted from an animal shelter or were taken in as strays (Thrift, 2010). A dog can cost as little as \$50-\$75 when adopted from an animal shelter (Anonymous, 2010), and only 15-20% of dogs are purchased from breeders ("Pet Statistics", 2010), where the purchase price is much higher. While the annual cost associated with upkeep of a dog or cat (which includes food, supplies, training as well as medical care) is \$700-875 annually ("Pet Statistics", 2010), clearly it is possible to spend less. The initial cost of owning a pet combined with the annual costs associated with this ownership is not necessarily large, especially when compared to the magnitude of possible medical expenses previously noted. Based purely upon economic analysis (translating vet expenses of an existing animal into lifetime expenses and comparing this figure to benefits available under a number of different pet health insurance plans), Consumer Reports (Anonymous, 2010b) concluded that pet insurance is a poor

investment. However, economic analysis simply is inadequate here: it seems unlikely that many individuals purchase a pet thinking that they will make a profit doing so.

Another potential, though clearly self-serving, reason would be that pet ownership could lead to health benefits for the owners themselves. Certainly there are numerous studies which have demonstrated health benefits to pet owners of having pets (see Table).

Table 1: Health Benefits of Pets

Effects	Sources
Lower heart rate and/or blood pressure	Allen, Blascovich, and Mendes (2002) Allen (2003) Friedmann et al. (2007)
Increased survival after heart attack	(Friedmann (1995) Friedmann, Thomas, and Eddy (2000)
Decreased risk of cardiovascular disease	Anderson, Reid, and Jennings (1992)
Greater psychological stability	NIH Workshop (1987)
Lower health care costs	NIH Workshop (1987)
Improved depression	Beck and Katcher (1996)
Decreased anxiety	Davis (2004) Cole et al. (2007)

Unfortunately, the situation here is not necessarily clear, as not all studies of potential health benefits associated with pet ownership have showed that such effects exist: a number of studies found no such relationship. However, there does seem to be a preponderance of evidence that pet ownership is associated with beneficial health effects for humans. In a comprehensive review of the peer-reviewed literature, Barker and Wolen (2007) discuss 129 articles examining potential physiological and psychological effects associated with pet-human interactions, and conclude that “both clinical and non-clinical samples attest to the perceived benefits of pet ownership” (Barker and Wolen 2007, 492). Health benefits of owning a pet appear to be incidental to pet ownership, in that very few individuals would be likely to purchase a pet for health benefit reasons alone.

In addition to the potential economic or health benefits associated with pet ownership, there appear to be emotional bonds formed between pet owners and their pets as well. Americans both young (Kurdek, 2009a) and adult (Kurdek, 2009b) have been shown to form attachments with their pets, are placing increasing importance on their pets’ health and comfort, and are even willing to pay for their animals’ enhanced lifestyle (Brady and Palmeri, 2007). In other words, many people think of their pets as members of the family. Beth and Lance Robertson spent \$15,000 to provide two years of chemotherapy for their 15 year old golden retriever. Beth says that her two dogs are “like our kids. We take them everywhere.” Where did the Robertsons get the \$5,000? They used some of the money they were saving for a house, and decided not to exchange Christmas presents that year (Leibowitz 1999, V04). So, perhaps it’s not unreasonable that according to an American Animal Hospital Association 2003 survey, 71% of pet owners stated that they would even go into debt to provide for their pet’s well-being (MacDonald 2004). Ted Jameson of Veterinary Pet Insurance Company goes even further by stating that a third of pet owners would even mortgage their home in order to restore their pet to health (Williams 1995).

A MARKET FOR PET HEALTH CARE

This humanization of pets and the increased costs of veterinary care have sparked a burgeoning industry: pet health care. The economic downturn has resulted in cost-conscious consumers forced to tighten their money belts to make ends meet. However, while they’ve curbed their spending when it comes to purchases and services for themselves, pampering and caring for their beloved pets is still a top priority – hence the increasing popularity of pet health insurance and veterinary discount plans.

Pet insurance has been a slow seller since it was introduced into the marketplace in the early 1980s (Anonymous 1991). Nonetheless, with vet bills rising at an annual rate of approximately 9% (Darlin 2006), far

exceeding the consumer CPI annual rate increase and even the annual rate of increase in medical spending for humans, pet insurance is beginning to look like a reasonable option for pet owners. At the present time, only one percent of U.S. pet owners have pet insurance coverage, while some studies have suggested that as many as 14% of pet owners could be considered "reasonable or good prospects" (McConnell and Drent, 2010).

From 2003 until 2007, the number of cats, dogs and exotic animals insured in the U.S. increased 56 percent, a study by research group Packaged Facts indicates. Dogs led the pack in 2008 with an estimated 2 million insured. Cats followed with an approximate 900,000 insured, according to data provided by the American Pet Products Association. While these data account for only about 3 percent of all dogs and 1 percent of cats, the numbers are expected to surge because of the increasingly widespread perception of pets as family members.

Since 2007, the pet health insurance industry has seen steady growth. In 2007, sales were approximately \$210 million in annual premiums, a compound annual growth rate of approximately 20%, reflecting total growth of 107%. The market for pet insurance is forecast to reach \$1.2 billion by 2012. Due to employee requests, pet insurance is increasingly offered as a voluntary benefit through either direct pay or payroll deductions. Pet health insurance as a voluntary benefit under Section 125 of the IRS Code (cafeteria plan) would be extremely attractive for employers who are constantly looking for added employment benefits that do not increase their cost and provide value to the employee (Luke, 2010).

Pet owners with health care coverage are opting to take more extreme measures, from kidney transplants to hip replacements, to improve the lives of their elderly or ailing animals. Although some procedures come with a hefty price tag, pet health care plans mitigate the expenses, pet owners say. It is important to note, though, that pet insurance, like human insurance, is predicated on the assumption of risk, and all companies exclude pre-existing conditions as they are not insurable risks. "To keep premiums low, many companies exclude hereditary conditions; others cover hereditary conditions and some partially cover them" (McConnell and Drent, 2010, A4).

In 2010, pet owners are expected to spend \$47.7 billion on their pets, compared with \$45.5 billion the year before, according to the American Pet Products Association. Owners are paying more for food, supplies and vet care, the group says. Surgical vet visits rank as the top expense, 2009 and 2010 surveys by the association indicate. That's likely because pet owners are willing to pay to have their pets undergo extensive operations to improve the quality of their lives and extend life spans. The rise in pet care ownership also has spawned an increase in pet care education made available to pet owners on the Internet. According to *Managed Care Weekly Digest*, VetpetMD.com, an online pet information resource, provides animal owners and veterinarians with animal healthcare information to ensure that pet owners provide their pets with the best care. This website "blends veterinary medicine, journalism, health communication, and content creation to bring pet owners the best health information possible" (Anonymous, 2007, 7).

"Our kids are grown and out of the house and our animals are our children," said Marnie Zei, the owner of two dogs and a cat that she enrolled in a health care discount plan. "I have not found the limit of money that I wouldn't spend to fix them" (Neighbor, 2010, C1).

As the demand to keep animals alive longer continues to grow, so has the cost of veterinary care. Since 2000, the cost of veterinary services has inflated 80.4 percent, in comparison with 28.1 percent inflation for services in all other industries. Vets who absorb the costs of increasingly expensive equipment and medical supplies say they are stretched thin. "My expenses have gone up dramatically," said Wendy Holst, a veterinarian who owns two pet clinics in the Phoenix area. Those costs continue to increase as vets are forced to keep up with the new technologies needed to care for pets.

Within the next few years, it's likely the rising cost of veterinary care will increasingly convert pet owners without health care plans into clients, said Doris Amdur, founder of United Pet Care, a health care company that offers discount plans. "There are so many people whose pets needed procedures, but they're prohibitively expensive," Amdur said.

Myriad pet health-insurance options exist. Some of the largest insurance companies are Veterinary Pet Insurance, Pethealth Inc. of Oakville, Ontario, and PetFirst Healthcare, headquartered in Jeffersonville, Indiana.

Providers offer insurance plans that differ in type and cost: from minimal injury coverage to treatment plans for chemotherapy and hip reconstruction.

To qualify for most plans and as briefly mentioned earlier, a pet can't have a pre-existing condition or exceed a certain age limit, usually 9. Monthly premiums range from \$10 to \$100, with annual deductibles of \$50 to \$500 and annual or lifetime maximums of \$1,000 to \$14,000. Depending on the provider, about 80 to 100 percent of a pet's claim is refunded after the deductible is paid.

Most insurance plans offer crisis coverage and charge additional fees for preventive care procedures such as annual checkups, vaccinations and teeth cleaning. Preventative care can increase premiums by as much as \$22 per month.

In a very recent article written by Carol McConnell, DVM and Dennis Drent, both from Veterinary Pet Insurance Company, the authors emphasized that both current and prospective pet owners should consider three things when they think about purchasing pet insurance: (1) the monthly premium (its affordability), (2) reimbursement levels, and (3) the financial strength, longevity and responsiveness of the insurance company (McConnell and Drent, 2010). Obviously, only the pet owner can measure and answer these questions.

Will pet insurance follow human insurance and become a complex managed care nightmare? One author, the managing editor of *Veterinary Economics*, stated that it would take significant changes in the vet profession to steer pet insurance in the direction of managed care, simply because pet insurers do not have a contractual relationship with veterinarians, and there are no "group networks" of veterinarians with whom insurers can negotiate rates (Bertholf, 2009). At the present time, all pet insurance contracts are made solely between the insurer and the pet owner – and it appears that that arrangement is here to stay.

For some pet owners, health insurance would have been a great investment. Fred Lynch paid \$11,000 in veterinary bills for his cat, Fritz, who developed a rare soft tissue cancer. Not a show cat or even a purebred one, Fritz had been an abandoned stray. After having a leg amputated due to the cancer, suffering from pancreatitis, and receiving round-the-clock medication, Fritz survived past the original 600 day average prognosis for his condition, but not before a bank representative called Fred to ask if the charge card bills from the vet were "for real." Fred felt that the \$11,000 investment was a good one (Lynch 2007). Similar stories abound. A Washington, DC resident spent over \$11,000 on her four cats which had a variety of ailments, including urethral blockages, gum disease and constipation, some of which required multiple surgeries. She told her vet that if one of her cats got sick again to euthanize it because half of her take-home pay was going to pay the vet bills (Hein 2008). In 1995, Kathryn Steininger of Dallas spent \$3,000 for glaucoma and cataract surgery for Chauncey, her cocker spaniel (Williams 1995).

Pet health-care discount plans usually provide discounts for preventative care rather than crisis care. Savings plans provide vaccinations, annual checkups and sometimes teeth cleanings for free or at a substantial discount. The plans are usually cheaper than health insurance but provide savings that rarely exceed 20 percent for crisis care.

Banfield the Pet Hospital, based in Portland, Oregon is one of the most successful providers of discount health-care policies. Their preventive plans range from \$14.95 to \$42.95 monthly, depending on the type of animal and plan coverage.

CONCLUSIONS

Despite the current sluggish economy, it appears clear that pet care insurance will grow in scope and complexity for a number of reasons. Two of these reasons are found in recent U.S. Census Bureau data that emphasize both the changing fertility patterns and the aging of the population, dimensions that may give new meaning to the status of pets as "family members." Recent data from a collection of 2008 Current Population Survey statistics – a subset of the Census Bureau's vast dataset – examined family and nonfamily households, characteristics of single-parent families, living arrangements of children and data on married and unmarried couples. According to Rose Kreider, a family demographer at the U.S. Census Bureau, "Decreases in the percentage of families with their own child under 18 at home reflect the aging of the population and changing fertility patterns. In

2008, not only were baby boomers old enough that most of their children were 18 and over, but they were having fewer kids than their parents, as well” (U.S. Census Bureau/Public Information Office, 2010). These increases in both longevity and childlessness may contribute to an increase in the pet owner population.

Another compelling factor that will most certainly affect pet care insurance coverage is the rising popularity of “therapy” dogs. According to a writer for a popular online website named “k9web” (www.k9web.com), therapy dogs are quite often used in therapy and typically, this involves visiting hospitals, care facilities, and nursing homes to cheer up patients (Moore, 2010). Arguably, the unique value of these dogs may prompt their owners to purchase higher levels of coverage as they are made available to policyholders in the future.

Regardless of these and other reasons cited elsewhere in this paper, pet insurance has and will continue to expand and evolve as long as pets are perceived as family members and invaluable companions of their human owners.

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RETHINKING A MARKETING STRATEGY FOR HEALTHCARE

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ABSTRACT

Many hospitals do a relative poor job in their marketing efforts. This paper reviews the literature regarding Healthcare Marketing, including the various attributes impacting marketing decisions. The paper describes the behavior constructs of marketing executives and concludes with recommendations for marketing managers and further research.

INTRODUCTION

Hospitals are at their infancy with regard to the marketing function. Prior to 1984, hospitals were reimbursed at “cost” of services provided Medicare and Medicaid beneficiaries. These patients represented approximately 50% to 75% of the hospital’s business. Other payors paid full charges for hospital services. In many states, the Blue Cross programs reimbursed hospitals for the cost to provide services however in the State of Florida, the Blue Cross program paid full charges for services provided. By 1980, the acute care inpatient demand reached the maturity stage in its demand life-cycle. Hospitals were maximizing profits by a slow skimming strategy. Because of the escalating hospital cost and the increasing percent of the gross national products spent for health care services, the Medicare program changed the method of payment in 1984 from a retrospective cost reimbursed program to a fixed-fee payment program prospectively set (CCH). Under this program, called the Prospective Payment System, Medicare has established a rate set nationally for all hospitals and adjusted for geographic region for wages and urban and rural differences. Medicare, for the most part, has established a fee-for-service for outpatient services. The Medicaid program, in most states, has followed the Medicare lead and has established payment systems not related to cost. Employers have joined networks that provide them the ability to negotiate with hospitals for fixed-fee payment systems following the Medicare methodology or negotiating discounts from charges through Health Maintenance Organizations or Preferred Provider Organizations. This trend has resulted in price competition among hospitals and therefore the marketing function has become important. In response, hospitals are not only competing on price but also on quality of service and are attempting to differentiate their services to capture market share and are attempting to enter new market segments. Hospital administrators are reacting on intuition in response to this challenge and sophisticated marketing systems and marketing executives are rare in the industry. However, the industry is moving towards a more sophisticated marketing program staffed by a competent marketing staff.

Before hospitals can develop a marketing strategy, they need to understand who their customers are and their customer needs and wants. Hospitals have traditionally considered the physician as their customer and have put forth little effort in understanding needs of the patient and have spent little time in developing patient-focused systems. By understanding needs of the physicians and patients through marketing research, hospitals can develop an informed marketing program designed to increase inpatient and outpatient volume by increasing customer and physician satisfaction. This paper reviews research completed in this area and proposes further research and study.

THEORY – DEVELOPMENT

As the market for inpatient hospital services matured, excess capacity resulted. Traditional approaches to shifting market share by matching services to customer needs have not been productive. An understanding of why customers choose one hospital over another, i.e. customer behavior would be invaluable in developing marketing strategies. Customers of hospitals include third party payors, who, through contracting with hospitals at a preferred rate require their beneficiaries to receive services at a specific hospital, physicians who refer patients to a specific hospital and patients who choose a hospital independent of payor or physician influence.

The theory pursued in this paper is that patients chose a particular hospital either because of a physician recommendation or based on favorable prior experience, reputation of the hospital or through references by friends and family. Factors or the variables that would result in a physician choosing a particular hospital or the variables influencing patients' choice of hospitals and programs can be discovered and a marketing strategy can be designed to influence these factors favorable to the facility.

LITERATURE REVIEW

The Cleveland Clinic Foundation was concerned about the expenditures made by the marketing department for physician relationships. In response, a study was performed to determine the factors effecting physician referrals to the Clinic (Gombeski, 1990). The study reflected interviews conducted with 89 new referring physicians. The Cleveland Clinic does not have a family practice or primary care program and relies on referrals from these specialties for patient growth. Prior studies have shown that 89% of consumers, in their primary service area, have family physicians. Eighty percent of new patients coming to the Clinic have seen a non-Cleveland Clinic primary physician prior to being seen at the Cleveland Clinic. Studies have also shown that physician-referred new patients generate three times more revenue than self-referred new patients and twice the revenue of repeat patients (Gombeski, p. 56). Based on the interviews, three categories were developed: physician skill related factors; physician accessibility factors and patient related factors. Physician skill related factors include medical skill, previous experience and available technology. Physician accessibility concerned convenience, waiting time, and location. Patient related factors included patient preference, location of patient and patient's insurance coverage. Sources of information include patient preference or family preference; interpersonal media including one-on-one contact by the Cleveland Clinic physician with a referring physician at meetings and social events; peer reference including contacts with partners in practice, friends of the physician, medical directors of the physician's practice; mass media including television, radio, newspapers, magazines; special media including brochures, direct mail, medical journals, books; and payor identification including employer insurance carrier and managed care programs. A model was developed including physician organizational characteristics that impact the sources of information including interpersonal media, mass media, and special media. These sources of information directly influence the referring physician's decision and may also influence peers, patients or payors that influence physician decision making. Based on this model, interviews were conducted by using open-ended questions with extensive probes in order to categorize responses into six channels: "patient, peer, payor, interpersonal, special and mass media" (Gombeski, p.57).

In addition, demographic data was gathered. The study showed that the patient influence over the choice of a hospital was the primary factor in the decision regarding the facility. The second factor was interpersonal media. The researchers attributed this result on "the growing public interest in medical decision making, decreased trust in physicians, and increasing desirability of second opinions" (Gombeski p. 59). The study implies that the focus on the patient can increase referrals to the hospital and should be considered a primary focus in addition to the physician bonding approach. The study also showed that patients with more severe problems are more likely to accept the physician recommendation than those who are not indicating physician bonding is still important.

A study was completed to further acknowledge the "conceptualization and structure of the patient satisfaction construct" (Singh, p.8). This study was conducted based on a mail survey. Responses received were predominately female, married and of the Caucasian race. The age, education and income were more evenly distributed. The satisfaction items were measured using a six-point scale; satisfied to dissatisfied. A cluster analysis was performed on the data considering the hospital, insurance provider and the physician. The results indicated that patients are able to discriminate between the physician, insurance company and the hospital. Therefore, improvements in patient satisfaction for the hospital will result in repeat visits by the patient although the patient may be dissatisfied with a physician or with an insurance carrier. The pragmatic implications of the study indicate that patient dissatisfaction should be measured for hospitals and addressed as a way to maintain patients. Dissatisfied patients are likely to switch hospitals and therefore deserve attention by the facility.

Lynch pointed out that the patient is becoming more involved in the choice of hospitals and the physician is not as influential as has been the historical practice (Lynch, 1990). Therefore, hospitals would be wise to understand how consumers use commercial sources of information to make decisions about the choice of hospitals. A prior study was completed suggesting that approximately 51.6% of the groups sampled followed their physician's advice relative to hospital choice; 23.9% are transitional while they considered physician advice and also asserted their own

influence with regard to hospital choice and the balance of the sample asserted their right and selected the hospital of their choice (Lynch, p. 16). Those who asserted their own choice indicated that “quality of care as being the most important (followed by cleanliness of facilities and attitude of hospital staff)” (Lynch, p. 17). Further studies suggested that there is a differentiation between well educated, younger consumers who asserted more independence and older, less educated consumers who tended to be dominated by the physician. Also, subsequent studies have indicated that the factors effecting hospital choice differ. One study showed convenient location and past experience as the more important factors in hospital choice (Berkowitz, 1991).

Quality is the most important consideration of consumers when making a choice of hospitals (Berkowitz). Researchers were interested in what promotional criteria impacts on the hospital choice. A study was completed based on telephone surveys. A factor analysis was run on the data indicating three factors: search, experience and credence. The search factor includes factors that the patient can identify prior to receiving services. The experience factor are those factors which can be evaluated after the service has been rendered. The credence factor includes factors which cannot be judged by the patient, either before, during or after the experience. Items clustered in the search factor include excellent services, nice waiting areas, excellent patient rooms and food, convenient location, friendly and caring staff and reputation or image in the community. Experience factor items include excellent place for outpatient testing, emergency care, surgical care and child birthing. Credence factors include competent medical staff, competent nursing staff and latest medical equipment. The implications of the results suggest that promotional activities should primarily concentrate on the search factors because claims with regard to these factors are highly believable by consumers. Advertising claims relative to experience factors are less likely to be believed by consumers and factual claims relative to these factors should be avoided. With regard to the credence factors, researchers suggest that advertising relative to quality should be repetitive and factual claims should be avoided due to customer skepticism.

Because quality appears to be a primary factor in a patient’s choice of hospitals, the relationship of quality to customer satisfaction and their intention to turn to the hospital is important to understand. A telephone interview was completed specifically looking at nursing care and food services as indicators of overall satisfaction with a hospital stay (Woodside, 1989). The results indicated that customer satisfaction with the nursing events and food service events correlated with customer overall satisfaction with hospital service. The quality of nursing care received influences overall customer satisfaction greater than food service quality. Overall customer satisfaction with hospital stays is positively associated with behavioral intentions to return to the same hospital in the future. A hypothesis tested that customer satisfaction with one service has a positive effect on the satisfaction with another service, i.e. positive satisfaction with food service is associated positively with satisfaction with nursing care service. Results of the study indicate that “customer judgments of specific service events within the service acts influence the overall satisfaction with the service acts and that satisfaction with service acts influences overall customer satisfaction with the service encounter. Overall customer satisfaction with the service encounter does not appear to be a moderating variable between service quality and behavioral intention” (Woodside, p. 12). Therefore, hospitals should measure customer perceptions of service quality and satisfaction as a way to gauge intention to return to the facility. With this information, hospitals can design programs to improve customer satisfaction and maintain demand for services.

Research completed by Woodside in 1987 determined that patients who “made the choice (self versus other) in selecting a hospital for patient care related to their degree of satisfaction with hospital stays and their evaluations of physicians seen in the hospital” (Woodside, 1987, p.61). Patients who make the choice of hospitals are more likely to be satisfied with the care they receive than if they depend on family or a physician to make the choice for them. The study was based on a telephone survey of 300 recently discharged patients from a hospital in Columbia, South Carolina. A two-page structured, open-ended questionnaire was used by the surveyors rating certain attributes on a four-point likert scale. There was an 87% response rate relatively equally divided between male and female patients. The results indicate those who chose the hospital themselves as opposed to having others, particularly physicians, chose the hospital for them, rated the hospital excellent. When this data was analyzed between male and female patients, the relationship between patient satisfaction and choice is moderated by sex of the patients. Female patient satisfaction with the hospital was influenced by hospital choice whereas the male patient satisfaction with hospitals is not.

Ross hypothesized that “initial expectations about health care or about medical treatment are a major determinant of satisfaction with that service or treatment” (Ross, p.17). His review of the literature indicates that

there is a positive relationship between expectations and satisfaction. Therefore, the hospital can modify patient expectations likely to change the patient's satisfaction level with regard to the patient encounter.

Lane looked at allopathic and osteopathic hospitals to determine factors effecting hospital choice. He indicated that hospital administrators are slow to recognize patient involvement in hospital choice (Lane). He reviewed several studies determining the factors effecting the choice of hospitals. In most of the studies, quality of care was a primary factor, staff quality was the number one factor, emergency service departments was normally the second factor and nursing quality of care was the third factor. Recommendation by the physician in one study was the second factor but in most studies was the fifth or sixth factor in a twelve-point scale. The cost was rated low in the choice of hospitals as was convenience. Physicians were asked to identify the factors affecting hospital choice and they ranked doctor referral and the number one choice followed by quality of nursing care followed by friendliness and courtesy demonstrated by hospital personnel and then technology. Cost of hospital service was a significant factor but rated last in the list of factors. The study completed for osteopathic hospitals was similar to the results of allopathic hospitals ranking quality as the number one factor followed by staff quality and skills. Because of the variances in the results of the study, it would be important for individual hospitals to conduct a study of their particular market area to determine the factors effecting patient choice. The market is changing and consumers are becoming informed, therefore, periodic updates of these studies should be completed. Research, however, shows certain factors to be relatively consistent among various geographical areas and should be considered in developing a marketing plan.

Nordstrom was interested in the attributes effecting physician referrals to hospitals (Nordstrom, 1987). He assumed that because physicians are the gate keepers, they are important factors in hospital selection. He was interested in the attributes effecting selection of a hospital by physicians and if surgeons are different from the physician population in general and if there is a distinction between small and large hospitals. There was little literature published on this issue and therefore, this is a barrier for research. This study was based on questionnaires and interviews with physicians relative to the questionnaires. Thirty attributes were selected for the study and a factor analysis was run to determine the variables used for the attributes. Seven attributes resulted including diagnostic and treatment, convenience, admitting and discharge, communication, surgical, image and appearance. It was also determined that surgeons had a different set of attributes than other physicians. Surgeons considered the surgical facility attributes more important than the other physicians. Surgeons considered the surgical facility attributes more important than the other physicians. Convenience was second for the general population but sixth for surgeons. The other attributes are relatively close to the general population. It was also determined that the factors of importance are not differentiated by the size of the hospital. The implications of this study is that hospitals should concentrate on diagnosis and treatment facilities as a way to attract physicians. Hospitals should concentrate on convenience factors such as "operated limo services, customer communication systems, close circuit television, and perhaps hospital to office monitors for patients" (Nordstrom, p.34).

DESCRIPTIVE ANALYSIS OF BEHAVIOR OF HEALTH ADMINISTRATORS

Based on a survey of 250 hospital chief executive officers, 83% feel they are getting their money's worth on medical staff marketing efforts. However, only 35% of the chief executive officers have "clear and explicit performance standards to evaluate the effectiveness of time, money and staffs spent on physician marketing", p.44 (Koska). They study indicated that most chief executive officers feel that continuing medical education for referring physicians and assistance with practice management the most beneficial strategies to use in bonding physicians to the hospital. Because of the legal risks, they are avoiding physician-hospital joint ventures. Jackson and Coker conducted a study of 151 hospital executives who indicated that 91% of these hospitals offered income guarantees as a way to attract new physicians (Modern Healthcare, July, 1991, p. 39). Sixty-two percent (62%) of the hospitals surveyed offer start-up practice assistance and 61% offered free office rent.

Marketing managers and executive staff of hospitals do not understand nor attempt to understand the factors that influence demand for hospital services. A survey completed by Professional Research Consultants (Hospitals 1991, p. 44) indicate that most hospital administrators feel their money is well spent relative to medical staff marketing efforts however there are not explicit performance standards to evaluate physician marketing nor does the marketing department have strategies in place for dealing with medical staff problems. The articles indicate that a more effective means of referrals through physicians is continuing medical education efforts however

there are no measurements to show this is the case in the article. Strategies such as assisting physicians in coding to maximize payments from insurance companies and setting up an office management assistance for top administrators has been popular but there is no studies used by administrators to determine the value of this strategy for the facility. Hospitals also use income guarantees, practice start-up assistance, free office rent, subsidized malpractice coverage, interest free loans and sign-on bonuses as an incentive to recruit physicians. There is no indicating that hospitals measure the effectiveness of these strategies by measuring admissions to the hospital or income generated from those admissions. In the study completed by Jackson and Coker, it was determined that hospitals are, for the most part, rather than recruiting physicians directly are assisting their staff physicians to help recruit physicians into their group practice Hospitals, September 20, 1990). The survey indicated that family practitioners are primarily being recruited followed by internal medicine and obstetrics, gynecology, orthopedic surgery and general surgery. An article in the *Trustee Magazine* (July 1990) entitled *Community Profile – Key to Successful Physician Recruitment* suggested that “quality of life is most important for physicians and their families”. The author concluded that success is measured based on recruiting a physician rather than on the productivity of that physician.

From the current literature published in practitioner journals, it appears there is little effort on the part of practitioners to understand the factors impacting admissions to a hospital or to attempt to measure the impact. However, there is literature that suggests hospitals are moving towards a more sophisticated marketing concept. In a document prepared for the Chicago Health Executives Forum, entitled “The Hospital of the Future: Can the Patient-Focused Model Really Work?” (September 19, 1991) a new concept was presented. This concept was based on the study prepared by Booze, Allen and Hamilton in conjunction with a consortium of hospitals. The concept is known as “Patient-focused concept” has been instituted by Lakeland Regional Medical Center in Lakeland, Florida (Watson, 1991). This concept focuses on the improvement of patient satisfaction as well as physician satisfaction. The model basically changes the entire organizational structure of the facility and eliminates line responsibility for ancillary departments such as laboratory, radiology and nursing and instead places line responsibility with a patient care manager. It is the responsibility of the patient care manager to coordinate the various services a patient receives in a way that is valued by the patient and eliminates those factors which do not add value, such as documentation, transportation, etc. Lakeland Regional Medical Center developed measurements before the project was developed and afterwards in terms of patient satisfaction and physician satisfaction and cost of providing services and have noted substantial improvements as a result of this model. The model eliminates specialists such as nurses, technicians, therapists and in their place have developed a multi-specialty patient-focused team that is multi-skilled and provides various services to the patient that are cross-functional lines. For example, a nurse is trained to perform respiratory therapy and certain pharmacy procedures. The nurse also transports patients as well as performs housekeeping duties.

CONCLUSION

It is clear that hospitals are not sophisticated in their marketing efforts nor do they attempt to understand the factors that influence demand for services or do they attempt to measure the effectiveness of their marketing programs. There is literature available that provides them with a basis on which to make such measurements. Hospital marketing departments should use valid and reliable research efforts to understand their customers and physicians and develop strategies to have an impact on increased customer satisfaction and customer demand.

IMPLICATIONS FOR FURTHER RESEARCH

There is little research available that studies the variables resulting in patients choosing a hospital for acute care inpatient services. Because the demand for services did not mature until recently, there was no need for such research. However, because of the reduced demand resulting from changes in technology, changes in payment mechanisms by the Federal Government, Medicare Program and Medicaid Program, the demand for hospital acute care services has decreased resulting in excess capacity. Hospitals are struggling to capture market share by attempting to differentiate their products and develop niches. They are also venturing into other services which puts them into a competitive position with their physicians. There have been many hospital closures as a result of inefficiencies created by low demand and poor management practices.

It appears that a non-economic interactive model is favored. However, there are three customers with which the hospital should be concerned: patient, physician and the third party payor. Relative to the patient,

research is needed to determine more specifically the variables or constructs influencing the patient decision to choose a hospital. Certainly, the patient is interested in quality of care but these may be moderated by his attitude with regard to the health care process which may be influenced by previous experiences, family or physician's recommendation. Prior experiences may include waiting time, cleanliness of the hospital, perceptions of the concern of hospital staff with regard to the patient's well being and other factors.

Convenience appears to be an important relative to physician services as well as quality which may be influenced by technology available to the physician and resources available to the physician including results of ancillary tests in a timely manner.

Third parties are primarily interested in the cost of the services. The cost is influenced by the quality of services provided as well as the actual cost of those services. Hospitals should consider wellness programs and economic credentialing of physicians as a way to reduce the quantity of services provided. Hospitals should also design a new method of practice that improves quality and reduces cost such as the patient-focused model at Lakeland Regional Medical Center.

It would be interesting to study if the concern by a nurse for a patient influences patient satisfaction. A study could be developed taking one nursing unit in a hospital and assigning a group of nurses to each patient within the unit. The same nurse would care for the patient for the entire stay of that patient for each shift. The nurses would be trained in methods to show concern for the patient and the time devoted to the patient would be increased shifting non-patient related tasks to other staff members. This would be compared to another nursing unit of the same service and the outcomes measured. It would be expected that the patient-focused model would show increased patient satisfaction with the hospital than a non patient-focused model.

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THE PATIENT EXPERIENCE: A REVIEW OF PATIENT-CENTERED CULTURE

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ABSTRACT

Health care organizations achieve success by marketing unique features such as customer service, relationship-based care, and patient-centered care. By adopting patient-centered cultures, organizations build long-term relationships. This paper reviews the history of patient-centered care and examines examples of its application in health care settings.

INTRODUCTION

It has long been noted that all healthcare should revolve around the person being treated. In the past, hospital care consisted of treating the patient and discharging them home with discharge instructions. Today, patients and their families want the very best treatment and health care organizations must focus on the entire patient experience. The patient experience culminates every aspect of the patient encounter, such as parking, check-in/registration, wait times, nursing care, housekeeping, laboratory services, food services, handling of complaints/praises, and the hospital environment.

Patient-centered care is an approach gaining popularity in health care. The Institute for Patient- and Family-Centered Care was established in 1992 to address the need for children to have more involvement in their healthcare (Adler, 2009 and IPFCC, 2009). Today, some hospitals give small children a numbing cream before an injection so that it will hurt less and the child's perception of healthcare is not a bad one. Patient-centered care is based on four main beliefs outlined by Adler (2009). One belief is for the healthcare provider to listen to and respect the patient and their family (Adler, 2009). Nothing is worse than a patient feeling as though no one is listening to them or their family. The second principle is for the caregivers to communicate with the patient and family in a manner they can understand and in a time frame that is acceptable. Honesty and clarity is key to earning the respect of the patient and family. The third principle is to allow the patient and family to become involved in the care plan. To most people, the feeling of not being independent can become overwhelming and frustrating, but caregivers are beginning to allow family and the patient to have an influence in what care plan is used. The fourth and final principle of patient-centered care is for the patient and family to collaborate with the caregivers to make the programs that are in place better for the next patient so that the organization can continually improve to make the patient experience even better. Although patient-centered care is a fairly recent model, it has become very developed with defined components.

TEAM APPROACH

In the modern era, healthcare is a collaborative effort between everyone that creates the patient experience (Shaw, 2010). Good outcomes have been linked to the team approach to patient care. When all of the team members such as housekeeping, nursing, dietary, valet parking, and administration work together, the outcomes are much better than when departments do not communicate with each other. Shaw (2010) describes the approach to patient care at UCLA, where patient-centered care is care that one would want for themselves or their family. At UCLA, staff gathers for a small meeting, just like The Ritz-Carlton Hotel Company. During the small stand-up meetings, the plans for the day or shift are discussed so that all team members of a particular nursing unit understand the objectives of the day.

At one hospital in southern Indiana, each department has a specific uniform. For example, all nurses must wear medium blue scrubs, respiratory therapists must wear medium green scrubs, and all case managers must wear brown scrub pants with baby blue scrub tops, among other departments. Hospital administrators can also become

part of the team by introducing themselves to the patient and their family. By giving the patient and their family their contact information, the patient can rest assured that any situation that is brought to the administrator's attention will be taken care of efficiently and will include all parties involved with the situation. Being part of the patient experience team is being a team player. When the team communicates and collaborates, the outcomes from the patient and family perspective are improved.

ORGANIZATIONAL CULTURE

Organizational culture is an integral part of patient-centered care. When healthcare organizations have a set of core values, everything the organization does is connected to the values. The mission statement is just as important as the core values. Employees should try to live by the values and mission set by the organization. Whether it be helping another Walmart customer get something off the top shelf or behaving in such a way as to not ruin your employee image. Patient-centered care is part of an organization's culture. If a patient and their family are going to have the best patient experience, every department in the hospital must believe in the mission and values. At a hospital in southern Indiana, the patients told their nurses that they appreciated the extra time the housekeeping staff spent talking with them. When administration would visit a patient, they would always end the visit with "get to feeling better soon". All employees must believe in the culture of the organization if patient-centered care is going to be successful and create a positive patient experience (Shaw, 2010). Blake and Mouton's Managerial Grid defined managers as the relationship between the concern for people and the concern for production (efficiency) (Deckard, 2009). The ideal manager has high concern for both people and production. This manager would be best in an organization implementing the patient-centered care model. Patient-centered care must have administrator support that cares for the patients as much as efficiency for the organizations' departments. More concern for efficiency than the patients results in a task-oriented manager (Deckard, 2009). In order for patient-centered care to be successful in an organization, the organization must have employee buy-in to a culture that promotes caring of patients and families, efficiency of staff, and belief in its mission and values. If a patient-centered culture is not part of a healthcare organization, the patient-centered care model will not be successfully implemented.

Many hospitals also have a program in place called Relationship-Based Care. RBC, as it is commonly known, includes three segments. The first segment is nurses' relationship with themselves (Shaw, 2010). The nurses must have a caring personality. Human resource departments are beginning to become focused on potential employees that have patient-centered personalities. If an employee normally cares a lot for others, an organizational culture of Relationship-Based Care will lead to a Patient-Centric organization, which culminates into the patient experience. The second segment of RBC is the nurses' relationship with the patient and family (Shaw, 2010). This relationship is very important because the patient and family need to trust their caregivers. The more a patient and family trust their caregivers, the better the potential for a good outcome. The third and final segment of RBC is the caregivers' relationship with the rest of the team (Shaw, 2010). Team work is very important and in order to be successful, the team must work well and communicate with each other. At some hospitals, nursing units are scheduling nurses around patient assignments so that the patients can have the same caregivers for multiple days in a row (Shaw, 2010). This will help with continuity of care because the patients will get to know their caregivers and the caregivers will get to know them on a more personal level than if the nurses rotated every day. At an assisted living facility that has implemented patient-centered care, administration found that staff felt they liked the relationships they had with their patients and families (Norton, 2010). No one likes change in any setting, but when employees embrace the change and realize that it will make their organization better, everyone benefits. Relationship-Based Care will help an organization create a strong bond between the patient and the caregivers that will help organizations achieve a model of patient-centeredness.

One area of healthcare where patient-centered care has been practiced is hospice care. In hospice care, nurses are trained to refrain from life-saving techniques such as CPR (Angeli, 2001). The objective for a hospice nurse is to make the time the patient has left as pain-free and enjoyable as possible. Everything the hospice nurse does revolves around the patient and their family. If the patient is unable to make decisions, the hospice nurse will allow the family to make a decision based on what the patient would want (Aiello, 2009). Involving the family in care decisions is very important because the family needs to feel included in their loved one's care. Hospice nurses accommodate the patient and the family and make death an experience of beneficial reflection on the past. Another patient-centered segment of hospice care is spirituality (Angeli, 2001). A patient and their family need to be healed spiritually to prepare for the inevitable death. This also makes the impending death a much more tolerable experience when the family knows that the patient is at ease and the patient knows their family has expressed any

fears they may have (Angeli, 2009).

PATIENT-CENTERED CARE

One organization that focuses strictly on patient-centered care is Planetree. Sue Frampton, the President of Planetree, saw the healing touch of nurses like her mother and how those small details can make all the difference (Johnson, 2009). Planetree's nine elements are focused on the patient/family perspective (Johnson, 2009). The nine elements are human interactions, access to information, healing partnerships, nutrition, spiritual and cultural diversity, integrating alternative practices into contemporary ones, art, healing environments, and healthy communities (Frampton and Charmel, 2009). Human interactions include Relationship-Based Care and how healthy human interaction can make a healthcare setting a much more enjoyable atmosphere. The second element, access to information, encourages the patient and family to be informed about the care given. Planetree urges patients and their families to participate in the care by asking questions and looking at their medical record so that they know what has been done and what the plan is for the future. The third element, healing partnerships, allows the patients to be involved in every decision. The fourth element, nutrition, is important because dietary education in the hospital can lead to lifestyle changes after discharge. Many hospitals are also allowing patients and families to order food room-service style so that the patient can schedule their meals around any therapies or family visits. The Spirituality element is important for many patients who feel as though they need to become at-ease with the diagnosis and prognosis. The sixth element of Planetree involves alternative practices, which includes the integration of treatments such as aromatherapies and massage into traditional medicine practices. Planetree emphasizes that more relaxed patients will create a better healing atmosphere, which will produce better outcomes. The seventh element, art, is vital to the healing process because it helps to make the hospital feel more like home and creates distractions from the pain-associated stress. Environment, the eighth element, includes noise-level, navigation, architectural design, and lighting. Maintaining a patient's privacy, keeping noise levels down, and achieving an aesthetically-pleasing environment will help to achieve the patient experience. The ninth element, healthy communities, involves the organization asking for feedback on past patient experiences in various ways. This allows the healthcare organization to improve patient care.

Going the extra step can make a difference in the patient experience. Asking a family member of a patient if they need an extra warm blanket can make the difference between a great experience and a miserable experience. Going the extra step and asking a family member how their loved one is doing when you see them in the hallway can also make a difference. Patients and families want to feel as though the employees and caregivers actually care for them and their loved ones.

Healthcare customer service is also a very important part of patient-centered care. The patient experience begins with a courteous receptionist or a great call operator. A warm, friendly smile can make a patient's day. Even though a call operator cannot talk to the person face-to-face, people can hear someone smile on the phone. Everyone has had a bad healthcare experience in their lifetime. Healthcare customer service is a very important aspect of a patient's care and the overall experience of their treatment. Treating patrons as real people with real names and real families means the world to patients and their families. Healthcare is a very personal service (Baird, 2000). When an organization treats a patient as another medical record number, the patient feels as though they are not important. If every employee in a healthcare organization makes the patient feel as though they truly care with a tender touch and superior service, a strong positive reputation will develop (Baird, 2000). Why would anyone want to go to a hospital where the staff thinks your situation is not important? If the patient feels that the staff truly cares about their well-being, they will have a much better experience.

CONCLUSIONS

In today's healthcare environment, patients have a choice about where they go for services. For example, in Evansville, IN, people can choose to go one of two regional trauma centers. Since competition is fierce, each of the two healthcare organizations must compete for patients. If one organization causes a patient to have a bad experience, they will go to the other hospital and also tell their friends about the bad experience. In healthcare, relationship marketing is a term that is widely used. Hospitals are attempting to develop long-term relationships with patients so that both the hospital and the patients will benefit. In relationship marketing, the goal is to keep the patient coming back for all their healthcare needs (Berkowitz, 2006). Through various media, the organization will keep in contact with the patient to make it known that it has not forgotten about him or her. Healthcare organizations

are also looking for ways to create customer value and save money wherever possible. Healthcare organizations are gearing their efforts to respond to patients' needs. The value the patient perceives is very important because healthcare is expensive. Patients must feel that they are receiving their money's worth (Berkowitz, 2006). Healthcare organizations achieve this by marketing unique features such as customer service, relationship-based care, and patient-centered care. The overall positive patient experience gives the organization a competitive advantage.

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PROJECT MANAGEMENT STRATEGIES TO IMPROVE HEALTHCARE PROJECT OUTCOMES

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ABSTRACT

Many health care organizations are challenged by their capacity to move projects from ideas to implementation. This paper is intended to help healthcare leaders recognize the need to change their behavior to the way change initiatives are selected and implemented within their organizations to achieve a major improvement in return on their business investments. Using portfolio project management (PPM) as a core business process will enable leaders to select, prioritize and direct limited resources to efficiently deliver the right project investments in order to meet the organization's strategic goals and objectives.

INTRODUCTION

"Many health care organizations are challenged by their capacity to move projects from ideas to implementation. Over the past several years we have observed a dramatic increase in the level of interest in project management from health care organizations. Now that health care reform is a reality, organizations must build project management capacity in order to respond to new initiatives and gain competitive advantage." (Shore 2010).

This paper focuses on using portfolio project management (PPM) as a core process to enable leaders to select, prioritize and direct limited resources to efficiently deliver the right project investments in order to meet the organization's strategic goals and objectives. This paper also addresses using PPM as a component of an integrated project management process within an organization that incorporates the strategic, developmental and tactical levels to ensure projects are completed much more quickly, so that benefits to the organization are realized much sooner.

The paper is intended to help healthcare leaders recognize the need to change their behavior to the way change initiatives are selected and implemented within their organizations to achieve a major improvement in return on their business investments. Focusing on a select few top priorities that are aligned with the strategic plan and allocating the limited supply of key resources to implement those priorities is the way the company will move forward. Organizational leaders must face the truth and realize that their companies cannot survive with management and management systems that do not have a bias towards action. Utilizing an integrated project management process as an accountability system and execution model to make things happen and get required results positions executives to execute their strategic initiatives instead of just thinking and talking about them.

Typically projects are initiated in silos by functional areas or divisions but the people initiating those projects do not attempt to evaluate, in any detailed way, how that initiative aligns with strategy and what the impact has on existing projects and resources. This could be compared to a hospital taking in new patients who need surgery, without any regard to the availability of either doctors or the operating room. A hospital operating in this way would be in chaos within a week. Chaos, is that the state of strategic projects in your organization?

ORGANIZATIONAL OBESITY: AN UNHEALTHY CONDITION IN NEED OF EDUCATION AND AWARENESS

When one of the authors was a kid his parents told him that most things done in excess are not healthy and therefore taught him constraint, moderation and discipline. Having worked with many organizations and spoken to numerous executives it appears that many organizations have far too many projects underway causing an unhealthy environment of strategic projects delivering late, over budget, not meeting expectations and leaving side effects of untrained, stretched and stressed resources.

Today many businesses seem to have expanding project waistlines and habitually fail to meet the wellness needs of their companies. Organizations need to unclog their arteries resulting from project volume exceeding resource capacity and trim the excess to achieve a healthy condition. Having an overabundance of projects underway moving at snails pace is not an effective way of achieving expected outcomes. By making moderation, constraint and discipline part of the strategic project investment process companies will increase the blood flow of completed strategic projects through the organization with better outcomes that lead to a competitive advantage. Insanity is doing the same thing over and over again and expecting a different result. Are you gorging your organization with additional projects coupled with inadequate project execution processes and expecting project cycle time to be trimmed?

INTEGRATED PROJECT MANAGEMENT

Project management and the problems existing in organizations is not new, however what successful companies are embracing is an integrated project management process as the practice that bridges the gap between the executive suite and project execution.

It's highly probable that if you are venturing into the integrated project management arena the executive team will need some education and awareness of the portfolio project management process at the strategic level, the role the portfolio / project management office must take on at the developmental level and the needs of project managers at the tactical level who will need support through training and mentoring to drive results and where development investments have probably been minimal at best.

Since the future of the organization comes through projects, few things are more strategic than having visibility of an organization's programs and projects. Typical project management systems report the past, on a project-by-project basis with no view of the entire organization. Under this structure each executive competes for limited resources to address their division's priorities, not the organizations, top priorities. An integrated project management model provides an organization with visibility to its strategic initiatives by presenting immediate and comprehensive project information to leaders at all levels. Only through an integrated project management system will leaders achieve alignment and execution throughout the organization and keep management and teams performing in a rigorous and consistent manner to get things done quickly, efficiently and effectively.

This is accomplished by establishing a governance framework focused on a disciplined process of oversight and holding people accountable for the implementation of strategic initiatives.

Dr. Eliyahu Goldratt, an Israeli physicist, most credited with advancing the knowledge of the improvement methodology called Theory of Constraints states that there is a need for a new method of project management. Simply stated Dr. Goldratt indicates that 'if a project is initiated to have a positive effect on the organization, then the sooner the project is completed; the sooner the organization receives the benefits. Therefore the constraint of any single project must be its cycle time (the time it takes for the project to complete). The constraint of the entire collection of projects of an organization, its portfolio, must be the combined cycle time of all of the projects.'

Described by Fortune Magazine as a 'guru to industry', and by Business week as a 'genius', Goldratt suggests that organizations answer the following questions to develop better project management methods:

- What causes project cycle times to be longer than necessary?
- What can an organization do to drastically cut the cycle times of all projects?
- What role must the executive play in order to have an impact on these cycle times? (Goldratt 1999)

The purpose of this integrated framework (illustrated on the following page) is to enable fact-based rationalization and prioritization of investments and resources that are getting allocated across a company. Today's executives confront a multitude of opportunities, but rather than set priorities, most simply take on too many unfocused projects. This leads to under-funding, duplicative efforts, priorities established through emotion and/or political clout, stretched resources and the allocation of resources to non-strategic efforts. An enterprise wide fitness program focused on ridding the organization of these problems is a first step to better manage its unhealthy condition. To drive success, executives must move away from ad-hoc setting of priorities and allocation of resources and towards a strategy that:

- [illegible]

Portfolio Project Management is a set of disciplined processes for making business decisions about project investments. This includes evaluating, selecting, prioritizing, authorizing, sequencing, monitoring, controlling and executing projects and other related work to achieve specific strategic business objectives. The concept of PPM is fairly simple. It's focusing your limited resources on the most important investments to move your company forward.

Without improved project performance a great strategy is just an idea. It's focusing people on execution that makes strategy real. For this reason strategy execution needs to become critically important and demand the

attention of the 'C' level to fix the problem of competing project priorities. Strategy doesn't drive results; execution of strategy drives results that can provide a sustained competitive advantage.

This requires shifting the focus and performance of a company's greatest asset, its people, to do more of the right things faster and with better quality than the competition. It also requires executive management to change their behavior and figure out where the company should be focusing its limited resources as opposed to doing a lot of things that effectively fall outside that focus so people can deliver positive change within established timeframes.

Many companies think in terms of portfolios of businesses; however each year more business leaders are focusing on their portfolio of business investments, the set of projects that their business must pursue in order for executives to execute their strategic plan and allocating their limited resources and management attention to it. PPM seeks to answer the questions:

- Are we investing in the right things?
- Are we optimizing our capacity?
- How well are we executing?
- Can we absorb all the changes?
- Are we realizing the promised benefits? (Pennypacker 2010)

Typically an organization that has too many projects underway has no discipline to provide oversight and hold people accountable for strategy execution. This results in leadership not knowing:

- The number of projects underway.
- The health status of project investments.
- How those projects are draining their resources.
- How poorly those projects are implemented, if implemented at all.

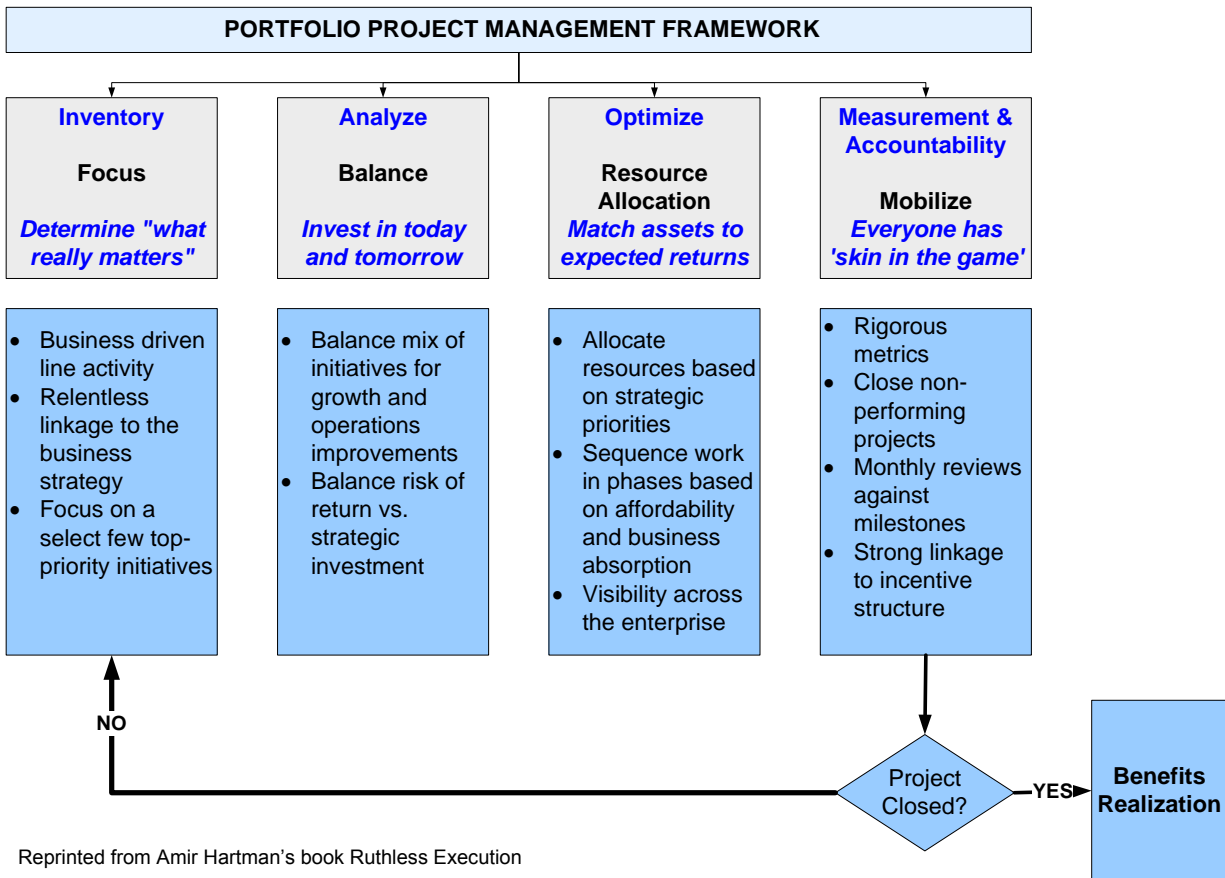
Projects are undertaken because they are supposed to deliver positive change to the organization. When leadership lacks discipline and oversight to hold people accountable to ensure projects are completed and benefits are actually realized the expected 'positive change' turns into *negative impact*.

Company leaders would not accept delays of weeks and months to service customers. However leaders continually accept delays of weeks and months for executing strategic projects. Significant slippage of dates and lack of visibility of status on projects is commonplace.

Would you invest \$100,000 in a financial instrument and accept no monthly statement regarding the performance of that investment? Well that's exactly what leaders in many organizations do. They make business investments (projects) to deliver a positive return and do not receive a monthly report on how well those investments are doing from a performance perspective. Few leaders can truly say they know what people are working on and how well they are performing. This lack of insight into people and project performance is amazing considering that people are the company's largest cost and have the greatest influence on executing strategy. Without this visibility, you miss a real opportunity to ensure that you've got the right people on the right projects. These key variables can't be maximized until you've got that corporate view of everything that's going on.

When most people think about discipline, oversight and accountability it's usually about confrontation and that blame is put in the right place when things don't go right. Discipline, oversight and accountability are about looking for opportunities to make it better for teams to succeed at executing strategy. When you function as a leader and you focus on delivering value to the execution process you take your projects in new directions that are better for the business. When you add value like that you elevate yourself as a leader who truly contributes to the success of the organization.

The goal of portfolio project management is achieve focus, balance, effective allocation of resources, and measurement and accountability to improve strategic project delivery. The chart on the next page was reprinted from Amir Hartman's book "Ruthless Execution" and illustrates this goal.



BENEFITS OF PPM

Portfolio project management enables organizations to:

- Provide a structure for selecting the right projects and eliminating the wrong ones
- Allocate resources to the right projects thus reducing wasteful spending
- Align portfolio decisions to strategic business goals
- Base portfolio decisions on logic, reasoning and objectivity
- Create ownership among staff by involvement at the right levels
- View information on how investments are performing
- Establish avenues for individuals to identify opportunities and obtain support
- Help project teams understand the value of their contributions.
- Limit risk by recognizing earlier in the process those projects destined to come in over budget or schedule

SUMMARY

Portfolio management can help organizations gain a competitive advantage by improving efficiencies, lowering costs and increasing the return on project investments.

Forging a link between the decision-making level of the organization and the project level is a pressing business need to successful execution of strategy. Portfolio project management is your ticket to that success. By developing that capability the discipline and accountability to execute will become the new organizational norm.

This is not easy stuff, but if you are not spending your time reviewing and reevaluating your strategic initiatives to execute the strategic plan, what are you spending your time on?

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TRACK
HOSPITAL COST CONTROL

APPLYING LEAN TO THE HOSPITAL EMERGENCY DEPARTMENT: A CASE STUDY

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ABSTRACT

Hospital emergency departments are crowded with patients experiencing extended lengths of stay. In industries outside of healthcare, quality improvement interventions, such as Lean, have reportedly increased throughput by 60-90% and these numbers are cited when consultants and other advocates of quality improvement interventions are working with health services organizations as potential clients. But, in comparison with these manufacturing improvements, the post intervention results in healthcare are often disappointingly lower. The purpose of this paper is to develop a realistic estimate of the return on investment of quality interventions in the hospital emergency department setting.

INTRODUCTION

The emergency department (ED) is responsible, upon arrival, for all patients who request unscheduled care. The ED is the only part of the health system that is mandated by the Emergency Medical Treatment and Labor Act of 1986 (EMTALA), to treat all patients seeking health care regardless of their ability to pay (Emergency Nurses Association, 2005). These medical conditions can range from catastrophic injuries from violence and accidents, to cardiac arrest, to minor health issues such as a sore throat or a sprained ankle.

Emergency departments have become increasingly overcrowded over the last decade. The number of ED visits has risen to over 119 million in 2006 according to the National Hospital Ambulatory Medical Care Survey (Pitts, 2008). Crowded EDs have results other than longer wait times. The repercussions include lengthened EMS ambulance runs, greater risk for poorer patient outcomes and the lessened ability of hospitals to respond to public health emergencies, which include natural disasters and mass casualty situations in general (Burt, 2006).

Hospital emergency departments across the United States are struggling daily with ways to accommodate the volume of patients who present for treatment. According to the American Hospital Association, 69% of urban hospitals and 33% of rural hospitals emergency departments are “at capacity” or “over capacity” (American Hospital Association, 2005). Patients arrive at the ED and expect care to be delivered in a safe, efficient and rapid manner. Hospitals and other health care organizations are struggling to find cost effective solutions to overcrowding.

Lean and Six Sigma

Hospitals and other health services organizations are experimenting with industry process improvement techniques developed over the past century. Six Sigma and Lean are two popular process quality improvement methodologies and are often used together in an intervention and labeled as one or the other. Six Sigma was developed by Motorola in 1986 to reduce defects, wastes, and redundancy in operational processes. The Greek letter, Sigma, is used by statisticians to signify the standard deviation or variability of a process and Six Sigma adopted this measure as part of the aim in their process improvement methodology. The Six Sigma aim is that a process should not vary any more than 3.4 defects per million opportunities (DPMO). The Six Sigma methodology uses a five step process as the backbone for the process improvements; define, measure, analyze, improve and control (DMAIC). This five step process is used to eliminate the defects and create a more stable environment. The entire methodology is implemented with staff trained at different levels of skills and/or understanding of the Six Sigma process and individuals in those levels are rewarded with different colored belt titles; reflective of the martial arts (Fairbanks, 2007).

Lean is an “iconic term” for the philosophy behind the Toyota Production System of car manufacturing, also known as the “thinking people system.” It is based on a philosophy that abhors waste, or in other words, it is any action that does not add value to the product, or in healthcare, to the patient experience (Dickson, 2009). A cornerstone of the Toyota Production System (TPS) is the philosophy of continuous improvement that is termed as Kaizen.

In industries outside of health care these interventions have increased throughput by 60-90% (Harbert, 2006; Minter, 2010; Teresko, 2007) and these numbers are often noted when consultants and other advocates for the use of Six Sigma and Lean are working with hospitals and EDs as potential clients. The implicit assumptions associated with these expectations are that the environmental and work conditions leading to such improvements outside of healthcare exist in hospitals, in general, and in EDs in particular.

The quality improvement movement focuses on the decrease of variability of process inputs to decrease the variability in outputs (Deming, 1994, pg. 177). Inputs into a system or process are often classified as people, machines, materials, methods, measurement, and the environment (Melton, 1993). Process improvement involves reducing variation in inputs (including “methods” inputs where unneeded steps also increase variation) to improve (decrease variation) the outputs about a customer determined target level. In manufacturing, much of the variation to be reduced is in categories such as materials, machines and methods; categories susceptible to interventions such as Lean and Six Sigma. But for the ED, the primary source of input variation is the patient. If an organization or department cannot decrease the variability of its primary input, would one expect to obtain the same results of a Lean intervention in increased quality and throughput as would occur in a manufacturing environment? The theoretical answer is “no” because there is less variation susceptible to reduction via quality improvement methodologies in the ED than what there is in standard manufacturing setting.

Research questions

If the outcome expectations of a Lean intervention are overly optimistic, then any cost-benefit analysis and program evaluation of the intervention are flawed. In addition, management and employee response to not meeting unrealistically optimistic goals may have an unnecessary negative impact on the organization’s morale and culture, and, thus, its ability to improve future performance.

Lean principles are documented throughout the literature as a solution to patient flow issues for the emergency department. Different metrics are used in areas of health care to measure various activities. In the ED, length of stay (LOS), measuring the time from when the patient arrives at the ED until the patient leaves, is the main marker for throughput. The questions posed in this study are two-fold: 1) What, from the literature, is a realistic expectation in the decrease in the LOS in an emergency department after a Lean intervention? 2) What was the change, if any, in LOS in an actual ED case setting after its Lean intervention and does the specific case study support a different result standard for the ED of a Lean intervention vs. the literature reports?

REVIEW OF THE LITERATURE

This discussion presents an integrative literature review on the subject of Lean and other quality initiatives in emergency departments of hospitals. The literature search includes reviews of peer-reviewed journal articles, books, and web sites. The first author searched the Georgia Library Learning Online (GALILEO) databases and considered articles published in 1990 or later through April 2010. The initial literature review was conducted using GALILEO with the terms of “emergency department,” “Lean,” and “patient flow.” Databases included CINAHL Plus with full text, Medline, and Academic Search Complete. Several of the articles were written using institutions in Australia, therefore those were excluded. Many other articles were short synopses of facilities instituting new processes and were not a full research paper, and these, too, were eliminated. Three major articles focused on the application of Lean in the ED and are described below.

Table 2 summarizes the findings of the key articles reviewed that focused on the intervention of Lean in the emergency department.

Table 2.Lean Applied in the Emergency Department

Author	Ng, et al. (2010)	Eller (2009)	Dickson, et al. (2007)
Overall Change in LOS	22% decrease Level 4 & 5 patients LOS decreases from 3.1 to 2.3 and the Level 1-3 only decreased from 4.7-4.6	10.7% decrease 45 minutes overall	8% decrease 161 minutes to 148 minutes after 3 months. Sustained a 3 minute decrease but a 9.23% increase in volume over the year.
	Physicians provided DC prescriptions and instructions	Created a separate testing and resulting area for the Rapid Assessment and Disposition (RAD) patient	Physicians interviewed patients at the same time as nurses when feasible
	Nurses placed all dischargeable patients in the same area	Implemented specific criteria to quickly identify the RAD patients	Redefined responsibilities of RN, nursing assistant and intake coordinator
	Nurses encouraged to complete work on one patient prior to starting work on another	Implemented a standard operating procedure for RAD nursing processes	Order and send laboratory and radiology studies earlier in the process
	Marking where equipment was to remain, i.e. EKG machine	Developed solutions to decrease delays in collaboration with administration, admitting department, physicians, and ED staff	Improve signage for directing patients in the department
	Nurses were responsible for filling their beds based on a visible cue of charts in the inbox	Used electronic documentation to identify and track the RAD patients	Identified opportunities for expedition of admissions
	No major change in patient satisfaction scores	No data on the patient satisfaction in this study	The percentage who ranked the department "Very Good" improved from 54% to 59% over a one year time period

Eller (2009) reported on the implementation of a rapid assessment and disposition process with the implementation of the Lean principles at St. Luke's Episcopal Hospital in Houston, Texas. The ED saw approximately 32,000 visits annually and 42% of those were admitted to the facility. Those admitted patients spent an average of 7.5 hours in the emergency department. They were on total diversion 32% of the time due to overcrowding and another 8% of the patients left without being seen. According to a study performed by the Centers for Disease Control (CDC), only 12% of patients are admitted from the ED, seven out of ten EDs have a length of stay (LOS) of four hours, and 2% left without being seen (LWBS) (Eller, 2009).

The value stream mapping exercise identified a huge area for improvement. Due to financial and physical restraints, St. Luke's decided to reallocate existing rooms, equipment and staff to provide a more efficient way of caring for the nonemergency patients. Three out of the five critical care rooms were redesignated as rapid assessment and holding areas. Two treatment rooms remained as exam rooms while the third one was vacated of supplies and filled with comfortable chairs which allowed patients to be screened and wait for test results. This yielded an additional 14 "beds" to the department and of the establishment of the RAD (rapid assessment and

disposition) process. The peak hours, determined from historical volume, for the RAD process were determined to be from 7 a.m. to 11 p.m. and the nursing staff and physician hours were altered to match this volume.

After the new tools and procedures were developed and everyone was educated on the changes in the process, there was a noticeable reduction, after six months, in the average length of stay on the high acuity patients by 45 minutes and by 208 minutes for the lower acuity patients. This represented a 12% and a 54% reduction in the LOS respectively. As a result of this improved throughput, there was a 28% decrease in the LWBS. Additionally, St. Luke's time on diversion, where emergency cases are sent to an alternate ED, decreased by 12%. As a result of these changes, the throughput of the ED has improved; improving the quality of care for the patients in their community (Eller, 2009).

Ng et al. (2010) recognized that the average wait time for the emergency department was increasing and the patient satisfaction was decreasing. A decision was made in 2005 for the staff of the ED of the Hotel-Dieu Grace Hospital in Windsor, Ontario, Canada to attempt a transformation via an intervention based on Toyota Lean manufacturing principles. This ED is a regional trauma center with an annual volume of 55,000 patients. It was decided to eliminate the psychiatric patients, ones who arrived by ambulance and the level one patients (emergent) since they would more than likely be admitted, from the study. All metrics were measured manually during the study since the facility did not have an electronic medical record.

During the implementation, value stream mapping was performed and areas of waste were identified including: nurses wasted time looking for equipment that was misplaced, in disrepair or inappropriately stocked; physicians wasted time looking for charts, laboratory results and hospital records; and, discharged patients lingering in beds for up to 45 minutes waiting for a nurse to deliver a prescription find a wheelchair or remove the IV heplock.

A definite improvement in throughput was detected after implementation of Lean. The mean time from registration to physician time decreased from 111 minutes to 78 minutes and the percentage of patients who left without being seen decreased from 7.1% to 4.3%. As for the length of stay for the discharged patients, the type of patient which is the highest volume of patient acuity seen in the ED, this time decreased from 3.6 hours to 2.8 hours. The author indicated that the key to the Lean implementation was the involvement of the front-line staff; particularly in the front-line staff's use of the "Plan-Do-Check-Act" cycle.

The main focus of this Lean intervention was on the level 4 and 5 patients who represent the least severe patients and are almost guaranteed to be discharged. This type of patient is also the largest group of patients in the department and they could move through the system rapidly, with the least amount of interventions, driving down the ED's total LOS. If the patients are separated based on acuity, then staff are able to focus on the more acutely ill patients and the resources can be allocated more appropriately. Resources were shifted during the study but the more acutely ill patients, level 1-3, still averaged 4.6 hours in the ED. Although the LOS for level 1-3 high acuity patients did not change during the study, the change LOS for the lower acuity patients increased the capacity of the total ED.

Dickson et al. (2007) studied the effects of Lean in the ED and found that the intervention decreased the LOS slightly, patient satisfaction increased significantly and they were able to accommodate an increase in the patient volume of 9.23%. In this ED Lean intervention frontline staff were chosen to participate in the week long Kaizen event where they drew out the Value Stream mapping of the ED processes and identified areas of waste. Staff then brainstormed ideas for change and implemented them during the week long event. Some of the ideas included: utilization of all examination rooms and immediate placement of patients in the rooms, with bedside registration if possible; a team approach with a registered nurse, a resident, an attending physician get the history at the same time when possible, therefore reducing repetition and saving time; redefined responsibilities of registered nurse, nursing assistant, and intake coordinator; laboratory test/X-ray studies done earlier in the process; improved signage for directing patients in and out of the ED; and, identifying opportunities for involvement of other disciplines earlier in the process and expedition of admissions

For three months prior to the Lean event, the average LOS was 161 minutes. In the post-Lean period (where volume actually increased 9.23%) LOS decreased to 148 minutes. The customer satisfaction scores increased significantly during this same time frame from 54% to 59% in the "Very Good" category. In the post-Lean period patients were no longer waiting in the waiting room but in a care room. However, one year after the intervention, the average LOS had decreased only by three minutes and the change was not statistically significant. During the

time period of decreased wait times, when the LOS was down by 13 minutes, it was implied that an increase in the customer satisfaction was associated with this improvement.

Staff and upper management buy-in to the changes in the process is suggested in all the articles to be a necessary condition if the changes are to be sustained. For example, in the Dickson (2009) study, two out of the four facilities the frontline staff were not involved in the changes and the metrics used for measuring success did not improve overall. This was noted in the one, two and three year post-Lean measurements. It was demonstrated that upper management was necessary to assist to drive and support the changes, but the frontline staff were necessary to implement and be the real instigators of the change. All of the healthcare studies state that the upper management must support the intervention in order for the changes to be effective through staff buy-in.

The bottom-line concerning application of Lean in the ED can now be summarized. In the articles by Ng et al. (2010), Eller (2009) and Dickson et al. (2007) it was reported a reduction in the total LOS in the ED between 8-22%. In the Ng et al. (2010) and Eller (2009) studies it was clear that the reduction was a result from improvement in processes for the lower acuity patients.

In the industrial settings it is not uncommon to find literature supporting a huge reduction in turn around time. In the article by Teresko (2007), over a nine year period there was a decrease by 9.23 hours (56%) of production time per vehicle. This amounts to large scale savings in the automotive industry. Harbert (2006) reports on communication equipment manufacturer reducing equipment set up time by 85%, shorten time between receiving and order and shipping and order by 71% and reducing consumables by 25% over an eighteen month period. Both of these articles support using Lean techniques to make changes in their organizations, but over an extended period of time. Obviously, these industries are able to focus on decreasing the variation in their inputs so to insulate their production environment from wild variations thus allowing it to standardize processes for quality improvement.

How does one decrease the variation of the primary input of the ED, the emergency patient? Given this condition of limited control on input variation, the above review suggests that healthcare administrators should expect somewhere between 8-22% decrease in the LOS as the return for a Lean initiative in the ED.

Again note that the above results are mainly due to the ability to process the lower acuity patients more rapidly through the system and therefore affect the overall LOS. The ability to control the variation of the inputs, particularly volume and acuity, is unachievable and will remain this way in the ED environment. Unlike the industrial environment in which Lean was originally developed, the ED presents an environment where the degree of variation of the major input (emergent patients) is not subject to standardization. Lean can yield excellent results in many of the healthcare departments, even the ED, but not to the same degree as the industrial setting.

In conclusion, outside of healthcare, Lean, Six Sigma and other quality interventions demonstrate a remarkable ability to increase throughput, often by factors of 60 to 90 percent (Institute for Healthcare Improvement (IHI), 2005). Applications within certain hospital departments also produce similar (36-82% across factors) results (IHI, 2005; Brown, 2010). Other departments, such as the emergency department (ED), the reported improvements in throughput (measured by decreases in the length of stay (LOS)), range only from eight to 22 percent.

METHODOLOGY FOR CASE STUDY

County Medical Center's (CMC) (a real facility with a fictitious name) Emergency Department is no different from many others across the United States and is struggling to handle the demands surrounding patient flow on a daily basis. Since this is the only hospital that serves a county of 80+ thousand residents, it is extremely important to the citizens of this community that their only hospital is capable of providing timely emergency services. CMC's administration believes the "best practice" benchmark for the overall LOS of an ED patient to be two hours; an increase of current throughput, both nationally and locally at CMC of over 50%. The executive team at CMC, as well as many other hospitals, decided to implement the Toyota Lean initiatives in order to accomplish this goal. The expected increase in throughput is based upon manufacturing results and results in other departments of the hospital where the variability of the primary input (patients) is considerably less than what is found in the typical ED. The question becomes whether such expected dramatic changes in throughput are realistic given the EDs lack of ability to decrease variation in its primary input: the patient.

A consultant group was chosen to lead this process change. The consultant group arrived on December 17, 2009 to start the initial training with a multidisciplinary group of staff so they would have an understanding of Toyota's Lean concepts. The initial group was made up of two ED staff members, the ED manager, one nurse from the medical-surgical area, one ICU nurse, one phlebotomist, one radiology technician, and one registration specialist.

The first session was five days in duration. During this time, the staff members documented each step involved in the patients flow through the department and created a value stream map, which is a visual tool that allows one to see "waste" in the system. In addition to the mapping exercise, they also went out and interviewed other staff and physicians throughout the facility on issues they saw as bottlenecks in the system. At the end of the session, there were eight Kaizen events or process changes that were to be implemented. They were set in order of priority with the discharged patient being the first one to be initiated. Since approximately 85% of the patients are discharged from the ED, it was felt that this would have the greatest impact and the best one to affect the changes that would benefit the ED. The second one to be initiated would be the admitted patient. An overview was done at the end of the week for the Executive team and any other member of the organization who wished to hear about the upcoming events.

The consultant group returned on January 18-22, 2010 to begin the next phase of the Toyota Lean principles. This team was comprised of the same number of staff; however, the composition was with different ED and medical/surgical nurses. The philosophy behind this was to have different staff learn about the process and to involve more staff so they would understand and have buy-in to the changes. During this week, the process was focused on the patients who were discharged from the ED. This comprises approximately 85% of the patient population. During the beginning of the week, the group did a flow diagram of all of the steps the patient went through during their stay in the ED. Next, they drew a fishbone diagram and were able to think of 152 reasons that cause delays in the discharge of a patient from the ED. Next, the group placed the 152 causes into six categories: manpower, method, machine, transportation, materials and patients needs. From this point, the group prioritized the ones they felt that could be changed with the least amount of effort and cost but make the most amount of difference. A total of 54 changes were made in one week.

The same process study pattern was followed during this session as was used in the first session. Team members generated a flow chart from their knowledge, but they also interviewed staff as to their perception of bottlenecks or issues on delays with discharging patients from the ED in a timely fashion. At the end of the week a summary was given to the CMC Executive team and to anyone else from the organization who wanted to learn about the proposed changes in the ED. Since most of the proposed changes centered on the ED, there was not much of a desire from outside of the department to participate in these discussions.

On March 1, 2010, the consultant group returned to work on the next scheduled Kaizen event, which focused on the patient who is admitted to the facility. The group was comprised of the same number and make-up of staff members but not all the same individuals. The same steps were followed as in the previous two sessions. A flow chart was created and staff interviewed other staff as to what they perceived issues to be in getting the patient admitted into the system. The team drew out a fishbone diagram with over 40 reasons for a delay in getting the patient admitted into the hospital. During this Kaizen, the group came up with 18 changes to implement.

Data

The data (LOS) used for this study were abstracted from the computerized medical record and tabulated into monthly reports absent of any patient identifiers. The electronic medical record (EMR) allows for easier access to data but the data are vulnerable to data entry issues and changes in report programming over the 32 month period of the study. All persons who were seen in the ED in the time frame of this study were included. The time frame is from January 2008 – January 2010 for the pre-Lean time frame. Post-Lean is the timeframe from April 2010 through August 2010.

Data used in the case study are self-reported and aggregated via the CMC medical record system. Although, in aggregate, these data are considered valid and reliable, they are subject to data entry errors.

Data analysis

The monthly average LOS at the ED is the primary measure and is analyzed utilizing XmR control charts (Deming, 1994; Wheeler, 2000) to determine whether significant changes in LOS occurred after the Lean intervention. Control charts for this thesis were generated using SPSS Statistics version 17.0.

Control charts classify a process producing a measure as either stable or unstable; also referred to one that is “in control” or “out of control.” These statistics differ from the more recognized descriptive and inferential statistics such as correlations, t-tests and ANOVAs in that control charts used and plot data over time and are not dependent upon assumptions of normality (Wheeler, 2004). Specifically these charts are used to determine whether a process characteristic is being produced in a manner in which the values of both characteristic outcome and its dispersion are predictable (within a range of values). A stable process is one in which values fall within a predictable range in a random manner. This random pattern is considered to be due solely to the random changes in the process inputs and is improved only by changing the system. An unstable process is one in which a specific outcome or outcomes are non-random (as determined by a set of rules) and can be associated with a specific change in time of an input.

Control charts are used to evaluate the effectiveness of process changes. If a system or process is in control, then the control chart shows that future outcomes are predictable within a range of values. This range is calculated based upon average measures of dispersion of the process outcomes over time. Again, for a process to be considered stable, this average dispersion must consistently fall within a range over time as well (Wheeler, 2000 and 2004).

When a process previously determined to be stable has its inputs significantly changed, then the control chart of outcomes after the change should fall in a non-random pattern. A previously stable process is made unstable in reference to its history and this indicates the experimental changes did have an effect. After the change is established as the new norm, the process may prove to be stable at a different level with a different range of values considered to be those that represent “common” variation. If the outcomes still fall within the previously determine range in a random manner after the intervention, then the intervention is not considered to be effective.

With the XmR control chart used in this study, dispersion is considered unstable only if a measure of monthly variance (mR for “moving range”) falls above the “control limit.” The control limit is the upper level of the range, above zero, within which all measures of the absolute value of the difference from the previous month are expected to fall. In this report the monthly variance charts are omitted and are “in control” unless otherwise stated.

The time plot that follows is a monthly plot of the monthly average ED LOS over the timeframe of the study. The solid line is the average value of the monthly values while the dotted lines above and below the average line indicate the “natural process limits” (control limits) of which all monthly averages are expected to fall in a non-random manner if the process producing the measure is to be considered stable. In other words, if a process is stable, any value within the range of the control limits would be considered normal. There is a tendency to have more months close to the average, but any point within the control limits is simply due to the noise of the system and is not worthy of individual attention. Any dissatisfaction with a point within the control limits requires a system response and not an investigation of what happen that particular month.

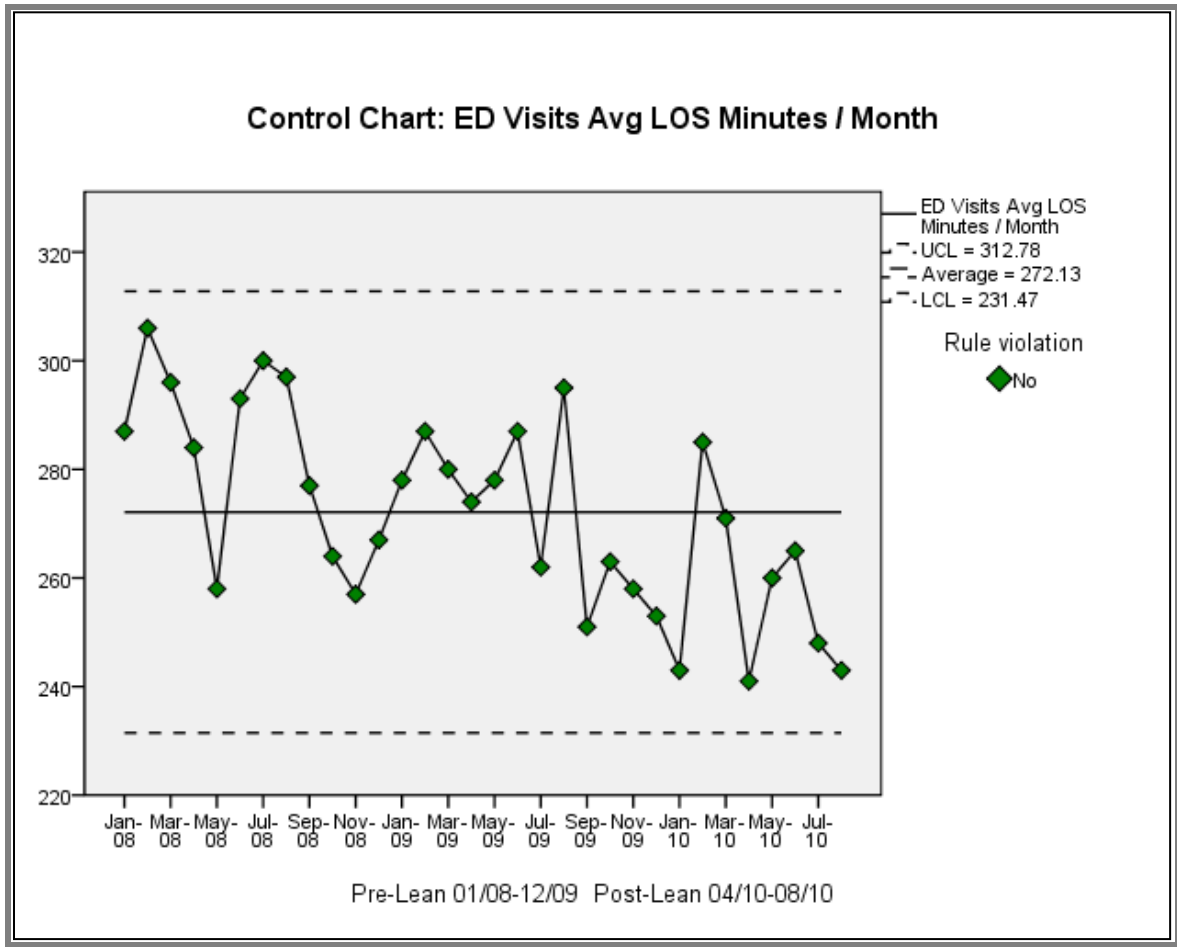
Rules, best thought of as probabilities, are used to determine whether a string of observations are random within the control limits. In this study, several rules are used to analyze the control chart. First, any point falling outside the control limits is considered non-random and an indication that the system is out of control. Points within the control limits are analyzed in terms of longer runs. If two out of three points fall within the range of the upper third of the range between the center line and the same control limit, then the process is considered out of control. This reflects the expected rarity of points that far away from average. The other rules used in this study are more than eight points in a row falling either above or below the center line, more than six points in a row going either constantly up or down, or a pattern repeating itself 14 times.

To understand these rules, think about the probability of a “fair” coin toss that resulted in seven heads in a row; the coin would be investigated as to its being “fair”. With control charts, a process with a non-random pattern is investigated to determine whether it is now unstable when referenced to its past performance. In this study, a significant change in the ED is expected show non-random patterns while insignificant changes will not produce patterns.

RESULTS

Figure 1 presents the key outcome variable of this study, the overall average length of stay of a CMC ED patient. Although there appears to be a general downward trend in this variable, the trend is not one that is beyond the scope of random data; as indicated by the fact that none of the rules for identifying non-random variation have been violated. From this control chart, one would suggest that the average CMC ED patient would expect to have a LOS of 272 minutes (4:32). However, the monthly averages could range from 231 minutes to 313 minutes without any consideration that something “special” had occurred that month.

Figure 1. Monthly Average LOS of All CMC ED Patients



Interestingly, every month in the last year of the study, except February 2010, is below average. This one month of above average LOS occurred during the middle of the Lean intervention. If February had also been below average, then the process would have been considered out of control with a lower LOS beginning September 2009; five months prior to the Lean intervention. The control chart in Figure 13 clearly shows that the monthly average LOS values prior to the Lean intervention were in the same range as the post-Lean months.

Summary of case analysis results

In summary, the analyses of the data from the case study do not support a conclusion that the Lean intervention contributed to a change in outcomes in the CMC ED. However, several other points must be considered; these derived from secondary analyses conducted in the full study. First, there was a significant increase in the volume of patients seen during the study period in the ED and there is the possibility that a Lean enhanced

capability of the ED was absorbed by this change. In other words, if it had not been for Lean, the LOS may have increased due an overwhelming volume.

Second, there was an increase in the hospital occupancy rate during the study period and this increased may have increased the ED LOS to a level equivalent to the decrease generated by the Lean intervention. The theory is that if the hospital has fewer open beds, then delays will occur in transferring patients up from the ED to the floor thus increasing the ED LOS.

Finally, Lean may not have compensated for either the increase in monthly patient volume or increased hospital occupancy because in the second full month of the post-Lean period nursing staffing patterns were altered to enhance the flow of patients and open all the ED rooms earlier in an effort to alleviate the bottlenecks in the ED. The skill mix was changed so that there were more RN FTEs and less tech FTEs but the total number of full time equivalents (FTES) did not change. The theory behind this intervention was that if the rooms were opened earlier, then nurses could utilize protocols on the patients to order lab tests so the results would be ready by the time the second physician arrived and the patient could be discharged sooner and backlogs would be avoided.

Ignoring for a moment the logic behind statistical process control charts, if one was to take the average post-Lean month average LOS (April-August average 251 minutes) and compare it to the average LOS for the period (272 minutes), then the post-Lean period represents a 21 minute improvement over the average. This represents a non-established 7.7% reduction in the monthly average LOS during the post-Lean period and falls towards the lower expectations of 8-22% improvement in the ED suggested in the literature. But again, this simple comparison with the 32 month average is suspect given that the average LOS for the four months just prior to the Lean intervention was 256 minutes; also well below the 32 month average of 272 minutes and very close to the post-Lean value of 251 minutes.

SUMMARY AND CONCLUSIONS

Conducting a large-scale project such as the Lean intervention in the case study hospital was found to be exciting, but exhausting, for the ED administrative team. Implementing change in a short time frame is difficult. Staff members, in general, were resistant to change, even when it was for the good of the patient and the organization as everyone wanted to continue to do things in their own fashion. Monitoring the change and continuing to encourage the staff was difficult in an environment of limited resources. Six months after the changes were implemented staff still required encouragement. Consultants paint a picture to administration on how easy the change will be, when in fact the change is difficult for the staff; particularly when there are so many changes at one time. The thought process is to implement many changes at once and to do it fast so everyone will get over the change phase. In the ED department, there are 70 plus employees who work three days a week with four days off; obviously not the usual Monday through Friday office group where you can have a meeting prior to opening the office and catch the entire group, tell them the change all at once and then go to work. This work setting was found to complicate a critical ingredient for successful staff buy-in: constant and steady communications.

To summarize the findings, both the literature review and the case study supported the hypothesis that Lean would be less effective in the ED environment than in manufacturing. Specifically, the improvement in LOS reported in the literature of Lean interventions in the ED ranged from 8-22%. The case study produced a possible 7.7% decrease in LOS. However, this finding is inconclusive because within this timeframe several interventions occurred including a change in the staffing pattern, increased hospital occupancy, increased ambulance deliveries, increased total ED visits. More importantly, the “change” is within the range of common variation based on the XmR chart. The changes in these system variables confound interpretation of the primary outcome variable, LOS. However, the case results are remarkably close to literature prediction.

Obviously, realistic expectations are necessary for day-to-day management and strategic decisions. If the ED team is expecting to improve LOS by 50% but “only” achieve 44%, the effect on morale and the resulting ability to maintain the changes is jeopardized when in reality the team achieved twice the maximum 22% expected; based upon the literature.

It is very difficult to account for the cost associated with lower staff morale. When staff members do not see immediate results they are easily discouraged. We are in a society where members expect immediate results and

the ED staff is not any different. Results from a Lean process can be slow. For example, customer service satisfaction score results often lag behind the actual improvements in a department or service. And from an upper management perspective, the cost-benefit analysis conducted to determine whether the investment in an intervention is worthwhile is heavily influenced by expected return on investment. The same data are also used in program evaluation. It was the purpose of this paper to provide a better estimate on the expected returns of a Lean intervention in the emergency department for decision makers.

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LEAN HEALTH AND PATIENT CARE

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Lean production was originally a manufacturing idea of Japanese engineers for Toyota's Production System. The automobile manufacturing industry is extremely competitive; as a result, Toyota wanted to make sure they were using all their resources and materials to the fullest potential. The goal of lean production in the automobile industry is the elimination of wastes, including waste in manpower, material, time, space, and resources in order to seriously compete in the automobile market. Toyota has been extremely successful with their lean thinking. Many other industries are now trying to adopt the lean methods in hopes of having the same success that Toyota experienced.

Many hospitals and companies in the health care industry have adopted lean principles to improve how operations are run. Lean principles can be applied to numerous aspects of health care and hospital operations. Lean thinking has helped hospitals save money, time, and allowed hospitals to see more patients every day. Lean principles can be applied to multiple industries because many of the business functions in every industry are quite similar. The functions of an automobile manufacturing company include material management, testing, receiving data, and delivery (Manos, Sattler, Alukal 1). Health care systems and hospital functions include testing, admitting, checkups, and surgery (Manos, Sattler, Alukal 1). The functions of hospitals and automobile manufacturing companies are similar, because the majority of the change with lean thinking is with managerial processes. With the cost of health care constantly on the rise, lean principles are being adopted by more and more hospitals and health care systems every day as a way to save money and improve quality.

The United States spends more money than any other country in the world on health care. However, the U.S. does not have one of the best health care systems. Money on health care and hospital operations is being spent in the wrong places. According to the Institute of Medicine, errors in health systems are caused not necessarily by people, but poorly designed systems (Kim, Spahlinger, Kin, Billi 195). The cost of health care is rapidly increasing and it is surpassing the rate of growth for health care companies. "Today's health care system functions at far lower levels that it can...the application of lean philosophy and tools can help hospitals and physicians achieve their vision" (Kim, Spahlinger, Kin, Billi 195). Many hospitals have extremely long emergency room waits, delayed test results, and other issues that seriously affect how the hospital is run and also the hospital's revenue. Lean has proven to be effective in both the treatment of patients and the accessibility of patient records.

Lean production states that anything that does not add value for the customer should be eliminated. Non-value added activities are considered "wastes." There are eight specific "wastes" in automobile manufacturing that can be directly applied to hospital operations and the health care industry. The first is overproduction. Overproduction is making more than necessary of something earlier and faster than scheduled. This is common in tests and paperwork. The second is inventory. Hospitals tend to order everything in bulk, and store them in unnecessary places. This not only takes up valuable space, but there always tends to be lots of extras that often times get thrown away or used for other purposes. Smaller, more frequent shipments are a better deal than a volume discount when considering the overall cost, including storage fees, not just price of the shipment. The third waste is motion. Poor layout and design of a hospital can send workers traveling all over the hospital trying to get errands done or being forced to make multiple trips for simple items. The fourth is transportation. Transportation waste occurs with the movement of patients, tests and materials around the hospital. The fifth waste mentioned in this article is overprocessing. Overprocessing is doing more than what is required and necessary. Health information providers have many problems with this. Every time a patient goes to a different health care provider they need to fill out the patient history form. It wastes the patient's time and then requires clerical time to input the information onto a computer file. Patient information systems should be connected to save both the patients and providers time and money. Many times patients will get multiple claim forms and a lot of unnecessary paperwork that only confuses the patient even more. The sixth waste is defects. Defects can mean a number of different things in the world of hospital operations and health care. Defects can be inaccurate or incomplete information in a health care system, but it can also be a wrong label on a blood tube. All of these defects can cause delays in processing that can be days or weeks. In cases of distributing blood tubes and medication, defects can be fatal. The seventh waste is

waiting. The biggest issue with waiting is a patient in the emergency room waiting for a bed. Other issues are waiting for test results, waiting to be seen by a doctor or nurse, or waiting for surgery. The eighth and final waste mentioned in this article is underutilizing staff. Employees are diverse and creative. However, often times they are given a certain task to do and that is all. They may not be asked for their opinion or input on something they have a lot of knowledge on and could seriously contribute to specific operations. This is a serious waste because it is wasting quality information from employees. These eight wastes show the serious need for improvement in the hospital and health care industry. Lean principles address all of these issues, giving health care companies that use lean methods a competitive advantage over other health care companies (Manos, Sattler, Alukal 2).

Lean processing can be valuable in decreasing or even eliminating certain mistakes that occur in hospitals. Lean processing can improve the medication distribution process among others to ensure the right medicine goes to the right patient. Hospitals that have implemented lean in similar circumstances have experienced tremendous results, with a rapidly decreasing number of mistakes made with patient care.

Hospitals and health care systems that have already adopted lean principles in the workplace are seeing dramatic results in quality service. Virginia Mason Medical Center (VMMC) in Seattle, Washington has experienced incredible results in terms of patients and illnesses as a result of implementing lean production methods. There has been a huge decrease in illnesses caused by hospital mistakes. In 2002, Virginia Mason Medical Center had 34 cases of ventilator-associated pneumonia resulting in five deaths. Ventilator-associated pneumonia is caused by unsanitary ventilators provided by the hospital. In 2004, however, after VMMC implemented lean production methods, there were only four cases of ventilator-associated pneumonia resulting in just one death (Kim, Spahlinger, Kin, Billi 195). Not only did lean principles result in less cases and deaths caused by ventilator-associated pneumonia, it saved Virginia Mason Medical Center almost a half million dollars. VMMC also used lean principles in its cancer treatment center and experienced phenomenal results. They improved their space utilization and were able to see 57% more patients in the same space (Kim, Spahlinger, Kin, Billi 195). After such tremendous results using lean principles, Virginia Mason Medical Center is now working on decreasing the amount of medication errors and improving the process of delivering and administering medications using lean production methods.

The University of Michigan has begun using lean production methods to improve patient care across all areas of the hospital. The hospital was experiencing delays in the placement of peripherally inserted central catheters (PICC). Those delays were associated with other delays as well, including timeliness of the administration of intravenous medication and delays in discharges to home or extended care facilities (Kim, Spahlinger, Kin, Billi 196). Before the University of Michigan Hospital implemented lean production methods, only 50%-70% of the PICC lines were inserted within 24 hours of request. Once the lean principles were applied to the PICC process, between 90%-95% of all PICC lines were inserted within 24 hours of request. The PICC lines were just one of the areas the University of Michigan Hospital focused on with lean principles. To improve every aspect of the way the hospital is run, the University of Michigan Hospital assessed their entire value stream map to identify the areas in most need of improvements and change. With the PICC lines, the hospital made the patient's records more easily accessible to the nurses and doctors, which in turn allowed the nurses and doctors to respond to the requests much faster while reducing their workload. The University of Michigan Hospital is now undergoing changes to improve the quality and timeliness of patient discharge using lean production methods. "The overall goal of the project is to optimize patient care from hospitalization to discharge and transfer of care to the outpatient setting" (Kim, Spahlinger, Kin, Billi 197). Lean production is about delivering the highest quality care to the customer; in the case with the University of Michigan Hospital, the customers are the patients. It is important, especially in a hospital setting, that patients leave satisfied with the level of quality care they received while in the hospital.

Lean techniques have proven to be extremely successful. However, there are still many people who are skeptical about the whole process for a variety of reasons. Some people have a hard time connecting the automobile industry to the health care industry. "People are not automobiles...each person is unique" (Kim, Spahlinger, Kin, Billi 197). It is important to think about benchmarking when comparing industries. Companies do not benchmark with another company in the same industry. They look at other industries managerial processes and benchmark there. For example, the Ritz-Carlton Hotel benchmarks with hospitals, since they both deal with customer orientation and services (Sower 60). With more and more industries adopting lean techniques (financial, insurance, etc.), I think it will become more accepted throughout the world. People also fear that organizations are implementing lean production to lay off a segment of their labor force. "A key component of the successful application of lean production methods is assuring that as process flows and operations are improved, job

descriptions and duties of individuals may be redirected, but their employment will not be lost” (Kim, Spahlinger, Kin, Billi 197). This does not apply to all health care professionals. Employees that may fear losing their job may work on organizing and distributing patient care records. If all records go into a database, their job is essentially done on the computer. Companies must find other ways to utilize their employees’ strengths. After a company goes through lean production methods, many employees may be assigned different tasks and assignments, but it is important for companies to ensure employees that their jobs will not be lost. Doing this will give more confidence to employees and they will most likely adapt to the change better and engage in the opportunities presented to them.

Overall, I believe lean production methods are great for the health industry. From the examples above, hospitals are now using their resources to their fullest potential. As a result, they can see more patients a day and the hospitals as a whole are saving a lot of money. What surprised and impressed me the most about all this was the impact lean production has on patients. I expected things to be done more efficiently and that hospitals would save money, but I never realized the lives that are saved with lean production. Lean helped stop the spread of illnesses caused from specific hospital equipment and processes. Lean improved the processing of distributing medication and blood tubes, decreasing the chances for a patient to receive the wrong medication or treatment. I think as more hospitals and health care companies adopt lean and experience the benefits, soon every hospital and health care company will incorporate lean into their workplace.

ISSUES RELATED TO EVIDENCE-BASED PRACTICE APPLICATION IN HEALTH CARE SETTINGS

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ABSTRACT

Evidence-based practice is essential for advancement of nursing professionalism. In order to see the evidence-based practice in the realities we need to assess the factors that facilitate and enhance the application of evidence-based practice. In the other hand, we have to investigate the barriers of evidence-based practice, understand that barriers, and override that barrier with best evidence-based approaches. This paper came to shed a light in the evidence-based practice barriers and for this purpose I chose a long term facility at western Pennsylvania to use evidence-based practice barriers survey and investigate the barriers that faces nurses from applying EBP at the facility and provide recommendations to override these obstacles to have a successful facility that provide evidence-based practice.

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TRACK
HEALTHCARE EDUCATION

THE HEALTH INSURANCE RISK GAME: A SIMULATION FOR MEANINGFUL LEARNING

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ABSTRACT

One of the most effective and successful pedagogical strategies for undergraduate education utilizes self-discovery simulations to illustrate and explain complex concepts. This paper describes a simple classroom simulation that provides students an opportunity to better understand the purposes, challenges and problems associated with health care insurance. The simulation is tested in an undergraduate class of fifty healthcare economics and finance students and the results described. Follow-up discussion questions focus on the social contract to provide universal health care insurance, the pressures on insurers to change rules for specific individuals and conditions and the alternatives to traditional insurance.

INTRODUCTION

Health insurance is and will continue to be a volatile social issue within the U.S. health care system over the coming decade. As noted by Feldstein (2005), “Social insurance programs have become the most important, the most expensive, and often the most controversial aspect of government domestic policy, not only in the United States but also in many other countries, including developing and industrialized nations.” With the recent political debates and national referendum on a public policy solution to provide healthcare coverage for all Americans, students of health care management must develop competencies in understanding and applying the principles of risk and insurance in communities and populations.

Understanding risk and the role of insurance in managing risk is a difficult concept. Not only is it difficult, it is sometimes regarded as being a dull and irrelevant topic by students. This combination of factors makes teaching its concepts difficult; however, it is imperative for students to develop this and related critical thinking skills (Celly, 2007).

Although the concepts of risk apply to many areas of management, the Healthcare Leadership Alliance (HLA) Competency Directory (HLA 2010) identifies several competencies that relate specifically to insurance and risk which are also replicated in the American College of Healthcare Executives’ (2010) competencies assessment tool. Identified are the competencies of “knowledge of risk management principles and programs (e.g., insurance education; safety; injury management; patient complaint)” and “knowledge of risk mitigation (e.g., insurance outsourcing).” In addition, the HLA Competency Directory identifies the health leadership competency of “advocating and participating in healthcare policy initiatives (e.g., uninsured crisis; medical malpractice; access to healthcare; patient safety).” Students must understand the concepts of risk and risk pools to have the necessary competencies in these essential knowledge and skills. Understanding risk also helps students to learn the relationship of financial reward versus risk.

For many years, there has been debate regarding the idea that individuals possess a sense of “insurance mindedness” and that this set of attitudes affects risk taking behavior (Greene, 1968). Studies have addressed the relationship of age, sex, income and other variables to risk behavior, and although the results are somewhat mixed, it is generally accepted that individuals do develop different risk assessment and behavior patterns (Celly, 2007). It is argued that individuals learn to assess risk, take risks, and avoid risks because of psychological factors. The exercise described below was developed to help students explore their sense of risk and apply the learned concepts to the policy debates over health care insurance coverage.

The concepts of insurance continue to be difficult to teach and understand for some students. In teaching risk and insurance concepts, several questions should be addressed including how insurance rates are set, how insurance is regulated, should individuals have a right to affordable insurance, and importantly, should health insurance be provided on a public or a private basis?

The goals in developing this teaching tool were: 1) To encourage critical thinking, including moral and ethical reasoning; 2) to aid in understanding human behavior; 3) to provide understanding of the causes and effects of health insurance as an important societal problem; and, 4) to integrate knowledge across broad areas including: health care finance, health care policy, health and wellness behavior, and health economics.

THE GAME

The simulation begins with all students starting with an identical number of chips (12 each). A random number generator is used to select “sick” players. In Round One, 10% of the players are randomly selected and charged a fee randomly assigned of between two and six chips (presumably for medical care and hospitalization). In Round Two, participants are permitted to buy into a pool, limiting their potential liability: if any of the pool members are selected as “sick” the pool pays, with their chips, the accessed charges. In Round Three randomly selected individuals are identified as “high risk” (the selection generator doubles their odds of targeting as “sick”). In Round Four, randomly selected players are targeted as “catastrophically ill,” with significantly higher charges levied if they are selected as sick.

Round One represents individual (uninsured) health risk. Most participants opt to join pools in Round two, illustrating the evolution of health insurance organizations. In Round Three most pools attempt to expel high risk person; thus providing an example of the pre-existing condition phenomenon. In Round Four, pools generally charge catastrophic players higher membership premiums.

Materials

Payment Chips. Plan on approximately 12*number of participants as the number of payment chips to supply. (Cheerios work well, with the added benefit of being inexpensive. And, given the time of the day, the food item “chip” illustrates well the optional use of disposable income.)

Random number generator. We used thirty-one numbered poker chips (correlating to the month day date of birth of the players) pulled out blindly from a hat. In Round Three, with the odds increased for certain individuals, we added additional chips with the date numbers of randomly selected days.

Additional Federal funding. At the end of each round, bankrupt players may apply for a “Federal subsidy” (payment chips) to remain in the game. In this game, you need to provide about 10% extra payment chips above the 12*number of participants number of chips. (As an added dimension to the game, consider using a different colored “Cheerio” to illustrate the impact of “Federal funding” into the risk pool.)

Procedures

Round One: The Uninsured.

1. All players are assigned a NUMBER based upon their month day date of their birthday (1st through 31st).
2. All players are provided with twelve (12) payment chips (Cheerios).
3. Six dates are selected by the generator. Individuals with those numbers are declared “sick” and are charged four (4) payment chips. Bankrupt players are provided an additional one-time “Federal subsidy” in the amount of six payment chips to represent “safety net” programs.

Round Two: Evolution of Mutual Insurance

4. Players are permitted to join pools of five to ten persons. The normal cost of joining a pool is set at three (3) chips. However, the joining cost for students identified as “sick” in round two ranges from four (4) to

eight (8) chips. Students with the first “sick” date are charged four chips; second, six chips; and the third and subsequent dates are charged eight chips.

5. Six numbers are randomly selected. “Sick” individuals or their pools are charged accordingly while bankrupt players are provided additional Federal funding in the amount of six payment chips.

Round Three: Dealing with Preexisting Conditions

6. Eight numbers are identified as “high risk” (double chance of selection by random number generator). Members may pool as in Round Two, but the pool members determine the joining cost.
7. Repeat Steps 4 and 5. (This repeats round one.)

Round Four: Dealing with Catastrophic Conditions

8. Six numbers are drawn (and replaced) and these players are identified as suffering from “catastrophic” conditions if their numbers are selected they are charged double the fees set for others.
9. Repeat steps 6 and 7. (This repeats both rounds one and two.)
10. Tally the results, including the number of students in pools and those “uninsured,” the number of chips left with individuals and pools and provide time for discussion (see sample questions next section).

EXAMPLE SIMULATION OUTCOMES

After piloting and fine tuning, this simulation was conducted in a class of 47 students in an undergraduate course in Health Care Economics and Finance. No prior readings, lectures or discussions related to insurance were assigned or provided prior to the exercise.

In Round Two approximately two thirds of the participants joined pools with those pools having a median size of six individuals each. Of the 14 students who remained “independent” in Round Two, four were forced into bankruptcy when their numbers were randomly selected. This information was shared with the class with the intent of significantly encouraging future pooling.

In Round Three 44 students joined pools and, again, the median size was six individuals. Of the eight pools formed, seven charged a differential (double fee) to “high risk” members.

In Round Four five of the eight pools expelled the “catastrophic” members while of the remaining pools two charged the catastrophic individuals a premium (three times normal fee) and one pool held out for equality of all members. Coincidentally that one pool prospered when none of their pool member’s numbers were selected.

After the results were orally shared with the class, these five discussion questions were addressed:

- **What was the effect of risk pooling?** Consensus: Sharing the risk is a positive strategy and one that meets social contract obligation of helping others.
- **What was the effect of health risk information?** Consensus: Health risk information encourages fee discrimination which then requires the development of logic to develop different fees. The same information was found to encourage the exclusion of “sick” persons from the pools.
- **How did the bankruptcy “Federal subsidy” work?** Consensus: Government subsidy helped most of the “unlucky” by providing a humane social safety net.
- **How does this relate to health care insurance?** Consensus: The simulation helped students to develop a better understanding of why insurance pools form and why companies try to exclude certain persons for preexisting conditions.
- **What is your evaluation of the health insurance industry?** Consensus: After completing the simulation, students viewed the health insurance industry as a useful mechanism to help spread risk.

In addition, the simulation experience also provided the class with a common experience to develop discussions concerning the reasons for insurance policies, why external regulation is needed and how the insurance industry serves as investment instrument for other companies. Also, for evaluative purposes, a necessary educational function in this age of competency based accreditation (AUPHA, 2008; CAHME, 2010), users of this simulation should consider a pre- and post-simulation response to these and other questions.

SUMMARY AND PEDAGOGICAL IMPLICATIONS

Meaningful learning, that learning that actually stays with the student and thus affects the student's future thought processes and behaviors, is best accomplished when logic, emotion and physical activity coincide (Novak, 1998); exactly the situation created with the "Health Insurance Risk Game." Learning environments promoting meaningful learning (so to affect future decision making) are critical or educational programs for professionals. The use of tools for meaningful learning (such as simulations) is in stark contrast to "teaching" environments that encourage simple memorization for exam passage. Unfortunately, simple "rote" memorization fades from memory in six to eight weeks and no longer affects behavior, professional or otherwise (Novak, 1998).

The use of mastery assignments (Melton, 2008) and in class exercises (Melton, 2004) for instruction of business statistics (particularly variation and probability) are common and the simulation presented represents an application of these learning principles to the instruction of risk. The common learning laboratory that the game produces provides a touchstone for meaningful discussion with engaged students using common terminology to think through, together, the implications of their new understanding of risk on the wisdom (Ackoff, 1999) of the use of insurance in the healthcare industry.

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CHALLENGES IN CURRICULUM DESIGNS: RN TO BSN BRIDGING PROGRAM AT KING SAUD UNIVERSITY

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ABSTRACT

Nursing education in Saudi Arabia is facing many challenges, with the majority of nurses are holding a diploma degree. According to ministry of health the number exceeds 10,000 nurses. In response to the challenges, and in order to improve the quality of nursing education in the Kingdom, the ministry of Health, in collaboration with the Saudi Council for Health Specialties has recommended that Baccalaureate of nursing is the minimum required degree for professionalism, and the entry level to the practice. With a huge number of diploma nurses who need to upgrade their education preparations, the king Saud University responded to the challenge by developing a Bridging program in nursing. The program focuses on innovative nursing curriculum that prepares competent nurses who will be able to serve the Saudi health care needs, and improve the quality of patient care. Alternatively, there are three main existing issues in the country affecting starting this initiative. One issue is the governmental health institutes which provided the diploma nurses. Other is the current transition of these diplomas from ministry of Health to the ministry of Higher Education. Finally, the new regulations of ministry of Higher education regarding the bridging program designing and implementation. This paper will address the planning process of the curriculum revision and the transition from diploma to baccalaureate degree program that address higher level of learning, and prepare nursing leaders in Saudi Arabia.

INTRODUCTION

Nursing education is one of very important issues in Saudi Arabia. It faces many challenge, especially, with the majority of nurses are holding a diploma degree. According to ministry of health, the number is exceeds 10,000 nurses. In response to this challenge, and in order to improve the quality of nursing education in the Kingdom the ministry of health in collaboration with the Saudi Council for Health specialties has recommended that Nursing Baccalaureate degree of nursing is the minimum required degree for professional nurses ; and the entry level of nursing practice in Saudi Arabia.

With a large number of diploma holders, who needed to upgrade their educational preparation, King Saud University as a leader of nursing education in the country responded to this challenge by developing a bridging program in nursing. This program focused on developing an innovative nursing curriculum that prepare competent nurses who will be able to serve the Saudi health care needs and be able to improve the quality of patient care. However, the process was not as simple as we thought. There are three main existing issues in the country affecting starting these programs. One issue is the governmental health institutes which grant the diploma degree. The other issue is the current transition of nursing diploma Schools from Ministry of Health (MOH) to the Ministry of Higher Education (MOHE) and finally, the new regulations of Ministry of Higher education regarding the bridging program designing and implementation. As a result, the official bridging program at King Saud University established in 2099 to alleviate the nursing shortage, and to provide competent health care practitioners at professional level.

The purpose of this article is to explore the curriculum designing approach of the RN-BSN program that accommodates the current and future nursing workforce. And to address issues affecting the program and How are these issues comes together to fulfil the nursing profession needs.

HISTORY OF NURSING IN SAUDI ARABIA

Nursing profession is one of healthcare specialties that affecting the healthcare. It is one of health disciplines that has multiple entry levels in the healthcare system. Nurses with RN (Diploma), Associate Degree in Nursing (ADN) and Baccalaureate in Science of Nursing (BSN) are contributing to the nursing shortage; however, with rapid changing in healthcare system, the outcomes between the three nursing degrees are varied.

In Saudi Arabia, Nursing profession plays a critical role in the healthcare reform. Nursing education in Saudi Arabia started in the late 1950s under the provision of Ministry of Health (MOH). The first batch of nurses was part of the collaboration with the World Health organization (WHO) and Ministry of Health (MOH). The diploma degree and the associate degree were the only official nursing degrees offered by the health institutes at that time (Tumulty 2001). Later, in 1976, the first academic four years nursing program was established under the Ministry of Higher Education (MOHE). These three colleges are located in the three main regions in the country, Riyadh, Jeddah and Dammam, started to graduate nurses with BSN degree.

Currently, most of nurses working in hospitals and medical centers are expatriate diploma nurses who might have difficulties to adopt the conservative Saudi culture, to understand the health care policy and regulation, and well as the communication barriers in term of understanding the Arabic language. Meanwhile, the current workforce of national nurses is not meeting the expected numbers; however, the majority of them are holding either nursing diploma or associated degree in nursing.

NURSING EDUCATION AND ACCELERATED PROGRAMS

Nursing education in some countries plays a critical role in raising the academic voice and in supporting the nursing issues in health care system. During the last two decades, some developed countries supported the advancement of nursing professionally and academically. For example, in the United State of America, the National Advisory Council on Nurse Education and Practice has recommended that most nurses should hold a baccalaureate degree or higher by 2020. Likewise, The American Organization of Nurses Executives (AONE) also recommended that BSN is the recommended entry-level degree for nursing practice (Spencer 2008).

In order to implement these recommendations and to alleviate the nursing shortage, it is imperative to upgrade the diploma, and the associate nursing degree to a BSN. The advantage of the accelerated programs is to prepare nurses with the proper knowledge and professionalism needed in clinical practice (Kubsch, Sylvia; Hansen, Georgetown; Huyser-Eatwell, Vicki 2008 & Spencer 2008). Most of these programs focus on research, ethics, and professional issues. Furthermore, most of the outcomes of these programs emphasized that the benefit of using the leadership concepts.

According to the nursing literature, some studies endorsed how the development changes among nurses who graduated from accelerated nursing programs with BSN degree. Some other studies connected the BSN prepared nurses with the reduction of patient mortality rate (Aiken, Clarke, Cheung, Sloane, & Silber 2003). While other studies correlated patient outcomes with nurses who were BSN prepared (Aiken, Clarke, Sloane, Lake, & Cheney 2008). Moreover, some other studies indicated that RN-BSN programs supported the retention of nurses into the practice area as well as enhanced learning activities (Lane & Kohlenberg 2010).

BRIDGING PROGRAM AT KING SAUD UNIVERSITY

As a prompt respond to the Minister of Health decision that mandate to make the BSN the entry-level for nurses to work in the hospitals, and according to the high number of Saudi nurses who has nursing diploma degree, the Vice Rector office for Health specializations at the king Saud University established the Bridging Program for Health Specialties. This program started in 2009 in order to design curriculum and to secure all facilities needed such as buildings and distinguished faculties. The nursing specialty was the first program to start with due to the urgent need and demand for nurses in Saudi Arabia. The nursing committee was established in order to facilitate the curriculum designing and determine the resources needed. The committee consists of 8 members who are expert nurses in curriculum designing. The main purpose of the committee was to design the RN-BSN bridging program.

CURRICULUM DESIGNING CHALLENGES

In order to design the RN-BSN curriculum, the gap analysis approach was conducted. The courses of previous degrees (either Nursing Diploma or Associated Degree) were analyzed in congruent with the Baccalaureate courses in the academic institution that the RN-BSN program is taking place. Some studies determined that there were some major categories of courses content such as core courses, bridge courses, and practices (Spencer, 2008). The gap analysis of KSU RN-BSN was determined.

In order to design such an accelerated program such as RN-BSN, the committee decided to explore all courses in the previous and the future degree. Gap courses were evolved as needed courses for the bridge. However, there were some challenges that face the committee during the designing stage of the program at the KSU RN-BSN program. These challenges were summarized as the following:

1. The credit hours for both previous degrees (Diploma and Associated) are 84 and 132 credit hours respectively while the total credit hour of the BSN at KSU is 135.
2. The high number of credit hours in some courses that had raised some difficulties for the equivalent courses to be processed.
3. The BSN curriculum at KSU, that is required to base the bridging work upon, was out of date which make the whole process of bridging is difficult.

THE RN-BSN NURSING BRIDGING PROGRAM

After the analysis process, the committee concluded that designing nursing bridging curriculum was not an easy task. The history of nursing in Saudi Arabia with different nursing schools have made the starting is somehow complicated. The obstacles were identified as the following:

- There were two different nursing diploma schools offering two different programs for nursing diploma and associated degrees.
- The variation of curricula (study plan and credit hours) among the two diploma programs existed.
- The expected gap between high number of diploma schools and low number of BSN colleges.
- The gap between the outcomes of the diploma programs and the expected admission criteria to the bridging program.

The plan of designing the RN-BSN curriculum concerning the above mentioned issues was to brainstorm all issues affecting the healthcare practice from the nursing profession's point of view. That was one of the challenges among the Committee. However, using the "Project Management Operation" concept and techniques, with an invitation of a facilitator to control the brain storm session, all these issues and challenges were effectively managed. This technique was very effective in solving all the issues the committee members were facing during the discussion process.

The committee had nine hours in one week just to discuss major problems in nursing profession at Saudi Arabia. The group of 8 members who are experts in nursing education, clinical practice, and academic fields determined that most obstacles, facing the nursing profession at Saudi Arabia were identified and summarized in (Table 1).

Table 1. The most nursing issues that affect nursing profession at Saudi Arabia

Issue	Category
Low level of nursing practice of nursing diploma holders	Nursing Practice
Increased nursing malpractice	
Low quality of nursing care provided at hospitals	
Traditional role of nursing diploma holders	
Lack of professionalism among nursing personnel	Nursing competencies and interpersonal skills
Lack of self confidence among nursing diploma holders	

Lack of creativity among nursing diploma holders	
Poor communication skills among nursing diploma holders	
Lack of decision making capabilities among nursing diploma holders	
Low self esteem among nursing diploma holders	
Low spoken and written English skills level of nursing diploma holders	
Poor communication between nursing educational institutes and health care providers	
Low conflict resolution skills among nursing diploma holders	
Lack of nurses research skills	
Lack of professionalism among nursing personnel	
Low level of 1st line nursing management	Nursing Workforce
Hi-volume of unemployed nursing diploma holders	
Poor nursing human resources	
Shortage of BSN nurses workforce	
Hi turnover rates among nurses	
Bad ineffective allocation of nursing workforce	
Lack of knowledge among nursing diploma holders	Nursing Education Output
Gab between theory and practice of nursing	
Lack of continuous nursing education	
Lack of nursing educational strategies	
Poor quality outputs from nursing colleges	
Poor implementation of curriculum in nursing colleges	
Unclear career-path for graduated nursing diploma holders	
Negative attitude towards nursing by nursing diploma holders	Inappropriate perception toward nursing Role
Low awareness about nursing in community	
Dissatisfaction among nurses.	
Lack of clear nursing scope of practice	

PROJECT VISUALIZATION AND ANALYSIS

Following the brain storm session, the committee members identified the following factors as the barriers that affect the progress of designing the RN-BSN program at King Saud University in Saudi Arabia. These problems were divided in to the following categories:

- Low quality of nursing care provided by nursing diploma holders.
- Nursing diploma programs do not meet health market demands in terms of curriculum designing, implementation, and evaluation.
- In compliance with Ministry Of Health's recommendation, by 2012, all nursing diploma holders will not be eligible for employment in governmental hospitals.
- Lack of national nursing educational and professional development strategies.
- Lack of clear nursing scope of practice.
- Shortage of national professional BSN nurses workforce.
- Lack of professionalism among nursing personnel.
- Low awareness about nursing in community.

One of the important issues that nursing organizations recommended when discussing and promoting nursing education is that nursing educators should rethink curriculum (Spencer, 2008). Accordingly, the eight major problems that agreed upon were the concept of designing the curriculum. The idea was to design courses to help advance the nursing profession as well as solve these issues that oppressed the nursing profession. According to

Lane and Kohlenberg 2010, the curriculum of RN-BSN program “must address the areas of greatest need for nurses and healthcare” (Lane & Kohlenberg, 2010).

Consequently and after long period time of discussion, and planning, the committee agreed to design the RN-BSN curriculum considering the eight major problems. They transferred most of these problems into objectives to be achieved in the curriculum. At the end The committee members agreed on the program objectives as the following:

1. Utilize the scientific knowledge base and using research outcomes in carrying out nursing activities and interventions directed at preventing illness and promoting, maintaining, and restoring an optimal level of wellness.
2. Provide comprehensive, holistic and individualized nursing care for the individual, family and, community throughout the life span and in a variety of settings.
3. Discuss national ethical, legal, cultural, and regulatory framework and in accord with the national standards of professional nursing practice.
4. Provide safe, effective and ethical nursing care that meets the national standards for professional registered nurses.
5. Demonstrate accountability for the quality and quantity of nursing care given by self and/or delegated to others.
6. Provide health education to empower clients and client families to facilitate informed decision-making, positive outcomes, and self care activities.
7. Participate in life-long learning to develop self as a person and as a professional.
8. Participate in research activities in nursing and in other related fields to enhance professionalism.
9. Perform a leadership role in coordinating, managing, and enhancing the quality of health and nursing care.

The final step in designing the curriculum is to determine the proper courses that achieve the above program objectives. Table (2) show all RN-BSN required courses in the newly designed RN-BSN bridging program at KSU with its required credit hours.

Table 2. The new RN-BSN bridging program course.

#	Course Title	Weekly Credit Hours (Theory+Lab+Practice)	Remarks
Nursing Science Courses			
	Adult Health Nursing	3(3+0+0)	
	Reproductive Health Nursing	3(3+0+0)	
	Community Health Nursing	3(3+0+0)	
	Nursing Ethics	2(2+0+0)	
	Child & Adolescent Health Nursing	3(3+0+0)	
	Health Assessment	2(0+2+0)	
	Foundation of the Nursing Profession	2(2+0+0)	
	Health Education in Nursing Practice	3(3+0+0)	
	Mental Health and Psychiatric nursing	3(3+0+0)	

	Acute and Critical Care Nursing	4(3+1+0)	
	Nursing Management and Leadership	3(3+0+0)	
	Nursing Informatics	3(3+0+0)	
	Nursing Research	3(3+0+0)	
	Clinical Nursing Practice	3(0+0+3)	
	Total	40(34+3+3)	
Basic Science and Nursing-Related Sciences			
	Biochemistry	3(3+0+0)	
	Microbiology	3(3+0+0)	
	Human Anatomy and Physiology	3(3+0+0)	
	Pathophysiology	3(3+0+0)	
	Epidemiology and Biostatistics	3(3+0+0)	
	Pharmacology for Nurses	3(3+0+0)	
	Total	18(18+0+0)	
Social and Behavioural Sciences			
	Professional Writing and Transferable Skills	2 (2+0+0)	
	Communication and Interpersonal skills	3(3+0+0)	
	Total	5(5+0+0)	
	Total Program Hours	63(57+3+3)	

CONCLUSION

The future of nursing profession is promising; however, nurses should follow the healthcare organization at most countries that support BSN nurses prepared in order to maintain quality of care. The KSU initiative for starting the Bridging program is congruent with the MOH's recommendation regarding the BSN prepared nurses in Saudi Arabia. Launching of RN-BSN program will assist the development of nursing in Saudi Arabia. Other Universities at many different regions in Saudi should replicate the initiative and start the program. Program evaluation should be in place to monitor the process and guide nurse educators for better outcome.

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TRACK
HEALTHCARE REFORM

DENTAL HYGIENE PROGRAMS AND HEALTH CARE REFORM: TAKING ADVANTAGE OF OPPORTUNITIES

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ABSTRACT

The Health Care Reform Act has afforded the health care delivery system an excellent opportunity to expand the role and scope of practice of dental hygienists. This expansion is much needed because it will provide access for oral health to largely underserved populations. This article describes the extent of the problem and provides a plan to implement the needed changes.

INTRODUCTION

The Health Care Reform Bill was signed into law by President Obama on March 23, 2010. While many had hoped that this signing would bring the debate over health care reform to an end, it became readily apparent that this issue will continue for months and probably years into the future. There exists a lot of uncertainty as to what the law (H. R. 4872, The Health Care & Education Affordability Reconciliation Act of 2010) will cost and what changes will accrue to both employers and employees. Similarly, there are additional concerns relative to mandates and the permanence of the law; will it be overturned by judicial fiat or by subsequent Congressional sessions?

The existence of uncertainty surrounding H. R. 4872 is unsettling, but it should not be suffocating. Clearly, health care delivery will continue to go on and policy makers will debate and push for their agendas. It is, therefore, important that constituencies within health care delivery position themselves to garner needed resources acknowledgement. This will be particularly true of sectors of health care delivery that have been neglected in the past. Dental care unfortunately has been a major member of this neglected group.

The need to increase resources and awareness of dental care comes from two considerations. The first is the chronic neglect in the United States, across age groups, of dental care. The second is the lack of a well thought out plan to increase public health dental services, or to address alternative strategies to improve care and education.

CHRONIC NEGLECT IN CHILDREN

The attention being paid to and the results in improved oral health of children have at best been mixed. Improvement in the decline of carries in permanent teeth has been positive. This in all likelihood due to the use of dental sealants which has increased significantly. In 2000 75% of the states has a sealant program and this increased to 85% in 2007 (Tomar & Reeves, 2009). Of concern, however, is the increase of dental carries in the primary teeth of children between the ages of two and four. The rates in this cohort increased from 18% in 1988 to 1994 period to 24% in the 1999 to 2004 period. This increase was uneven across racial lines. Among white children the increase was negligible, but among non-Hispanic black and Mexican American children, the increase was significant. Not surprisingly poverty status also was an indicator across all age groups of children. Data comparing carries prevalence between 1988 – 1994 and 1999 – 2004 showed a greater occurrence among children living at or close to the poverty level versus those living at 200% above the federal poverty level (Tomar & Reeves, 2009).

Another statistic to frame the problem is that in 2005, one-third of all children living in homes where the household income was below 200% of the federal poverty level did not see a dental provider. The recognition that for a family of four, 200% of the federal poverty level translates into an income of \$42,400 brings the issue into even starker reality (Hathaway, 2009). Part of the problem with a lack of dental care in many children rests with the fact that in many states dentists are not accepting Medicaid patients. The three primary reasons given by dentists for not accepting Medicaid are: 1) low reimbursement rates, 2) burdensome administrative requirements, and 3) problematic patient behaviors (Hathaway, 2009). It is reasonable to assume that paramount among these three is the

first – low reimbursement. With the projected cuts across the board for all Medicaid and Medicare services, it seems that the lack of participation will be exacerbated. We would also suspect that low reimbursement is contributory towards a lack of dental providers in rural areas where typically we have a greater rate of poverty.

Of great concern when studying dental care access and income levels is the realization that tooth decay is the most prevalent chronic disease in both children and adults. It is five times more common in children than is asthma (Otto, 2009). The occurrence of poor oral health presages not only dentition problems and pathology, but an even more troublesome aspect of systemic health issues. The connections between oral and systemic health have been well established. Linkages between oral health and cardiovascular disease and diabetes have been extensively studied (Hein, Cobb, & Iacopino, 2007; Meurman, Sanz, & Janket, 2004). These relationships, while potentially problematic for children, are even more inimical for adults.

CHRONIC NEGLECT IN ADULTS

The scope of dental care for adults in the United States unfortunately is not any better than that for children and adolescents. Again, one of the drivers is socioeconomic status. Adults who are on Medicaid have a significantly lower use rate of dental office visits compared to those covered by private insurance (ku, 2009). This is not to suggest that a significant majority of adults have private dental health insurance coverage. Interestingly enough, while oral cancer kills more women than cervical cancer, and oral infections and complications can adversely affect diabetes, pregnancy, and heart disease; some 82 million adults do not have dental health insurance and subsequently relative low rates of dental visits (Otto, 2009).

The problem of lack of access to dental care for the elderly becomes even more significant when we factor in some common health findings associated with senescence. A decrease in immune efficiency is one which will precipitate a variety of medical illnesses and dental conditions. Included in the latter are:

- Edentulousness (loss of all natural teeth)
 - Facial pain or discomfort
 - Oral cancer
 - Carries (tooth decay/cavities)
 - Periodontal issues
 - Denture – related conditions
 - Xerostomia (dry mouth/lowered saliva)
- (World Health Organization [WHO], 2009).

Other systemic conditions such as cancer, diabetes, and osteoporosis have a negative impact on oral and functionality (CDC, 2006). Not only is the impact produced by the diseases themselves and their sequelae, but by the medications used to treat these conditions. Edentulousness is particularly problematic. It affects 19% of the elderly in the United States. It has direct impacts on diet adequacy, food enjoyment, and may increase the risk of developing periodontitis and affect body weight. All of these outcomes are related to a loss of chewing efficiency (CDC, 2009). The absence of a balanced diet many times also occurs because this population has experienced tooth loss or ill-fitting dentures. This imbalance can easily lead to further decline in dental health (WHO, 2009).

The problem of inadequate dental care exists for both the elderly residing at home and those living in long-term care facilities. In many instances this latter group has even greater difficulty getting care. Since approximately 5% of Americans over the age of sixty-five live in long-term care facilities, and available data points to low use of dental services within this group, the need for expanded care is clear (Guay, 2005).

One contributing factor to the lack of dental care to residents in long-term care facilities is the absence of caregivers having either the time or training to provide oral health care services. A lack of in-house equipment and sufficient means of transport to off-site facilities also complicates the issue (WHO, 2009).

DISCUSSION & CONCLUSIONS

Health care policy in the United States is at a crossroads. There is growing concern that health care expenditures are consuming more and more of our GDP while at the same time we have major access issues.

Unfortunately, the need to solve these seemingly contradictory problems is frequently over-shadowed by the issue of health care reform which remains largely focused on payment systems. It therefore seems reasonable that solutions to the difficulties confronting health care delivery will have to come from a combination of state policy makers and practitioners.

The recognition of the connections between oral and systemic health has provided new opportunities to advance access to health care and improved outcomes. Clearly, one path to improved outcomes is to expand access to oral health paradigms. This is especially true for identified underserved populations. Children and elderly living in rural areas are foremost in these populations so there is great import to develop a system to serve these groups. What we are proposing is an expansion of the role of the dental hygienist to serve as a foundation in this system.

When considering the needs of the elderly it becomes apparent that their lack of care has been exacerbated by being overlooked in public health and policy interventions. This is especially critical since the elderly suffer disproportionately from oral diseases and those residing in long-term care facilities have even greater problems (Lamster, 2004). The expansion of the role of the dental hygienist would include placing them in the offices of geriatricians and having them make visits to long-term care facilities on a regular basis.

One proposed policy model to increase oral health care services to the elderly is the Access Triangle. Under this model three conditions must be met:

- 1) An adequate dental workforce must be able to provide care,
 - 2) The demand for care must exist within this population,
 - 3) The ability to pay and for providers to be compensated must exist.
- (Guay, 2005).

Condition number one can be met by increasing the scope of practice and autonomy of dental hygienists. Allowing them to practice outside of dental offices will provide a cohort of practitioners that will greatly augment the dental workforce.

Condition two can be attained through education. Many people are unaware of the oral and systemic health linkages and therefore frequently neglect their oral health (Guay, 2005). Our vision of the dental hygienist as a oral health coach would include a component of being an educator. This education component can be conducted in a variety of venues including churches, senior citizen centers, nursing homes, etc. If the education is successful, people will be alerted to the need to pay attention to oral health and either prevent or blunt the effects that oral diseases can have on diabetes, heart disease, and other chronic conditions.

Condition three will probably require some creativity and adjustments to existing payment systems. Currently, there is no dental coverage under Medicare. The inclusion of a dental benefit across the board in today's economic climate is highly unlikely. I would be reasonable, however, to include a means tested benefit. Making it means tested would substantially reduce the cost and allow this much needed service to be folded into Medicare. This coverage should include payments to both dentists and advance practice dental hygienists.

H.R. 4872 basically breaks down to two general areas of support: Title 1 addresses Coverage, Medicare, Medicaid, and Revenues; Title 2 covers Health, Education, Labor, and Pensions. Within Title 1 section 1103 of the Act speaks to adding funding to Medicare for activities that improve the quality of care (Committees on Ways & Means, Energy & Commerce, & Education & Labor, 2010). It seems reasonable that the intent of this section could be used to support cost effective health delivery. What we are proposing for dental hygienists would easily qualify.

Title 2 has a variety of provisions that provide funding for education (Committees on Ways & Means, Energy & Commerce, and Education & Labor, 2010). Dental Hygiene programs can tap into this funding source to develop advanced practice programs. With most states having budgetary constraints in many areas, including education, the Health Care Reform Bill may be a primary funding source for effecting the new roles for dental hygienists.

Many times solutions to complex problems reside in obvious, but overlooked resources. The conundrum of health care access, cost, and outcomes would fall into this category. The expansion of the role of the dental hygienist

would greatly increase access to much needed care; reduce costs from higher morbidity rates; and, improve outcomes in both oral and systemic health.

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SMART CHOICES TO DECREASE NURSING SHORTAGE

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ABSTRACT

This paper presents smart choices to reduce nursing shortage. In today's increasingly complex healthcare environment, the role of the nurse requires extensive education in the sciences and humanities as well as higher order thinking abilities in order to meet the current healthcare demands. In the United States, there are three types of programs that provide entry-level education into the nursing profession: associate, diploma and baccalaureate. These programs have profound differences in required education content, primarily concerning liberal education, community health, nursing theory and research. Recent research shows that these differences in education, particularly between associate and baccalaureate programs, affect the quality of nursing practice, compromise client health and safety, inhibit professional advancement of nursing, and are a factor in the current projected nursing shortage. Such research indicates that pursuing a higher degree in nursing may alleviate these problems.

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ARE THERE TOO MANY “DOCTORS” IN THE HOUSE? AN INVESTIGATION OF THE EFFECTS OF JOB TITLE INFLATION IN THE AMERICAN HEALTH CARE INDUSTRY

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ABSTRACT

Until recently, the title “doctor” within the American health care system was typically synonymous with the position of physician. However, over the past decade, several health care-related professions have developed their own doctoral-level educational programs. As a result, many more caregivers and service providers now expect to be called “doctor.” While these individuals can certainly argue that they have earned such titles, it remains to be seen whether society in general or the health care community in particular will support this change in appellation. The purpose of this paper is to investigate the potential benefits and hazards associated with changes in job titles in the U.S. health care industry. Special emphasis is placed upon the effects such changes have on the expectations and psychological contracts held by the professionals in question.

ACCOUNTABLE CARE ORGANIZATIONS: WILL ACCOUNTABILITY INCREASE PHYSICIAN ALIGNMENT?

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ABSTRACT

Research suggests that quality of care improves and costs are controlled when physicians are integrated into the delivery system model. The Patient Protection and Affordable Care Act healthcare reform efforts are one year away from implementation of the Medicare Accountable Care Organizations (ACOs) program in January 2012. Even though the ACO model holds the providers and payers jointly accountable for any measured improvements in quality or reduction in cost of care, there is concern that some physicians either don't understand the ACO model, or are not convinced of the validity. A study was conducted to test this hypothesis by anonymous surveys with North-Eastern Pennsylvania physicians, including those who are currently employed by an ACO. This presentation analyzes implementation of the ACOs, and offers suggestions and recommendations to increase physician alignment in ACOs.

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TRACK
HEALTHCARE INFORMATICS

ARE ELECTRONIC MEDICAL RECORDS SYSTEMS HELPING TO INCREASE PRODUCTIVITY?

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ABSTRACT

As Electronic Medical Records (EMR) Systems increase in popularity among medical facilities, so will the questions surrounding their ability to have an effect on productivity. With any business, increased productivity generally means greater revenues, and medical facilities are no different. If a medical facility is looking to implement an EMR system, they should be aware, not only of what the system can offer, but the different ways that it can affect productivity. In this study, data was collected from local medical facilities to see what kind of effect implementing an EMR system has on their productivity. Productivity was based on four variables: filing time, labor hours spent entering charges, accuracy of entering charges, and revenues. Monthly data was collected on each variable and each facility was asked to obtain six months of data before the system was implemented and six months of data after the system was implemented. Although no significant differences were found between the months before the system was implemented and the months following the implementation, this doesn't mean that these systems have a negative effect on productivity.

INTRODUCTION

In the past, patient medical records were in paper form, meaning that medical facilities, depending on their size, could have hundreds and even thousands of individual patient charts. These paper charts mean stacks of paperwork and endless hours of filing time for staff members, not to mention the problem of misplaced charts and the need for additional storage space. Although paper charts are still the norm for many facilities, they are facing a technological upgrade in the form of the electronic medical record (EMR).

Electronic medical records have quickly become a growing commodity in many medical facilities. Over the past couple of years, they have become increasingly popular and in the future are likely to replace paper charts altogether. According to the Institute of Medicine, an EMR can be defined as "a type of clinical information system, which is dedicated to collecting, storing, manipulating, and making available clinical information important to the delivery of patient care. The central focus of such systems is clinical data and not financial or billing information. Such systems may be limited in their scope to a single area of clinical information (e.g., dedicated to laboratory data), or they may be comprehensive and cover virtually every facet of clinical information pertinent to patient care (e.g., computer-based patient record systems)" (1997).

An EMR system creates an electronic chart for each of the facilities' patients. This requires scanning existing documents into the new electronic chart. Every time a patient is seen in the office, the provider must create a new office visit document in that patient's electronic chart. Other reports, such as imaging reports or operative notes, if applicable, can also be entered. As with the paper charts, different facilities keep different reports, and maintain different document types in their patients' charts. Electronic charts offer a variety of advantages over paper charts, including "the ability to access a chart from any location; the opportunity for multiple viewers to read or contribute to a chart simultaneously; legibility; and the ease of incorporation of data into the note, without transcription error" (Siegler & Adelman, 2009).

EMR systems vary depending on the company the medical facility chooses to purchase the system from. Like with most other systems available, the systems can be tweaked to fit the special needs of the particular medical facility. An EMR system can be set to electronically send bills for office visits and other services to patient's insurance companies. Prescriptions and orders for different studies can also be sent electronically to a designated pharmacy or facility, depending on the patient's preference (Centricity, 2007).

Almost a year ago, the doctor's office where I work, a Neurosurgeons' office in Cape Girardeau, MO, implemented an EMR system. I am currently the EMR Team Lead at the facility and am anxious to see where this system will take us. With less than a year's experience, the entire clinic has seen some drastic changes, and although I have already learned a great amount of information involving EMR, I know that there is plenty more to learn about the topic and how it affects day to day operations, not only within our facility, but also other local medical facilities that have implemented an EMR system.

Implementing an EMR system can prove to be very beneficial to a medical facility; however there are also some obstacles that arise when switching to an electronic system. The greatest advantage seems to be "the perception that these systems promote increased efficiency and cost savings within the first few years of implementation, as well as better patient care and patient education" (Andrews & Smith, 2003, p. 44). Probably the biggest downfall with these systems, and one of the main reasons why many facilities are not eager to implement them anytime soon, are the costs associated with not only purchasing a system, but also maintaining it.

One of the biggest discussions among many medical facilities today, is whether or not to implement an EMR system. There have been talks and debates weighing the advantages and disadvantages of someday making EMR systems mandatory in every medical facility. Some facilities are unable to afford the systems, while others are content with the paper charts and don't see a need for change.

For the most part, studies related to EMR systems, including *Challenges Associated with Physicians' Usage of Electronic Medical Records* (Ilie, et al, 2009) and *Anticipated Use of EMR Functions and Physician Characteristics* (Meinert & Peterson, 2009), are mainly composed of questionnaires and surveys documenting physician and patient reactions and attitudes toward these systems. Since this is a fairly new topic, any in-depth research involving EMR systems is still rare, and potential implications are still unknown. EMR systems affect almost every aspect of medical facilities' day to day operations, and it is not something that can be measured overnight.

THEORETICAL PERSPECTIVES

The underlying theories used in this study will be the Theory of Planned Behavior (Ajzen, 1991), diffusion theory (Rogers, 1995), and the Classic Growth Theory (Smith, 1904). The Theory of Planned Behavior and diffusion theory, typically applied in IS research, help to explain human behavior and how it reacts to the adoption and usage of new innovations, such as EMR, including moving from paper charts and bills to electronic charts and bills (Ilie, et al, 2009, p. 40). The Classic Growth Theory, primarily applied to economic growth, is used to explain the correlation between company growth (increase in the number of patients), and increased productivity, or vice-versa.

PURPOSE

The purpose of this study is to compare the effects that EMR systems and clinic size have on local (Cape Girardeau, MO) medical facilities' productivity. Productivity within the clinics will be based on filing time, the number of labor hours spent entering charges, the accuracy of entering charges, and different costs associated with implementing an EMR system. Each aspect has its own effect on the medical facilities' productivity. The aspects used to measure productivity in this study are focused toward, but are not limited to, business/billing staff members of a medical facility.

RESEARCH QUESTIONS AND HYPOTHESES

Using the knowledge gained from working with an EMR system, the new information gained from previous studies, as well as insight from local medical facilities' interactions with their own EMR systems, this study will look to answer the following question: What are the effects of implementing an electronic medical records system on medical facility productivity?

Each of the aspects (filing time, the number of labor hours spent entering charges, the accuracy of entering charges, and different costs associated with implementing an EMR system) will increase, decrease, or have no effect on the medical facilities' productivity. I have identified a hypothesis for each independent variable:

Hypothesis 1: Implementing an Electronic Medical Records system decreases filing time, thus increasing medical facilities' productivity.

Hypothesis 2: Implementing an Electronic Medical Records system decreases the number of labor hours spent entering charges, thus increasing a medical facilities' productivity.

Hypothesis 3: Implementing an Electronic Medical Records system increases the accuracy of entering charges, thus increasing a medical facilities' productivity.

Hypothesis 4: Implementing an Electronic Medical Records System increases a medical facilities' productivity by justifying and offsetting the associated costs.

DEFINITIONS

- Clean claim – “a claim for payment for a health care service which has no defect or impropriety. A defect or impropriety shall include lack of required sustaining documentation or a particular circumstance requiring special treatment which prevents timely payment from being made on the claim” (Act 68 – “Prompt Payment of Clean Claims”).
- Electronic Medical Record (EMR) – “a type of clinical information system, which is dedicated to collecting, storing, manipulating, and making available clinical information important to the delivery of patient care. The central focus of such systems is clinical data and not financial or billing information. Such systems may be limited in their scope to a single area of clinical information (e.g., dedicated to laboratory data), or they may be comprehensive and cover virtually every facet of clinical information pertinent to patient care (e.g., computer-based patient record systems)” (Institute of Medicine, 1997).
- Filing time – the amount of hours and FTE spend on filing charts, paperwork and x-rays
- Full time equivalent (FTE) – “Ratio of total number of paid hours during a period (part time, full time, contracted) by the number of working hours in that period Mondays through Fridays” (businessdictionary.com).

IMPORTANCE OF RESEARCH

“Because of the many potential benefits associated with EMR technology, a number of experts believe the market for EMR systems will grow rapidly over the next decade” (Meinert & Peterson, 2009, p. 2). In order to keep up with the ever-changing health care industry, implementing an EMR system seems to be the next logical step for most facilities. Not implementing such as system could prove fatal to facilities further down the line.

When contemplating an EMR system it is important to do as much research as possible. There are different systems with different amenities and ensuring that you find the one that best fits your facility is essential. Once implemented, it will be important to monitor and modify the system, to ensure that is achieving what it is supposed to, and one way to do that would be to compare the level of productivity of the facility before and after the system was implemented.

Measuring productivity is an essential part to ensuring that a company is creating its desired outputs. In a medical facility productivity can be measured using multiple methods, including, but not limited to, filing time, the number of labor hours spent entering charges, the accuracy of charges entered, and costs. Each aspect can be measured and used to determine if the facility is being productive.

When implementing an EMR system, or any new technology for that matter, the main goal is to increase the productivity of the facility as a whole. A new product or system that doesn't bring a change in productivity, or even worse, a decrease in productivity, would be considered a waste of money, which is why it is important to measure different aspects to ensure that the system is doing what it is designed to do.

Within any line of work, it is important to stay up to date with other companies in your industry, as well as ensure that you maintain an advantage over your competitors, and the health care industry is no different. It is imperative that medical facilities looking to implement EMR systems are aware of exactly how the system will affect their company, not just on a daily basis, but also in the long run. Not all companies, especially smaller ones, are able to afford such a large loss if the system does not increase their productivity.

CURRENT STATUS

EMR systems are quickly growing in popularity among medical facilities. In an occupational field that thrives on technological advances, it is not surprising that medical facilities would look for ways to ensure their ability to incorporate such systems.

“As more practices and institutions switch to electronic records, a paper-based system will become increasingly cumbersome. Other practices, medical centers, and medical care facilities will want to receive documents, letters, reports, and other information from your office in an electronic format so that the data can enter their system without needing to be retyped or scanned. They will also want to send you information electronically” (Andrews & Smith, 2003, p. 44).

Satellite offices are another technological advancement that medical facilities are branching out to and another reason EMR systems are gaining popularity. When a practice has several satellite offices, things can run more efficiently if they are done electronically. There won't be a need to carry charts back and forth from the different offices, because all charts will be accessible from each location (Nash, p. 26).

Although EMR systems are not mandatory at this time, it is definitely a possibility that they may be in the future. President Obama's American Recovery and Reinvestment Act contains money for health information technology, including the push for EMR systems in every medical facility (Recovery.gov). It “aims to achieve national improvements in the quality and value of health care through financial incentives for providers to make ‘meaningful use’ of electronic health record technology” (Torda, et al, 2010). Insurance companies, like Medicare and Medicaid, also plan to offer incentives for physicians using the systems, in order to allow for more efficient electronic claim filing. As more companies implement EMR systems, it is not unlikely that those choosing not to implement the systems may even be fined.

RELATIONSHIP BETWEEN LITERATURE AND PROBLEM STATEMENT

Whether or not an EMR system has an impact on productivity is something that all facilities should consider before implementing a system, as well as monitor throughout the life of the system. It is important to know whether the system will be worth the installation and maintenance costs. At first, it may seem that measuring the impact on productivity might be difficult, and in some ways it might, but focusing on a few aspects of productivity could prove to be very beneficial.

When it comes to saving time, such as filing time and labor hours, “the consensus is that EMRs can save considerable time, at least once the initial implementation and learning period have passed” (Andrews & Smith, 2003, p. 50). Of course, one can only expect there to be issues in the beginning that may actually cause a decrease in productivity, but as people become more familiar with the system that should change. After some time has passed, “EMRs will eliminate wasted time spent pulling charts, refilling charts, looking for misplaced charts, and paging through charts” (Andrews & Smith, 2003, p. 50).

As for justifying the costs of the system, if you look at it as more of an investment, rather than an expense, then you expect to get something in return from the system within the coming years (Andrews & Smith, 2003, p. 55). It's important to realize that even though you may not see immediate results, the system will show its value over time. In a time when competition is a fundamental part of business, waiting until after everyone else implements a system, will prove to be too late.

Of course, not everyone will agree that EMR systems are the next big thing. There are downfalls to EMR systems and most facilities see no reason for change. “If you have a well-organized paper chart, it's easy to flip through it pretty quickly and somewhat discretely while you're talking to patient, but if you try to flip through the computer-based chart, it definitely takes a lot longer, and it's not nearly as discreet” (Nash, p. 28). This feeling is shared by many physicians, all who believe that paper charts have proven to work and nothing else will be as efficient.

RELATIONSHIP BETWEEN VARIABLES AND THEIR IMPORTANCE

Filing time, labor hours spent entering charges, accuracy of entering charges, and cost are important variables in calculating productivity. Each variable by itself would be able to give you an idea about your facility's level of productivity, but together, they are able to give you a more accurate analysis. Depending on the variable, an increase in productivity will either create a positive or negative correlation between the variable and productivity.

When implementing an EMR system the hope is that filing time will decrease to almost nothing. With an EMR system there should be very few labor hours spent filing charts, paperwork, or films. The lack of paperwork is one of the biggest incentives for medical facilities to implement an EMR system. A decrease in filing time would signify an increase in productivity.

A decrease in the number of labor hours spent entering charges would also indicate an increase in productivity. In a medical facility's business office there are individuals whose job duties consist of entering all charges for each patient seen each day, which is a necessary task to ensure that the facility is paid for services rendered. However, with an EMR system, most charges can be entered electronically and sent directly to the appropriate insurance carrier, thus making the task of entering charges a redundant one.

On the other hand, an increase in the accuracy of entering charges would imply an increase in productivity. Entering charges, as stated before, is a necessary task, and it is also an important one. Clean claims consist of no errors and are usually paid without any problems. Inaccurate claims, or ones with errors, are usually sent back to the facility to be corrected, thus delaying the payment to the facility. An EMR system would hopefully increase the accuracy of charges entered, because the doctor would be entering the charge(s) during the visit, thus limiting the chance of it being misinterpreted incorrectly by the employee in billing.

The costs of implementing and maintaining an EMR system can prove to be rather expensive, especially for smaller facilities. Initially, the costs of the system will likely have a negative effect on productivity, due to the increase in expenditures. Over time, however, the costs should be easily justifiable with the overall increase in the facility's productivity. "The cost-savings can be significant because for the first time the documentation can fully support the coding, there can be an auto-auditing capability, and there are no more lost charges. These advantages can immediately offset the cost of most systems" (Charters & Rosenthal, p. 68).

The relationship between the variables can be explained using the Theory of Planned Behavior and diffusion theory. The two theories explain how human behavior reacts to the adoption and usage of new innovations, including EMR systems. Thus, decreasing labor hours spent filing and entering charges, as well as increasing accuracy of charges, and justifying the costs are going to be meaningless if the employees are not willing to accept the changes associated with the new EMR system. The Class Growth Theory is used to explain the correlation between company growth and productivity, meaning an increase in company growth (number of patients being seen) should have a positive effect on the company's productivity.

RESEARCH DESIGN

A quantitative research method is the most appropriate method for the study between medical facilities' productivity and implementing EMR systems. Collecting the data will help to effectively test the hypotheses that implementing an EMR system increases productivity within the facilities. The data will be secondary data from local medical facilities that have implemented an EMR system.

Sample

Data was collected from four local medical facilities, all of which have implemented an EMR system. Monthly data was collected for 6 months before the system was implemented and 6 months after the system was implemented, for a total of 12 months of data for each facility. Although data was collected from four facilities, only data from three of the facilities was able to be used in the study. The one facility's data that was discarded was unrealistic, with monthly totals being identical; the accuracy of the data was questioned and determined not suitable for the study. Table 1 outlines the demographics of each of the four practices, and includes the practice's specialty, the averages for each of the variables, as well as the costs to implement the system and monthly maintenance costs.

Table 1: Practice Demographics

	Practice 1	Practice 2	Practice 3	Practice 4
Specialty	Family Practice	Neurosurgery	Surgical Clinic	Gastroenterology
Avg No. of Patients Seen Before/After Implementation	2226.67 / 1964.00	1793.67 / 1907.33	2000.00 / 1975.00	133.50 / 155.83
Avg Labor Hours – Paperwork Before/After Implementation	160.00 / 23.33	306.29 / 593.38	480.00 / 240.00	37.50 / 32.33
Avg Labor Hours – Charges Before/After Implementation	160.00 / 127.50	54.17 / 85.92	240.00 / 240.00	148.33 / 160.00
Avg Charge Accuracy Before/After Implementation	90.00% / 90.83%	94.17% / 93.17%	99.00% / 99.00%	97.50% / 98.00%
Avg Monthly Revenue Before/After Implementation	\$26,5674.67 / \$25,215.33	\$80,5070.92 / \$83,4913.37	\$321,666.00 / \$301,666.00	\$26,7018.50 / \$25,5713.00
One-time Cost of Implementation	\$109,961.00	\$125,000.00	\$45,000.00	\$250,000.00
Recurring System Costs per Month	\$1,125.78	\$1,700.00	\$1,100.00	\$5,000.00

Data collection instruments

After establishing which medical facilities the data would be collected from, the business office manager of the facilities were contacted through e-mail. The purpose of the study was described to them, so that those participating completely understood the data that was needed and what it would be used for. Since the data is secondary, an HSC approval was not required, however, a consent and confidentiality form was sent to each facility because specific billing information and other performance data was needed [Appendix A]. In order to efficiently collect all of the data, an Excel spreadsheet was created and emailed to each facility [Appendix B]. Each facility received the same consent and confidentiality form and spreadsheet. The facilities used in the data collection process, are well known facilities within the community, so their credibility should increase the reliability of the data.

Operationalization of variables

Data was collected for each variable: the number of labor hours spent filing charts and paperwork, the number of labor hours spent entering charges, and the accuracy of entering charges, both before and after the system was implemented (Table 1). This should have been readily available information for most medical facilities. Collecting the different costs associated with implementing an EMR system, proved to be a little more difficult to obtain, but not impossible.

Filing time and the number of labor hours spent entering charges were measured using the total number of hours full time equivalent (FTE) employees spend filing charts and paperwork and entering charges into the system, before and after implementing an EMR system. The accuracy of entering charges was measured by the percentage of clean claims the facility submits each day, both before and after implementing a system. A clean claim can be defined as any claim for a service rendered in the facility that was not rejected by an insurance company due to billing error. The different costs associated with implementing an EMR system were initially going to be measured by calculating the initial cost and the cost to keep the system maintained, compared to the facilities' revenues both

before and after implementing the system. Ultimately, this variable was analyzed using the monthly revenues for each facility. The average number of patients seen in a day was also taken into account.

Analysis of data

Once the data was collected, it was entered into SPSS. Using independent samples t-tests, SPSS allowed all of the data to be analyzed on the same level. Since there were multiple variables, it was beneficial to see how the different variables compared before and after the implementation. Also in SPSS, paired sample t-tests were used to help further analyze the data within each facility.

Results

Each hypothesis stated that productivity would increase after the EMR system had been implemented; however, there was no significant difference for any of the variables before or after an EMR system was implemented (see Table 2). According to the stated hypotheses, monthly revenues, accuracy of entering charges and average number of patients seen were to increase, in order to show an increase in productivity. Monthly revenues and accuracy of entering charges increased, but not significantly. As for the number of patients seen, the number actually slightly decreased after implementing a system. The slight decrease could be due to the months that were used in the data collection process. In medical facilities, different months are consistently more productive than others, thus influencing the amount of patients and ultimately the amount of revenues the facility generates. To show an increase in productivity, it was stated that the number of labor hours spent filing charts and paperwork and the number of labor hours spent entering charges would decrease. Each of these, actually increased after implementing the system, but as stated earlier, the increase was not a significant one.

Table 2: Independent Sample T-Test for all Facilities - Before and After Implementation

	Mean		N/df	t
	Before	After		
No. of Patients Seen	1384.61	1342.39	18/34	.140
Avg Labor Hours – Paperwork	167.93	216.35	18/34	-.654
Avg Labor Hours – Charges	120.83	124.47	18/34	.802
Avg Charge Accuracy	93.89%	94.00%	18/34	-.089
Avg Monthly Revenue	\$445,921.36	\$447,583.90	18/34	-.018

*p ≤ .05 **p ≤ .01 ***p ≤ .001

Data for each facility was also examined individually (Tables 3, 4 & 5). These results allowed for further investigation into whether or not each facility was able to show partial support for each hypothesis.

Table 3: Paired Sample T-Test for Practice 1 - Before and After Implementation

	Mean		N/df	t
	Before	After		
No. of Patients Seen	2226.67	1964.00	6/5	2.03
Avg Labor Hours – Paperwork	160.00	23.33	6/5	10.45***
Avg Labor Hours – Charges	160.00	127.50	6/5	3.90**
Avg Charge Accuracy	90.00%	90.83%	6/5	-.42
Avg Monthly Revenue	\$265,674.67	\$252,125.33	6/5	.90

*p ≤ .05 **p ≤ .01 ***p ≤ .001

Of the three facilities whose data was used in this study, practice 1 was the only facility that had expected results. Both the average number of labor hours spent filing charts and paperwork and the average number of labor hours spent entering charges decreased significantly after the system was implemented. The average number of labor hours spent filing charts and paperwork decreased from 160 hours per month to 23.33 hours per month, and the average number of labor hours spent entering charges fell to 127.50 hours per month, from 160 hours per month (Table 3).

Table 4: Paired Sample T-Test for Practice 2 - Before and After Implementation

	Mean		N/df	t
	Before	After		
No. of Patients Seen	1793.67	1907.33	6/5	-1.51
Avg Labor Hours – Paperwork	306.29	593.38	6/5	-3.53*
Avg Labor Hours – Charges	54.17	85.92	6/5	-7.26***
Avg Charge Accuracy	94.17%	93.17%	6/5	.89
Avg Monthly Revenue	\$805,070.92	\$834,913.37	6/5	-.39

*p ≤ .05 **p ≤ .01

***p ≤ .001

Practice 2 had some unexpected results, however, it was the only facility where revenue increased, although not significantly. The average number of hours spent filing charts and paperwork and the average number of hours spent entering charges both increased significantly after the system was implemented. Before the system was implemented, practice 2 spent an average of 306.29 hours per month filing charts and paperwork and that increased to an average of 593.38 hours per month after the system (Table 4). As for the number of hours spent entering charges, it increased from an average of 54.17 hours per month before the system was implemented to 85.92 hours after the system (Table 4).

Table 5: Paired Sample T-Test for Practice 4 - Before and After Implementation

	Mean		N/df	t
	Before	After		
No. of Patients Seen	133.50	155.83	6/5	-.938
Avg Labor Hours – Paperwork	37.50	32.33	6/5	.632
Avg Labor Hours – Charges	148.33	160.00	6/5	-1.00
Avg Charge Accuracy	97.50%	98.00%	6/5	-2.24
Avg Monthly Revenue	\$267,018.50	\$255,713.00	6/5	.48

*p ≤ .05 **p ≤ .01

***p ≤ .001

Practice 4's data showed no significant results. The number of patient seen increased, the average number of labor hours spent filing charts and paperwork decreased, and the accuracy of entering charges increased (Table 5), which were the expected results, but they were not significant enough changes from before the system was implemented to after the system was implemented to consider them as supporting the each hypothesis.

Discussions

Limited monthly data, limited local facilities with EMR systems and inaccurate data are all contributing factors as to why the study, overall, did not have any significant results. The variables used are common among all medical facilities and had the potential to be accurate measuring tools for gauging productivity, however, with only four local facilities found for collecting data, of which only three were accurate, and a limited number of months, both before and after implementation, it isn't surprising that overall significant results weren't found. Other contributing factors to insignificant results may include the type of practice and differences in the EMR systems. Looking at the practices individually, practice 4 was the only facility that didn't have any significant results, and it was also considerably smaller than the other facilities. Practice 2, although the number of labor hours spent filing charts and paperwork and the number of labor hours spent entering charges increased significantly, was the only practice where revenue increased. Not only is the size of the practice likely to have an impact, the type of specialty could influence whether or not significant results were obtained from the study.

The greatest reason for the lack of significant data can likely be contributed to issues concerning the implementation of the system. As with any new technology, there is an unavoidable learning curve and transition period that must be taken into account when calculating labor hours and accuracy. When transitioning from paper charts to an EMR system, "some tasks, such as document scanning, required clerical users to do overtime and all users experienced an adaption period that demanded particular efforts" (Gagnon, et al, 2010). Not every employee

learns at the same pace and it is inevitable that unwanted technical issues are going to arise, especially in the beginning, causing problems for the clinic as a whole.

Implementing an EMR system is not an easy task. A lot of hard work and dedication goes into the process. Once the decision has been made to implement an EMR system, the work begins. Planning begins months, maybe even a year or so, before the system is actually implemented and includes, but is not limited to, designing the system to fit the facilities' needs, scanning in old paper charts, if applicable, and continuously altering day to day workflows. Providers' schedules may decrease a few weeks before and after the system is implemented to allow for changes, thus, not only causing a decrease in the number of patients being seen, but the amount of revenue that the facility earns. Even after the first couple of months, as employees and patients, alike, adjust to the system, there are still changes being made and workflows being altered to allow for the greatest productivity levels, and six months may not have been long enough to accurately see the expected results.

Even though the overall results of this study did not show any significant increases in productivity, it is certainly not a reason to never implement an EMR system or to think that the system you have now is a waste of money. EMR systems can offer great advantages to medical facilities and are likely the future of documenting patient visits and records. According to CMAJ (2010), last year, Obama's administration passed legislation making a financial investment of nearly \$27 billion in incentives to encourage physicians to "abandon their paperwork and join the information age" in order to ensure that all Americans benefit from EMR systems by 2014. As they continue to increase in popularity, not having an EMR system could be a great disadvantage. EMR systems, like most technology, are created with a purpose of making life easier, but since they are fairly new for a lot of facilities, there are still many obstacles and issues that arise that must be evaluated and overcome before the system can run at its full potential.

PROPOSED IMPLICATIONS AND LIMITATIONS OF STUDY

The ultimate goal for this study was to allow facilities to analyze their current EMR systems to ensure that the system is working productively, and to also give other facilities, who have not implemented an EMR system, the opportunity to review the data to see if implementing the system will be worth their time and money, especially within their billing department. Each facility is run differently, so being able to look at each variable, will give the individual facilities their own perspective on the data. However, since the data collected was unable to show any significant differences from before and after, the hopes is that this study could be a starting point for future studies. These future studies could hopefully have the time and resources to find a greater amount of facilities and would be able to collect more than six months of data before and after implementation. At least a year's worth of data, both before and after, would probably prove to be the most beneficial.

Since it was secondary data that was being used for the study, there were limitations. Facilities may define the variables differently, thus not giving accurate comparable data. Also, when collecting secondary data it is always possible that errors could exist because the data is being copied from the original. These limitations were decreased by creating a dictionary so that everyone can see exactly what each variable consists of and using the spreadsheet to ensure that the data didn't have to be copied more than once, after the initial recording.

One of the biggest limitations was not only trying to find local facilities that had implemented an EMR system, but finding ones that had had the system longer than six months. When trying to find facilities, calls were made to almost every medical facility in the area. The most common response was that the facility planned on implementing a system within the next few years, if not within the next year. Some facilities didn't even seem to know what an EMR system was and others clearly said that they felt that their facility would never switch to EMR. As the popularity of EMR systems continue to grow, it is inevitable that more facilities will be available for future studies. Also, the differences in the EMR systems are likely to have an effect on the outcome of the study. The systems are created differently and are molded to fit the particular facility, and may not be comparable to another one.

CONCLUSION

There comes a point when the familiar, paper charts, are not going to be the most efficient. Deciding to switch to an EMR system is a big step, but as they become increasingly popular, not implementing an EMR system

could prove to be detrimental to facilities. It's important to realize that there are advantages and disadvantages to these systems, but the disadvantages can be minimized with some detailed research, effectively trained employees, and a system that best fits the need of the facility.

Measuring the productivity of the facility is necessary when dealing with such an expensive system. Filling time, labor hours spent entering charges, accuracy of entering charges, and cost are all measurable aspects of productivity. Once productivity levels have been established, the system can be modified to help increase these levels even more. After all, productivity helps bring money to the facility.

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HEALTH INFORMATION TECHNOLOGY: EDUCATIONAL STRATEGIES FOR HEALTH PROMOTION

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ABSTRACT

The development of new media technologies in higher education and health care over the last decade has been phenomenal. Computers are readily used by all students and health care providers. The availability of health information on the Internet encompasses far reaching implications for health education and health promotion strategies

The Internet, as a health information tool, provides access to information from numerous sources on a broad range of topics to an increasing number of individuals, families and communities. As a result, technology in general, has become a major challenge in higher education as we seek new and engaging teaching strategies that promote active learning environments, improved student engagement and learning outcomes and enhanced performance and motivation.

As the distribution of technology continues to expand across populations, more research is needed to examine the impact of readily accessible information tools to health care providers and the health care delivery system. Today's consumers are accessing health care services and education through distance programs for continuing education and degree programs in various health sciences. Rapid expansion of information technology (IT) demonstrates the need to carefully evaluate the application of technology strategies for improving both systems of care and patient care outcomes. Health care providers must address the source and content of Internet information.

Information availability has been enhanced to millions of people which have resulted in an explosion of knowledge regarding health and health promotion strategies. It is imperative that health care providers are knowledgeable and prepared to function in today's technology-rich world that includes simulation, e-learning, informatics, mobile technology and telehealth practice. By incorporating the appropriate teaching technologies as patient education tools, health care providers will achieve the goal of implementing appropriate educational strategies for health promotion.

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THE VALUE OF SMART-PHONES IN THE HEALTHCARE INDUSTRY

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ABSTRACT

As the wireless telecommunications increases, one can easily see the significant role that smartphones are playing in quickly becoming a popular tool in our everyday lives. These devices are designed to make life easier for all of its users by giving them access to a variety of different modes of communication and applications right on their finger tips. Healthcare industry is always looking for cheap and effective solutions to increase patient care and lower cost. This paper examines how Smartphone can be used to address some of the issues in healthcare particularly how it helps in making life easier for both healthcare workers and users. Historical aspect of smart phones as well as the future implications of smart phones in the healthcare industry will also be discussed.

INTRODUCTION

Close your eyes and picture a doctor. In most cases people will see a similar picture; one with a man or a woman wearing scrubs, with a couple of pagers and cell phones on their waist, a white coat overflowing with papers, and a stethoscope. The goal of Smartphones is to change this image of a doctor. Smartphones are not a new fashion trend in healthcare; instead Smartphones are among the latest technological advances to hit the healthcare industry. The goal of the Smartphone is to reduce the amount of things a medical care provider has to carry and consolidate all of the information they need into one easy to use device. The advent of the Smartphone has allowed physicians, residents, medical students alike to have access to the most modern information, as opposed to the small booklets they normally would carry in their pockets. Applications such as Epocrates have helped consolidate the many different tools that doctors have relied on for years to help provide patient care. It is no longer necessary for a doctor to carry a drug book to use as a reference, or repeatedly go back to their office to check email, these functions and more can now be done through the usage of a simple device. Smartphones are also not exclusively used by doctors; their multifunction capabilities are making lives easier for everyone in a hospital setting from nurses and other medical staff workers to patients that come in to receive medical care. According to an article published for the California Healthcare Foundation, Sarasohn-Kahn states that, "in the "medical" category, 33 percent of apps are meant for consumers/patients, 32 percent for physicians, 17 percent for medical students, 4 percent for other health professionals, and 2 percent for nurses." (Sarasohn-Kahn 2010) In an attempt to find out what phones healthcare workers are using and what is the main purpose of using the Smartphone, software advice conducted a survey amongst healthcare workers. The first survey determined the "Smartphone use by Profession," and the second survey was used to ask the healthcare workers "Why did you choose your current Smartphone?" The results of the survey clearly indicated that most healthcare workers prefer using the iPhone and the number one reason for them to use the iPhone was based directly in correlation to the applications that are provided for this device. These applications allow information to be used and shared at a faster and more efficient way than ever before. As with any of the newer technological advances, the Smartphone also has had to tackle the issue of security. The main concerns come from the phone being hacked or stolen, however if most of the articles written about the Smartphone are an indication, these problems have been minimized by the measures taken by Smartphones.

PURPOSE OF THE STUDY

It is evident that the Smartphones, such as the iPhone, are here to stay and until they are replaced with a more superior technology they will play a big role in the healthcare industry. As the popularity of the Smartphones increases amongst healthcare workers, it becomes important to analyze if they are just the latest trend being pushed by manufacturers onto a healthcare industry that is being pressured now more than ever to cut costs while providing a high level of patient care. To answer this question this study was conducted to discover if the Smartphone has made an impact in the Healthcare industry.

OBJECTIVES

The objective of this study is to find out where in healthcare is the impact of the Smartphone being felt, why are healthcare workers eager to use the Smartphone, how is the Smartphone being put to use, who is benefitting from the Smartphone and what is the overall change in patient care and costs as a result of using the Smartphone.

BACKGROUND INFORMATION

History

It is important to understand what exactly a Smartphone is and how it is different from other phones that are available. The Smartphone can be viewed as the merger of two different technological wonders; the cell phone and PDA. Over time both cell phones and PDA's became highly advanced and as their advancement increased so did their merger into one device. Cell phones became more capable of doing things other than just making phone calls. Some of the features cell phones started to include as features were the ability to take pictures, store small amount of data and of course make phone calls. PDA's meanwhile were designed to be devices that worked hand in hand with personal computers. People used PDAs to store contacts, important dates and sync with their personal computers. Over time, PDA's became wi-fi capable allowing the user to send and receive emails and messages. Eventually cell phones began offering features that PDAs had and vice versa and with the merger of these functions, the Smartphone was born. Scott Steinberg, who is a lead tech analyst for Digital Trends describes the Smartphone as being, "a cellular phone that does more than just make calls to the point that it can actually serve as a functional," In addition he describes it as, "a supercharged PDA, it basically offers high-speed Internet access so that you can surf the Web, compose and receive emails, and purchase applications or third-party programs that transform the device into everything from a calculator to a calendar, and receive up to the minute news, stock, and business updates." (Mombert 2009) The first Smartphone, called "Simon," was developed in 1993 by IBM. In 1999, "the first Palm OS-powered smartphone was the QUALCOMM pdQ in 1999. This model combined a CDMA (Code-Division Multiple Access) digital phone with a Palm organizer. At the same time, the Palm III and Palm V were popular PDAs, both of which featured black-and-white screens." (Lendino 2006).

Importance in healthcare

Medicine is a field that is always growing and as it grows there are new drugs and techniques that a staff treating a patient must be aware of so that they can provide the best care that is available. Due to the fact that there are so many advancements, particularly in the pharmaceutical industry, it becomes impossible for doctors and nurses to know off hand what are all the new medicines. In order to combat this problem, medical personnel would carry reference booklets and research from leading sources with them so that they would have information on hand.

Advances in tests and screening used to make diagnoses, allows doctors of today to make more accurate decisions than ever before. The best and most accurate tests are not useful if they are not received in time to make the decision, therefore there is a great emphasis in healthcare to not only provide the physicians with the most accurate information, but to also make that information as readily as possible.

Modes of communications have increased through the aid of internet and wireless communication. There was a time when telephone or a pager were the only way to get a hold of staff member in a hospital, however with the introduction of new communication methods, staff members can be reached via a variety of ways from the traditional phone and pager, to text message and email.

Medical lawsuits have increased over the years and every hospital has been forced to find ways to reduce mistakes so that it can avoid potentially damaging lawsuits. While there is no way to avoid all mistakes, there are ways to avoid mistakes caused by clerical errors, misreading of charts or missing/overlooking important medical information such as allergies or drug to drug interactions. Medical lawsuits brought on by patient's not receiving proper care at a crucial time due to the fact that test results were not available or doctor could not be reached in time are also preventable.

The conditions listed above are just few of many reasons why Smartphones can help in healthcare. New applications allow doctors, nurses and anyone else that treats the patient to access to the latest drugs available along

with their side effects. Test results can be seen on the floor and physicians can monitor the condition of their patients without ever stepping foot into the patients room. Instead of having to carry a pager, phone, and a PDA; Smartphones allow healthcare workers to make and receive phone calls, text messages and emails. Putting all these features on one device also helps avoid mistakes that potentially can lead to lawsuits. Medical Personnel, due to the fact that they can remotely monitor patient conditions via their phone, can provide medical care as soon as possible using the latest test results all while ensuring avoidable mistakes such as drug to drug interactions do not occur.

INTERESTING FACTS

Some of the interesting things that came about as a result of this research pertain with the past and future. It was interesting to read reports from 2006 and 2008 to see how experts projected the impact of the Smartphone to be in the year 2010. While some of the predictions such as faster blue tooth and more GPS powered applications has come true, Smartphones have also improved the life of their batteries better than predicted. Other predictions that were made include 2010 not being the year for 4G to become widespread, also appear to be correct at the moment. (Zeeman 2008) In the future it will be interesting to see if there will be another synergy to once again combine two popular technological tools into one. The Smartphone came about as a synergy between PDA and cell phone, there now appears to be a movement to combine the laptop and the Smartphone into one. The result of these efforts has produced devices like the Internet Netbook and the IPAD.

SWOT ANALYSIS OF SMARTPHONES

Strengths

One of the biggest strengths of the Smartphone is its capability to add more applications. The Healthcare industry changes constantly with new procedures, drugs and policies and because of these changes it is impossible to create a device that would remain effective for ever a year without being changed. Applications allow the Smartphone to ride the tidal wave of healthcare changes without crashing. Old applications can be updated to keep up with the latest breakthroughs and new applications can be created to adhere to new policies. According to the article on the California Healthcare Foundation, “the creation of applications related to health and health care is also moving quickly. As of February 2010, there were nearly 6,000 such apps within the Apple AppStore. Of these, 73% were intended for use by consumer or patient end-users, while 27% were targeted to health care professionals. Applications geared to physicians include alerts, medical reference tools, diagnostic tools, continuing medical education, and patient records programs. Consumer-oriented apps include those for medication compliance, mobile and home monitoring, home care, managing conditions, and wellness/fitness.” (Sarasohn-Kahn 2010) An example of one such application is Epocrates. The following is a list of the different ways Epocrates has helped the healthcare industry (Schwimmer 2010):

- a) Epocrates allows you to see specific high yield updates on certain medications or drug changes by giving you an update page.
- b) It allows you to search for any drug and see its generic name, adult dosing, pediatric dosing, contraindications, warnings, adverse reactions, drug interactions, safety and what should be monitored, pharmacology and mechanism of action of the drug, and even who manufactures the drug and what is the approximate retail price of the drug. This allows the physician to see all information that is up to date and accurate on a specific drug. It also allows the physician to see if there are any labs or serum chemistry levels that need to be followed during the course of the drug therapy. This provides for better patient care and reduction in adverse effects. In addition, having the ability to see the cost of the drug is essential for the patient compliance of the medication. Many patients who are noncompliant are so due to the fact that insurance does not cover the drug and the cost is too high for them to afford. This allows for the physician to see what drug can best suit the patient to improve drug compliance. Some applications like Skyscape will also do comparative pricing of the drug to other generic and brand name drugs. They can even list US and Canada pricing. In addition they also have some health insurance providers included to see what their coverage is on that particular drug
- c) Epocrates has a program where you can see drug interactions. In today's health care arena, patients are presenting with many co-morbidities. This has led to patients being placed on multiple drug therapy regimes. Epocrates has a wonderful application that allows you to put in all drug names and look for any

possible major drug interaction. This has huge medical implications in preventing adverse reactions to the patient thus reducing health care litigation and hospitalization.

- d) Many patients who come to a physician from another country or another healthcare provider do not have all the information. Many times, they do not know the medication that they are on. Sometimes in an emergency room, a patient comes in overdosing on several pills, but no label or box can be found to identify the pill. Epocrates has a pill identifier application. You basically start off by the selecting what the medication looks like by the options it has and it will narrow it down to exactly what the drug can be. This is an amazing tool that can be used very effectively
- e) Evidence based treatment – this feature allows you to see what the most recent research has shown to provide best care for a certain disease.
- f) You can directly contact the drug manufacturer through your application if you have specific questions about a drug.
- g) Lastly, it can provide you with the latest and most accurate ICD-9 and CPT Codes for accurate medical billing and coding

Weaknesses

As remarkable as the Smartphone is, it is not without limitations. While the Smartphone is capable of handling large amount of applications, it does not come close to being able to store as much data as a computer. This is important because the Smartphone is hailed as being a laptop in the form of a phone. While medical/ nursing students are being trained using Smartphones as a tool, older doctors and nurses sometimes find it difficult, as they do with other technological advances, to change the way they have operated for years.

Some of the other concerns raised about the Smartphone are that while the Smartphone is small easy to carry, its small size causes problems. Smaller size keypad decreases typing speed thus increases time it takes to produce a message or make a notation and it also increases the likely hood of making mistakes. (Rysavy 2010) In addition to this, while Smartphones can generate images and test results like EKG reports, because of the small size of the screen, it is hard to make an accurate assessment based solely on those readings.

Opportunities

The opportunities to expand the usage of Smartphones in the healthcare field seem endless. New applications allow constant monitoring to occur and make the transition to Electronic medical records easier. Telemedicine can be aided through the use of Smartphones particularly in rural/underserved areas where essential tools, such as computers and internet access, is not readily available. An article on the Microsoft Research website offers a good case study on some of the opportunities that are created with the Smartphone in countries outside United States. The article on the Microsoft website titled, “Smartphone-Based Medical Guides Aim to Improve Healthcare,” talks about Dr M Sriram Iyengar and his work with improving healthcare in third world countries, through the usage of smart phones. It is an initiative designed to use the technology that is shrinking the world into a tool that can aid in medical treatment. The project designed by Dr Iyengar was first designed for NASA but he soon discovered that the project can be used in developing country. According to the article, he adapted the computer-based clinical guidelines that he developed for NASA to the Windows mobile based Smartphone, taking advantage of the fact that there is a significant growth in the mobile phone industry in third world countries. The system, called Cellphone Guideview, takes already developed clinical guidelines to breakdown complex medical diagnosis and treatments into simple steps that a Community Health Worker (CHW) can use to treat patients. The system provides step by step instructions to the CHW, along with pictures and videos of the complex steps, to aid the CHW as they are treating the patient. Since every patient presents a unique situation, if the CHW reaches a step that they cannot perform or encounters an abnormality, they can contact a designated physician or hospital using their phone, and transmit images, data, and audio of their current situation to get further directions. Lastly, the actions taken by the CHW are recorded by the system, so they can be analyzed later and be used to provide the CHW with additional training on how to better handle the situation in the future.

Threats

The threats that come with using Smartphones are directly related to Ethical Concerns associated with using electronic devices, especially those that have wireless capabilities. Since Healthcare workers will use their Smartphones for personal as well as work use, the possibility of the phones being lost or stolen increases. If a phone

that potentially carries a patient's medical history and possible test results is stolen, then it can cause a lot of problems for the hospital, employ and the patient. According to a study there is strong evidence that suggests that electronic devices are not only stolen but can simply be lost due to negligence. "A third of all healthcare professionals store patient data on portable and mobile devices such as USB drives, laptops and mobile phones, according to a 2008 survey by Credant Technologies. Another report found that 12,500 mobile devices were left in taxis, and 4,500 USB memory sticks were left in pockets of pants sent to dry cleaners during a six-month period last year. Yet, only 39 percent of healthcare organizations encrypt data on mobile devices, a 2009 HIMSS survey revealed." (Versel 2010) Another article on FierceMobileHealthcare website sheds light on perhaps even a more great threat than the one posed by theft of the device. According to the website, a "survey, commissioned by technology firm Fiberlink Communications, Blue Bell, Pa., and conducted by Forrester Research's consulting division, found that 90 percent of IT leaders in healthcare consider data security "critically important" or "highly important," and 86 percent were concerned about regulatory compliance. Yet, only 29 percent of those queried actively protect data links at the user level, despite the fact that 31 percent report that their data had been compromised at least once in the past year." (Versel 2010) As usage of Smartphones become almost universal in hospitals, especially by physicians, a series of decisions must be made by hospitals. The issue of standardization does not seem to go away even with Smartphones. With different companies available that offer Smartphones, a hospital can have staff as well as patients that use different Smartphones, making standardization a difficult task. The hospital also has to make a decision on rather to provide its staff with a Smartphone and pay for the subsequent services or work out a system where the cost is shared amongst the hospital/medical practice and staff. If the employer, hospital or a medical facility, purchased the phones then they could have better control over how and where it is used, a security measure which could lead to a decreased amount of theft or hacking. It will be up to the management team to decide how to regulate the usage of Smartphone using the guidelines set forth by government.

FINANCIAL ASPECTS

There is a significant financial aspect associated with the Smartphones. One of the best things about a Smartphone is that relatively speaking, it does not cost very much for a hospital to have its staff change to Smartphones. Currently, most hospital staff purchase their own Smartphone, however if the hospital was to adopt a policy where they purchased Smartphones for all of its essential staff and replaced the other electronic devices that are hospital purchases such as pagers with Smartphones, there still would not be a great increase in hospital cost relatively speaking to the cost of other major hospital expenditures. The major expenditure to hospitals will come in the form of monthly payments for the service of the Smartphone along with purchasing of various applications. It is difficult to tell how much the total cost would be however it can be assumed that based on monthly charges currently charged to consumers outside the hospitals, the cost would be substantial. Lastly since usage of Smartphones increases security threat to the hospital, this could also add to the potential cost of Smartphones. According to one article that talked about security concerns with Smartphones, "new, more-stringent HIPAA regulations either in place or on their way. On Feb. 18, the maximum HHS civil penalty for a data breach jumped from \$25,000 to \$1.5 million." (Versel 2009) Since a hospital wide implementation of Smartphones could add significant cost, we must examine if the savings outweigh the cost. As discussed before, Smartphones can save hospitals millions of dollars by reducing lawsuits and reducing time it takes to treat a patient. In addition to the clinical side of the hospital, the Smartphone can also be used to save money in the administrative side of hospitals. According to the Thomson Reuters website, an application called Charge Capture plays a significant role in the administrative side of Healthcare. The website claims that physicians, who use Charge Capture on their Smartphone in their practice, can reduce an average of 20 minutes of time spent on recording and managing charges per day. The website claims that physicians "can capture diagnosis and charge codes on their mobile devices and transmit that data back to a secure Web portal for integration with their physician practice or hospital billing system — helping hospitals recover millions of dollars in lost charges." This would allow the physicians to enter their charges while they occur reducing the revenue lost and the revenue cycle time. The executive vice president of Thomson Healthcare, Terry Cameron, claims that "revenue cycle losses, like the inability to record charges, can total as much as 5 percent of annual revenues for the average hospital." A reduction in this 5 percent annual loss could be significant to a hospital and it can be done simply by having the physicians use an application on their Smartphone.

IMPACT ON PATIENTS

The most important piece in the healthcare puzzle is the patient. If a technological advance does not ultimately benefit the patient, then it will not be successful in the long run. Patients benefit both directly and

indirectly as a result of the Smartphone. The Smartphone allows the Medical staff to better monitor and take care of the patient; this in turn ensures that the patient will have a better quality of care. While it is convenient for the doctor to be able to answer questions about a patient from the comfort of his/her home, simply by using the Smartphone, this feature is also a benefit to the patient. Patients now can get a fast and more accurate response to their questions or in the event that they need to be treated while the physician is not in the hospital, patients can now be treated more effectively. It is quite obvious to see how some of the functions that benefit the medical staff benefits the patient, however patients can also directly benefit from a Smartphone. An application called the AllOne mobile lets patients carry their medical information from one doctor/hospital to another. This is beneficial because oftentimes different medical facilities will have incompatible systems for medical records and because of this incompatibility; sometimes patients find it difficult to go from one medical facility to another. According to an article on the website of InformationWeek, through the usage of AllOne, "patients can fax information to a doctor's office right from the examination room, by having the Smartphone application instruct the server to send a fax. The app can also send information using standard electronic medical record data formats." In addition, "Patients can also review their own medical records and make corrections -- for example, if the app lists them as taking a medication that they are, in fact, not taking." (Wagner 2009). Mitch Wagner states that the program alleviates some of the security concerns that been discussed previously. "Data stored on the Smartphone is encrypted for security, and requires a password to access. The application generates a one-time password that has to match with a password on the server to unlock the app. Low-bandwidth data, such as immunization and allergy records, is stored on the client, more data-intensive information, such as X-Rays or scans, are stored on the server. The app uses a secure communications channel to message patients with healthcare reminders, such as following up on appointments, and refilling meds." (Wagner 2009). This particular application serves as an example of many other applications that are available on the Smartphone that help the patient better manage their lives.

CONCLUSION

Smartphones have demonstrated that they are of a great benefit to a variety of agents in the healthcare industry. These direct and indirect benefits are going to lead to a healthcare field that is run more smoothly and efficiently. None of these benefits are going to matter if ultimately, Smartphones do not help reduce cost of Healthcare. While the results towards that goal are positive, it is too early to tell what the long lasting effect of the Smartphone will be on healthcare especially in terms of the cost. Security issues will also have to be continuously monitored by both the users and the government. At the end, I believe that Smartphones are going to continue to be a positive addition to the Healthcare industry and in the long run Smartphones will show their value in not just reducing costs but also being the driver behind better healthcare service for everyone involved.

FUTURE PREDICTIONS

In 2009, Software Advice conducted a survey asking Healthcare professionals what they used their mobile device for currently, and what tasks they would like to do in the future. The survey indicates that users of Smartphones are going to want to be able to use their phone a lot more than emails, notes and reference tools. This survey is a good indication of where we are headed in the future with Smartphones. In addition to its clinical use, Smartphones are going to be used in preventative care as well. The concept of Wireless Medicine has the potential of being a popular way for patients to monitor their health and because of Smartphone's functions; they will be an integral part of Wireless Medicine. According to Mehran Mehrengany, who is the chief of engineering at West Wireless Health Institute in San Diego, "The objective is to keep patients out of the hospital, which will substantially improve quality of life, and will reduce the burden on our health care system." (Pena 2010) She suggests that Smartphones "could be used to record snoring to detect sleep apnea, or scan barcodes on food packages to determine calorie counts. Inertial sensors that detect a phone's vertical or horizontal movement could also be used to track activity and caloric expenditure." In a presentation given by Eric Topol, he further describes how Smartphones can work with wireless monitoring devices to help both the patient and physician better monitor the condition of the patient. In addition to the changes in the usage of the Smartphone, latest inventions such as the Netbook and IPAD indicate that there might also be a movement that combines the portability and functions of the Smartphone with the benefits of a laptop. The problem experiences with both of the tools right now is that in some cases, like reading an EKG, a Smartphone is too small and in some cases, such as easy portability, a laptop is too big. Smartphones will be revolutionized in the future to have bigger interfaces and contain better security, much

like the laptops currently possess, rather they remain as Smartphones or are replaced by another technology as a result of this fusion remains to be seen.

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THE RECENTLY PASSED HEALTH CARE REFORM AND ITS IMPACT ON HEALTH CARE DISPARITIES AMONG RACIAL AND ETHNIC MINORITIES: UTILIZING NEW MEDIA TECHNOLOGIES TO TEACH IT

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ABSTRACT

The United States is a diverse country. While minorities, who are economically less advantage, constitute some 30 or so percent of the U.S. population at this time, according to the U.S. Censuses Bureau, by the year 2080 their population will reach over 50% of the US population. This less than equal diversity of the American society has consequences. Among those that racial and ethnic minorities experience poor access to care; the care they receive is also of a lower quality. Furthermore, health care disparities among racial and ethnic minorities will also rise unless drastic changes are made in the delivery of health care in the United States.

Can these disparities of health care be reduced as a result of the recently passed health care reform? As the paper will demonstrate, health care disparities for racial and minorities have multiple causes. After discussing the specifics of this newly passed health care reform bill and the complexity of those disparities, including some which are cultural, attempt will be made to demonstrate that at least in terms of access, health disparities among racial and ethnic minorities have the potential of being reduced.

The author discusses the above in her health administration classes. Utilization of new media technologies can help enhance teaching the recently passed health care reform and its impact on minorities in our graduate courses in health care administration. After all, today's students are technologically savvy. Since a great deal of information about the debate that led to the passage of new health care bill, or information about the disparities that concern racial and ethnic minorities in the United States are available online, today's students are very capable of seeking knowledge and active learning through new information technologies that they regularly use in their daily lives. Utilization of these new technology sources (Blackboard, Discussion Board, Wiki, etc), can enhance teaching by complementing information contained in textbooks, or the information provided through lecturing. In other words, the information about the above obtained through these sources can be well-integrated in the graduate courses in our MHA program.

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TRACK
NATIONAL AND GLOBAL
HEALTH POLICY

OCCUPATIONAL HEALTH AND SAFETY IN CHINA

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ABSTRACT

Changing political and social values during the 1960's added considerable momentum to the OSHA (Occupational Safety and Health) and its regulation to workplace safety. In 1969, the death of 79 coal-miners in a mine explosion galvanized public opinion and led to the passage of the Coal Mine Health Act to regulate mine and health safety. While no single event is responsible for the passage of OSHA (Occupational Safety and Health) of 1970. The job-related accidents kill more than 14,000 workers and disabled nearly 2.5 million workers annually. OSHA (Occupational Safety and Health) 1970 addresses more than 300,000 cases related to workplace accidents and workplace hazards. This paper covers numerous examples of workplace safety violations, legislation, and implementation in China. Through a comprehensive discussion involving multiple expert opinions, case studies like SARS, recall of more than 60 million cans of cat and dog food, recall of 50,000 boxes of toothpaste, recall of more than 1.5 million imported toy trains containing lead paints, recall of more than 450,000 tires because of potential tread separation, recall of tainted ginger's from China, SARS (severe acute respiratory syndrome) 1807 cases in China and mostly in Guangdong province, Nestles baby formula pulled off the shelves because it was found to contain too much iodine etc. Recently, Chinese authorities found industrial chemical in baby formula. More than 6,200 babies were reported to have fallen sick, many with kidney problems and Chinese news agency Xinhua reported four deaths due to fatal /tainted formula (WSJ, Sept. 17, 2008). Chinese government has been revising the estimates of the sick children by tainted formula upwards to 50,000 infants. China's top food-safety official, Li Changjiang resigned under pressure and took blame for supervision default. The WSJ (Wall Street Journal) reported that a senior Chinese safety director involved in product safety committed suicide (Wu Jianping). Even the China's cherished "white rabbit candy" is found to contain melamine and got recalled around the world. Shanghai Guan Sheng Yuan Food company re-launched "White Rabbit Creamy Candy" at the end of October 2008. With economic globalization gaining momentum, the Chinese government has taken product and food safety very seriously. Resident quality inspectors have been posted in major companies

INTRODUCTION

OSHA (Occupational Safety and Health) of 1970 aims to ensure employee safety and health in the USA by working with employers and employees to create better working environments. Since the inception in 1971, OSHA (Occupational Safety and Health) has helped cut workplace fatalities by more than 60 percent and occupational injury and illness rates by 40 percent. At the same time, the US employment has increased from 56 million employees at 3.5 million worksites to more than 135 million employees at 8.9 million sites. OSHA (Occupational Safety and Health) is focusing on three strategies: 1) strong, fair and effective enforcement, 2) outreach, education and compliance assistance, and 3) partnership and cooperative programs.

China sends one-third of its exports to the US, accounts for 26 percent of the US trade gap. Most of its exports to the US are manufactured products, made by workers earning only 4.5 percent of the average USA factory wage. In today's workplace, there are many things that can cause serious problems within organization concerning the health of its employees. Precautionary steps must be taken to ensure that these serious problems do not arise. Standards in terms of safety are more lax in China than in America. Common American principles are traditionally overlooked in China, which could cause some serious problems for organizational success.

Workplace safety has been proven to increase the quality of the product being put out by the company. This, in turn, produces positive results for the company and allows for profit maximization. Money saved by making a workplace safe could then be allocated elsewhere in the company, mainly in research and development which is a crucial part of an organization.

Safety standards could also give an organization a competitive advantage over the competition. By having a sheer positive reputation for protecting employees as well as the environment, a company could gain preference by customers and other businesses. In addition, it would make repeat purchasing easier because of the trust factor that goes with being an honest and safe employer.

Historically China has backed worker safety rights, at least on paper anyways. In 1919 China joined the International Labor Organization (ILO). (O'Rourke, Brown, 2003) They agreed to "respect ILO core labor standards" and decided to work with the ILO instituting a policy for "improved human resource development and labor management relations." (O'Rourke, Brown, 2003). China adopted the soviet style of worker safety regulation directly from the Soviet Union in 1956. In 1979, the government started to develop guidelines that reflected "local consideration and experience." (O'Rourke, Brown, 2003) Then, in 1995, China implemented labor laws replacing the current guidelines. (Pringle, Frost, 2003) These laws consist of 13 chapters and 107 articles. They give workers the right to refuse to operate equipment if management violates rules and regulations. (Pringle, Frost, 2003) They also specify rights for women and children, the obligation of enterprises to provide worker training, and supervision and inspection. (Pringle, Frost, 2003)

In 2002 China initiated Work Safety Laws that have 14 basic systems or measures. The most important ones are: (Pringle, Frost, 2003)

- 1) A production unit must meet (Jubei) all the relevant laws, regulations and industry specific, otherwise they may not undertake production activities.
- 2) An enterprise must appoint an individual who is responsible for all aspects of safety.
- 3) An enterprise must also implement a safety management organization or individual.
- 4) An Enterprise must implement a system of education, training, and assessment of safety knowledge of Occupational Health and Safety (OHS) directors, OHS managers, and workers.
- 5) Enterprises must implement a system of three simultaneous [OHS] measures at all stages of all projects that is, OHS measures should be evident at the planning stage, during construction and when production is under way.
- 6) Production units must register exceptionally dangerous hazards with the local safety inspectorate
- 7) Enterprises must implement a safety management system specifically addressing workplaces where explosives, working height and other dangers are involved.

The responsibility to enforce these laws lies in a not-so-clear mesh of local and national government. Unfortunately, bureaucrats may not be eager to enforce these laws because of their desire to attract foreign investment. In addition, there is a significant shortage of inspectors. There are currently 20,000 officers enforcing labor laws in China. That equals 1 officer to every 35,000 workers; compared with 1 inspector for every 4,000 workers in Hong Kong. (O'Rourke, Brown, 2003) In contrast the United States has only 1,100 workers, which equals one inspector to about every 90,000 workers. (U.S. Dept of Labor, 2007) However, the biggest difference is sheer population. China has far more employees working in factories and nearly no unions or other organizations to make up the difference. In addition, most factories in the U.S. are state of the art in terms of productivity and safety, while China uses a lot of outdated equipment with fewer safety features.

The lack of clear guidelines allows companies to set their own rules that would seem to run contrary to the idea of improved worker safety and rights. Taken from the rulebook at Elegant Top Shoes in Donggun other rules include: (Rules and Regulations, pp 317)

1. All employees must obey these regulations carefully. Any breaches will be punished.
2. If a worker is injured either through his own fault or by mistake, no medical leave is permitted.

Both of these rules place worker safety in the hands of the employee instead of management. While it is a good idea to encourage workers to operate safely it is a bad idea to punish workers for getting injured even if it is their fault.

Ownership and management of enterprises in China falls into four categories: state owned enterprises (SOEs), private individually owned enterprises (PIEs), foreign invested enterprises (FIEs) and township and village enterprises (TVEs). (Brown, pp 327) Since the 1980's, the proportion of each within China has shifted. In 1980, SOEs numbered more than 80 million and represented 99% of employment and production. (Brown, pp 327) By

2002, they only accounted for roughly one-third. (Brown, pp 327) Presently, TVEs account for 50% of production and for 40% of exports. FIEs and PIEs make up the remainder, and have grown from a handful in the 80's to 84,000 enterprises, employing 10 million workers by 1992. (Brown, pp 328) All four entities have been criticized for failing in many key areas by worker rights organizations and the media.

Multinational Corporations (MNCs) have garnered a lot of criticism for impeding the ability of Chinese workers to unionize. This is not entirely true. To date the only legal union in China is the All China Federation of Trade Union (ACFTU) (Davis, 2007). The ACFTU is actually a branch of the Chinese Communist Party (CCP). While not formally illegal, workers on strike have been met with blunt government suppression and have received only minor concessions (Davis, 2007). According to management at certain MNCs a growing trend has been legal methods set up by employers to provide benefits that a proper trade union would. (Davis, 2007) The Health and Safety Committee, an MNC run NGO, has focused on improving worker's understanding of regulations (Davis, 2007). Along with other NGO's, such as the Control Risks Group which offers whistle blowing services, these MNC NGOs have been gaining in popularity. However, the data does not back up the MNCs claim. FIEs and PIEs create downward pressure on the state controlled enterprises, forcing them to forgo many safety requirements to stay competitive with the privately owned enterprises. (Macbean, 2004) The vast majority of workers in the private enterprises don't have any representation at all, unlike the SOE workers who are at least represented by the ACFTU. In fact, at FIEs where corporate rules are supposed to govern, the shortest work week reported to date is 55 hours (Macbean, 2004).

Much like the rest of the developing world, China suffers from a weak regulatory environment. However, China's government offers a unique problem, a one party government that sets limits on, "popular participation and association; transparency and information; due process and judicial interdependence." (Macbean, 2004) This means that companies are forced to view workers rights issues on a "political and developmental basis" (Macbean, 2004). Managers need to assess not only what methods should be used to increase worker safety, but also the political ramifications of making a decision. These ramifications may be "local or national and may be perceived as threats to personal or state power" (Macbean, 2004). This means that business have to be wary about implementing any work or social programs that may be seen as threats against the Communist Party or individual politicians. A mission statement at Mattel's Number Two Factory states, "To uphold the legal rights and interests of factory personnel, establish and uphold the socialist market economy's enterprise system, promote economic growth and social progress, and on the basis of national laws and regulations formulate one's own rules" (Rules and Regulations, 2003).

Occupational Lung disease in China is one of the biggest problems plaguing workers. The textile industry employs 15 million workers and byssinosis, a lung disease officially recognized by the government of China and a side effect of inhaling cotton fibers, is present in anywhere from 2-15% of all Chinese textile workers (Wang, 2003). In the U.S. there have only been 140 deaths because of Byssinosis since 1979 however, 35,000 textile workers have been disabled because of it (American Lung Assoc., 2005).

Pneumoconiosis, an occupational lung disease caused by the inhalation of dust, is probably the most serious lung disease prevalent in China. On average it is said to reduce the lifespan of workers by almost 20 years (Wang, 2003). There are at least 525,000 workers with pneumoconiosis presently living with an additional 10-15,000 new cases reported each year (Wang, 2003). Despite making general improvements in the workplace, China still has a problem with dust particle concentrations that exceed the recommended limits set by the ILO (Wang, 2003). That combined with a lack of Personal Protection Equipment (PPE) is why the number of new cases of occupational lung disease has not been curbed (Wang, 2003). In addition, few workers have access to immediate medical care, diminishing any hopes of curing a problem before it is too late. Coal mines account for the largest percentage of fatal injuries at work. 10,000 workers die each year, with the majority of the deaths due to roof collapses and floods, both of which result directly from a lack of safety regulations (Wang, 2003). A brief history of actions taken by the Chinese concerning worker's safety shows that in 1919 China joined the International Labor Organization (ILO). In 1956 China adopted the Soviet style of worker safety regulation directly from the Soviet Union. In 1979, the Chinese government started to develop guidelines that considered "local businesses and experience." Then in 1995, China implemented actual labor laws instead of just guidelines. These laws consist of 13 chapters and 107 articles. We cite following case studies.

CASE STUDY

Whether in the United States or in China, safety regulations are meant to protect workers from getting injured, sick, or even killed. For this reason it is important to adhere by the regulations in your area. Several workers in China's footwear industry are facing dangerous health issues due to over exposure of chemicals. Some factories in China do not have to comply with the health standards United States companies must comply with. However, when a company in the United States signs a contract with a Chinese company it is very important to the American company that the Chinese workers are not working in dangerous or illegal conditions. As safety standards become more important, many companies within the United States do not want to be associated with outside firms that do not have worker safety standards. For example, many people in the United States will boycott a company who utilizes child labor in a dangerous working environment. If a company in the United States has a partnership with a company who uses this type of labor, the United States' company will receive bad press, which can in turn hurt their sales and decrease their profits. Many Chinese footwear plants have several OSHA violations that are overlooked by the Chinese employees and employers. Footwear plants have high noise levels, dust pollution, injuries caused by machines not having double- safeguards, and other toxic organic solvents (China's Market, 1999). Some solvents used in shoe making, if not handled properly can cause vertigo, headaches, vomiting and even death. Regulations in the United States would eliminate many of the hazards associated with these chemicals, by increasing ventilation, wearing masks, and properly training employees how to handle the chemicals. As of now safety regulations in footwear plants is not given the proper emphasis (China's Market, 1999). However do to increase competition it is likely that many companies will no longer be able to overlook this dangerous situation.

Mengniu Group is a dairy product manufacturer who believes their compliance to OHSAS's 18001 safety standards, which are designed to work on more levels than just helping improve worker safety (Mengniu, 2005). When this case study took place in 2005 Mengniu was on the top twenty lists of companies to work for, because of their safety standards and pleasant working environment. This case discusses how Mengniu group feels that safety standards not only increase worker safety but also increase the quality of their product. By making their employees utilize safety programs they produce a safer product for their consumers. This has allowed Mengniu group to be one of the top producers of dairy in the Chinese market (Mengniu, 2005).

SARS CASE STUDY

The Chinese health officials first notified the WHO (World Health Organization) about the outbreak of SARS (severe acute respiratory syndrome) cases in March 2003. The information given to WHO (World Health Organization) was very vague. The crisis that developed was not from the disease itself, rather from the politics that surrounded in the situation. Relevant information was concealed from the general public which made any attempt to manage the crisis effectively impossible. By withholding information and virtually ignoring the disease initially, the Chinese government facilitated the spread of SARS disease in China. Due to the government's refusal to admit failure, the problem escalated before any progress could be made to contain it. A total of 1807 SARS (severe acute respiratory syndrome) cases in had been reported on the Chinese mainland and 1304 cases were mostly in Guangdong province. Beijing reported a total of 339 confirmed cases and 402 suspected cases (Wrap up China Reports, 2003).

CASE OF NESTLE BABY FORMULA PULLED OFF THE SHELVES

In Zhejiang province, a type of milk powder by international food firm Nestle was found to contain too much iodine and was pulled off the shelves. The nestle product known as Jin Pai Growing 3+ Milk Powder, which is designed for infants and toddlers was found to have amount of iodine in it. Nestle waited 10 days before issuing an apology and then refused to pull the product from the shelves, stating that "high levels of iodine were not a threat to public safety". (Jie, 2006). Recently, Chinese authorities found industrial chemical in baby formula. More than 6,200 babies were reported to have fallen sick, many with kidney problems and Chinese news agency Xinhua reported four deaths due to fatal /tainted formula(WSJ, Sept.17, 2008). Chinese investigators found that 69 batches of formula made by some of China's best-known companies (22) were contaminated with melamine. Melamine is an industrial compound used in nonfood products. Twenty-two companies include even Olympics sponsor Inner Mongolia, Yill Industrial Group, and Mengniu Dairy which supplies milk to Starbucks Corp. in China. The contamination extends beyond formula to liquid milk. Last year, Melamine was found in the tainted pet-food exported from China to the U.S. Consumers wary of domestically produced milk are flocking to buy foreign

formula. Chinese people are confused as to why it took governmental officials more than a month to report the problem. Chinese government has been revising the estimates of the sick children by tainted formula upwards to 50,000 infants . China's top food-safety official, Li Changjiang resigned under pressure and took blame for supervision default.

The Hong Kong's government found melamine in milk sold there by even the Swiss giant Nestle SA. Stores in China have begun taking domestically produced milk off the shelves. Nestle SA was forced to recall milk it sells in Hong Kong and New Zealand. Taiwan, Japan, Singapore, Malaysia, Brunei and other importers have issued recalls or bans of Chinese made dairy products. China's dairy crisis has prompted renewed international focus of China's product safety problems.

MILK SCANDAL TAINTS CHINA'S CHERISHED WHITE RABBIT CREAMY CANDY

China's pride and joy "white rabbit candy" which was given as a gift to US President Nixon in 1972 by Chinese Premier Chou Enlai got hard hit by the milk scandal. The China's cherished "white rabbit candy" is found to contain melamine and got recalled around the world. White Rabbit was hit hard by the melamine crisis and got recalled all round the globe-from Finland to Wisconsin. The state controlled company that makes White Rabbit was unable to implement a fast damage control plan. The first White Rabbit candy was made in 1943 and in 1949 after the communist takeover it was nationalized. Now Shanghai Guan Sheng Yuan Food makes it. After the crisis the company Shanghai Guan Sheng Yuan Food stopped production. Shanghai Guan Sheng Yuan Food company is planning to relaunch "White Rabbit Creamy Candy" at the end of October 2008(WSJ, Oct 2008). Chinese products have taken a beating from previous controversies over the American pet food containing melamine and lead tainted toys in China. China has to prove and show the world that it has taken steps to correct the milk crisis problems The authors feel that China has poorly regulated supply-chain. Chinese needs to improve their reporting methods and improve their ability to trace problems as they occur so consumers do not suffer and look out for alternative sources.

CONCLUSION & RECOMMENDATION

As you can see from the information that was presented, there are many safety standards that aren't being met in the workplace in China. A multitude of safety hazards, including exposing employees to unguarded machinery, electrical and fire hazards substances, have resulted in \$119,000 in fines by OSHA against Syracuse China Company of Syracuse, N.Y . The U.S Labor Department's OSHA (Occupational Safety and Health) has cited the china ware manufacturer, a subsidiary of Libbey Glass, Inc, for alleged serious, repeat violations of OSHA (Occupational Safety and Health) .That being said, we make following recommendations.

1. Management needs to commit to the implementation of rules.
2. Inform workers of the hazards within a work place. Create evacuation plans in case an accident does occur.
3. Place conveniently located signs at places where accidents could take place.
4. China has poorly regulated supply-chain and needs to improve their reporting methods, their ability to trace problems as they occur.
5. Create a good example for employees by following guidelines.
6. Chinese government should take product quality and food safety very seriously

With economic globalization gaining momentum, the Chinese government is trying to take product and food safety seriously. Resident quality inspectors have been posted in major companies The authors feel that these are growing pains that the world's third largest economy is facing and will overcome these shortcomings. Farmers are being shown how use pesticides correctly. In factories, the Chinese are exercising strict quality control in the production processes and we hope that China will live up to its responsibilities and obligations when it comes to product quality and food safety.

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DEVELOPING INTERNATIONAL STANDARDS FOR HEALTH SERVICES ADMINISTRATION

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ABSTRACT

A study was authorized by the Commission on Accreditation of Healthcare Management Education (CAHME) with support from Aramark Healthcare to examine how healthcare management education is being taught in selected countries outside the United States and Canada. A questionnaire was developed and administered to CAHME accredited programs in the US and Canada to obtain information on international healthcare management education. Trends are identified that enable future development of international healthcare management education programs and activities.

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HEALTH CARE AND SOCIAL WORK AFTER EARTHQUAKE: EXPERIENCE OF SLOVAKIA FIELD CAMP HOSPITALS FOR DISPALCED POPULATIN OF CITE SOILLE AND PETIONELLE PORT AU PRINCE HAITI IN 2010

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ABSTRACT

Comparison of infectious diseases within two periods after earthquake and two parts of PAP was performed concerning etiology and spectrum of concerning infectious disease within, amog to july 2010 in Quisqueya, Ciry Soleille and Petionvite in Port ou Price, Haiti.

INTRODUCTION

Devasting earthquake in January 2010 in Haiti caused 220 000 victims. Our doctors have been had before the earthquake already 3 teams. After 1st team started in PAP, secured with medications and field pharmacy entering Haiti from Dominican Republic and built 2 hospitals – mobile unit to City Soleille and second in Quisqueya university college, each serving for 30-60 children and adults per day.

PATIENTS AND METHODS

Each camp (field hospital) served for 30-60 patients a day, 70 % were aproximally children, daily for

6 months. Basic clinical examination and elementary laboratory check blood count, urine biochemistry, malaria slides, swabs for microbiology were done after 1st month initial acute phase.

RESULTS

We have compared 2 periods – acute phase (first 4 weeks) and 2-nd phase weeks 4-8. We also compared patients from camp and field hospitals in City Soleille (slum, untouched) vs Quisqueya university ruins (totally destroyed area). Diarrhoea and infected wounds and posttraumatic syndrome were significantly more frequently observed in the first and pneumonia and malaria in the second – postquake period. Comparing slum area of City Soillevs urban area of Petionville in comparison to slum area ($p<0,001$). Hypertension and psychic disorders were commonest in the lake post-quake period.

CONCLUSION

Initially pneumonia was most frequently in the second and diarrhoea and wound SSTI in the first period. Spectrum of disease was also significant different between slums in City Soleille and Quisqueya university ruins. Most infectious diseases were related with open air camping after the infrastructure collapsed.

TRACK
OFFBEAT TRACK

WHAT GETS PUBLISHED IN HEALTHCARE JOURNALS? A KEY THEME IDENTIFICATION APPROACH

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ABSTRACT

This paper reviews the latest published research in healthcare management. All articles published in the last four years in the top four journals in the field are content analyzed to identify key themes that got published. The three key themes that get published in healthcare journals are: nursing retention; information technology adoption in healthcare; and quality of care. Healthcare management research allows researchers to extend and revise theories through the consideration of new contextual variables. This systematic examination will help to lay the foundation for the further expansion of the understanding of both healthcare management and of management research in general.

Healthcare research has evolved as a collection of independent and yet interconnected streams of research topics and issues. Healthcare journals have published a variety of themes that are eclectic and interdisciplinary in approach. However, there is little readily available information of which topics are more popular in healthcare journals and which are not. Our research attempts to identify key themes of research that has been recently published in healthcare journals. This paper reviews recent published research on healthcare in four leading scholarly journals.

We selected four leading healthcare journals: Journal of Healthcare Management (6 issues/year), Medical Care Research and Review (6 issues/year), Healthcare Management Review (4 issues/year), and International Journal of Pharmaceutical and Healthcare Marketing (4 issues/year). Three of these journals have been identified as leading healthcare journals by Taylor, Gebremichael, and Wagner (2007). IJPHM is the leading healthcare journal from the marketing perspective.

We conducted a content analysis of every research article in each of these journals published in the last 4 years. The key theme of each paper was identified based on the content analysis. The top three key themes of articles published in each of these journals over the four-year period were identified.

The top three themes across the four journals are: Hospital Performance and Quality (20.66%), Nursing (13.48%), and Healthcare Information Technology (9.88%). We choose one common topic of each top theme across the journals. These topics are nursing retention (4.11%) under Nursing theme, Information Technology adoption (9.82%) under Healthcare Information Technology theme, and Quality of Care (5.56%) under Quality theme.

The top four themes of articles published in the Journal of Healthcare Management are: healthcare human resource management (including nursing): 15.45%; healthcare performance and evaluation: 13.82%; healthcare operations and cost strategy: 12.20%; and healthcare information technology: 8.13%.

The top four themes of articles published in the Medical Care Research and Review are: racial and ethnic differences and disparities: 13.25%; medical home, long term care and rehabilitation: 12.05%; healthcare human resource management (including nursing): 10.24%; healthcare insurance and managed care: 9.64%.

The top four themes of articles published in the Healthcare Management Review are: healthcare human resource management (including nursing): 28.24%; healthcare performance and evaluation: 12.21%; healthcare operations and cost strategy: 8.40%; and healthcare information technology: 7.63%.

The top four themes of articles published in the International Journal of Pharmaceutical and Healthcare Marketing are: e-healthcare: 23.75%; direct to consumer advertising: 21.25%; service quality: 18.75%; retail pharmacies and supply chain: 12.50%.

Author information of published articles would be of great interest for young and experienced healthcare researchers. We analyzed author background of each article published in each journal in the last four years. Co-authorship is highly dominant in each journal: Journal of Healthcare Management (75%), Medical Care Research and Review (88%), Healthcare Management Review (87.50%), and IJPHM (81.82%). Most of the authors are from the United States in three journals: Journal of Healthcare Management (91.01%); Medical Research and Review (95.29%); Healthcare Management Review (95.29%), while IJPHM has a variety of author nationalities: USA (42.86%); Europe (23.22%); Asia (16.07%); Australia (8.93%); Africa (3.57%); Middle East (3.58%); and North America, excluding USA (1.79%). Whereas a majority of authors are mainly academicians in three journals: Medical Research Review (71.73%); Healthcare Management Review (85.71%); and IJPHM (92.86%), authors of the Journal of Healthcare Management are well divided among academicians (46.07%), Industry or Corporate researchers (35%) and government and NGOs (14.61%).

The findings highlight that healthcare management research not only builds the understanding of healthcare, but also makes a critical contribution to the broad domain of interdisciplinary studies in management, public health, healthcare administration, pharmaceutical and healthcare marketing, health economics, health policy, medicine, public health, nursing, health informatics, global health, etc. In particular, healthcare-focused research allows researchers to extend and revise theories through the consideration of new contextual variables. This enables researchers to fine-tune theories by developing healthcare-specific conditions and operationalization of key constructs, which in turn allows researchers to develop new theories and constructs which are generalizable to research in other contexts. This systematic examination will help to lay the foundation for the further expansion of the understanding of both healthcare and of management research in general.

In this paper, we conduct a thorough analysis of each of the top three themes: nursing retention; information technology adoption in healthcare; and quality of care.

NURSING RETENTION

Castle, Engberg, and Anderson (2007) investigate factors associated with job satisfaction and dissatisfaction for nursing home workers. In this investigation, the authors use data from a large sample of nursing home administrators (NHAs) to examine: (1) their levels of job satisfaction, (2) whether job satisfaction is associated with intent to leave, (3) whether job satisfaction is associated with turnover after 1 year, and (4) whether job satisfaction after 1 year varies for NHAs who left based on where they subsequently worked. Overall, NHAs were more satisfied with the job satisfaction subscales of: rewards, work skills, and workload but were less satisfied with work demands and coworkers. NHAs appeared particularly sensitive to work skills, with this area of job satisfaction being associated with intent to turnover and actual turnover. In general, the authors found a stronger association with job satisfaction and actual turnover than with intent to turnover.

Kash, Naufal, Dagher, Johnson (2010) examine four main factors associated with directors of nursing (DON) intent to leave in nursing homes: perceived salary competitiveness, educational levels, level of empowerment, and job satisfaction. Although the importance of nurse leadership stability and participation in decision making in nursing homes is well established, scarce literature exists on determinants of intent to leave among directors of nursing (DONs) in nursing homes. DONs working in for-profit homes were more inclined to leave, less satisfied with their job, and had lower levels of perceived empowerment in terms of autonomy. Educational level and intention to leave were significantly higher for DONs working in urban areas. Job satisfaction was significantly and inversely associated with intent to leave in all three models. Higher perceived salary competitiveness and level of empowerment were associated with reduced odds of intending to leave. Higher educational levels were associated with higher odds of intentions to leave.

Donoghue and Nicholas G Castle (2007) examine both linear and nonlinear effects of organizational and environmental conditions on voluntary and involuntary nursing home staff turnover. There are few studies of voluntary and involuntary turnover in the nursing home literature. Previous research in this area has focused mainly on the linear effects of individual and organizational characteristics on total turnover. The authors use a negative

binomial regression model to study both linear and curvilinear effects of organizational and environmental factors on voluntary and involuntary turnover among registered nurses, licensed practical nurses, and nurse aides, based on both primary and secondary data on 854 nursing homes in six states.. The results show that staffing levels and deficiency citations were the organizational characteristics most consistently linked with turnover among all nurse types. Links were also found between unemployment and type of location (urban or rural) and turnover, indicating that the economic environment is influential for retention. The results of this study support the notion that policy makers need to consider both the organization and the environment when evaluating the nature of nursing home staff turnover. The findings also offer further evidence that the antecedents of voluntary and involuntary turnover are not necessarily the same.

Borkowski, Amann, Song, and Weiss (2007) explored issues related to gender, ethnicity, and educational level to explain nurses' intent to leave the profession. Data were collected from 284 nurses, of which 46% indicated that they were considering leaving their profession. Using multiple regression analysis, the researchers were able to test whether certain groups (according to gender, ethnicity, and education levels) had a greater intent to leave the profession and what factors were related to each subgroups' intent to leave. The results of this study revealed that (a) nurses who are male, are White-non-Hispanic, or have less than a master's degree are more inclined to consider leaving the nursing profession, and (b) benefits were a more important consideration to male and White-non-Hispanic nurses regarding their intent to leave the nursing profession.

Gregory, Way, LeFort, Barrett, and Parfrey (2007) offer a model to predict registered nurses' organizational commitment and intent to stay. A non-experimental predictive survey design was used to test the model in a sample (N = 343) of acute care RNs employed in one Canadian province. Data were collected with the following scales: Emotional Climate, Practice Issues, Collaborative Relations, Psychological Contract Violation, General Job Satisfaction, Organizational Commitment Questionnaire, and Intent to Stay. Despite moderate levels of job satisfaction, RNs held negative perceptions of culture (emotional climate, practice-related issues, and collaborative relations), trust, and commitment and were unlikely to stay with current employers. Structural equation modeling provided support for the impact of culture, trust, and satisfaction on commitment and partial support for intent to stay, explaining 45 and 31% of the variance, respectively.

Waldman, Kelly, Arora, and Smith (2010) describe the significant amount of turnover cost in health care. Annual cost of turnover represented 3.4-5.8 percent of the annual operating budget (\$17-29 million on a \$500 million base across the entire medical center). The largest cost driver was the loss and necessary replacement of nurses. Review of turnover costs at a major medical center helps health care managers gain insights about the magnitude and determinants of this managerial challenge and assess the implications for organizational effectiveness.

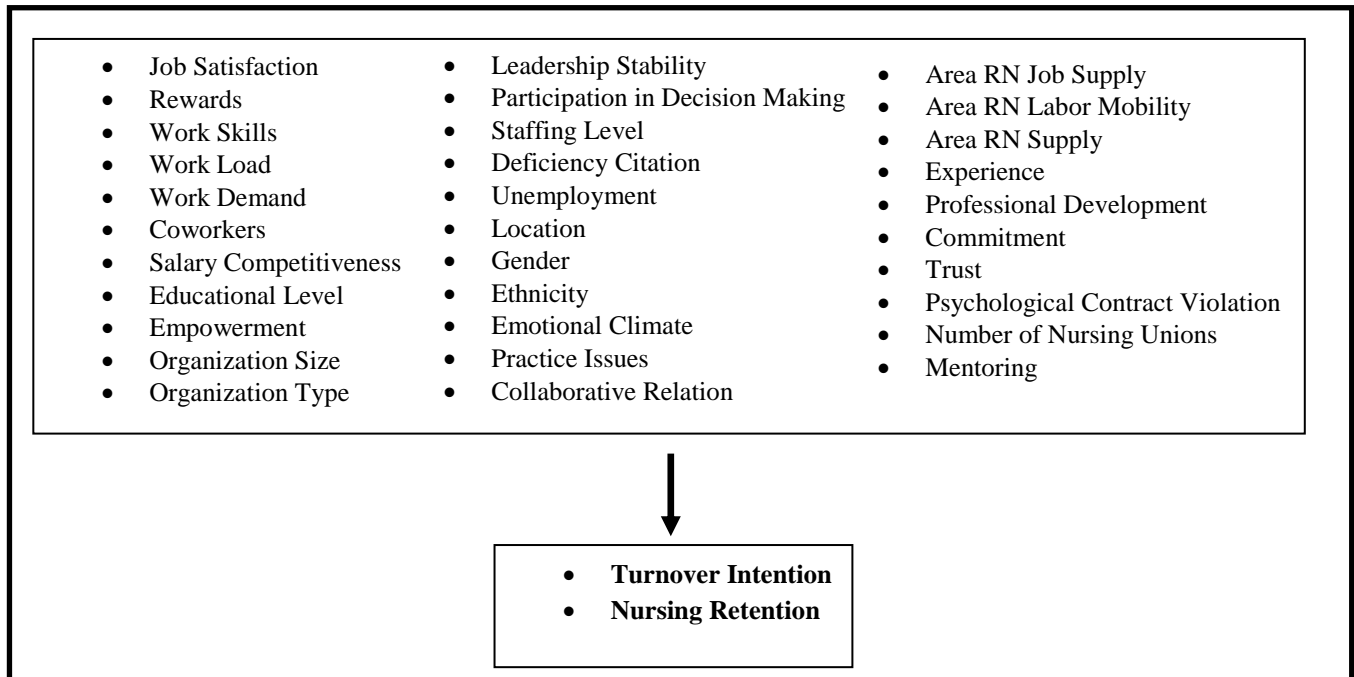
Castle, Engberg, and Anderson (2007) add further insight into job satisfaction of nursing home administrators and turnover. We know little about factors associated with job satisfaction and dissatisfaction for nursing home workers. In this investigation, the authors use data from a large sample of nursing home administrators (NHAs) to examine: (1) their levels of job satisfaction, (2) whether job satisfaction is associated with intent to leave, (3) whether job satisfaction is associated with turnover after 1 year, and (4) whether job satisfaction after 1 year varies for NHAs who left based on where they subsequently worked. Overall, NHAs were more satisfied with the job satisfaction subscales of: rewards, work skills, and workload but were less satisfied with work demands and coworkers. NHAs appeared particularly sensitive to work skills, with this area of job satisfaction being associated with intent to turnover and actual turnover. In general, the authors found a stronger association with job satisfaction and actual turnover than with intent to turnover.

Angermeier, Dunford, Boss and Boss (2009) explore the impact of participative management perceptions on customer service, medical errors, burnout, and turnover. There exists a clear distinction between a participative-management climate and an exploitive authoritarian system for the dependent variables customer service, burnout, and turnover intentions. Employees, who reported higher participative climate perceptions received higher customer service ratings from their supervisors, reported committing fewer significant medical errors, experienced lower levels of burnout, and were less likely to have intentions to leave the organization.

Jones, Havens and Thompson (2008) report the results of a national survey on 622 Chief Nursing Officers (CNOs) employed in hospitals and healthcare systems across the United States on their retention and turnover. A high percentage of CNOs had been employed in their organization (62 percent) and in their current position (43

percent) for more than five years. Regarding their CNO role, respondents reported having very good or excellent relationships with staff nurses (78 percent), nurse managers and directors (94 percent), senior leaders (87 percent), and CEOs (79 percent). These relationships are obviously critical to the role of CNOs in today's healthcare organizations.

Figure 1 summarizes the main findings from the latest research in Nursing Retention.



INFORMATION TECHNOLOGY ADOPTION IN HEALTHCARE

Adoption of information technology in healthcare is a critical area of research within this domain. Menachemi, Powers, and Brooks (2009) explore the role of information technology usage in physician practice satisfaction. Despite the growing use of information technology (IT) in medical practices, little is known about the relationship between IT and physician satisfaction. The objective of this study was to examine the relationship between physician IT adoption of various applications such as electronic health record (EHR) usage, PDA usage, use of e-mail with patients, and the use of disease management software, with overall practice satisfaction, as well as satisfaction with the level of computerization at the practice. In addition, the relationship between satisfaction with IT and overall satisfaction with the current medical practice was examined. EHR users were 5 times more likely to be satisfied with the level of computerization in their practice and 1.8 times more likely to be satisfied with their overall medical practice. PDA use was also associated with an increase in satisfaction with the level of computerization and with the overall medical practice. E-mail use with patients was negatively related to satisfaction with the level of computerization in the practice. Last, physicians who were satisfied with IT were 4 times more likely to be satisfied with the current state of their medical practice. The study shows that physician users of IT applications, especially EHRs, are generally satisfied with these technologies. Potential adopters and/or policy makers interested in influencing IT adoption should consider the positive impact that computer automation can have on medical practice.

Davis, Brannon and Whitman (2009) study the organizational factors associated with the use of systems in nursing homes. The use of information systems (ISs) in nursing homes is gradually increasing, yet little is known about the factors that promote the use of these systems. Using resource dependency theory as the conceptual framework, this study examined how chain membership, ownership status, and innovativeness are associated with ISs use in nursing homes. Based on an analysis of the 2004 National Nursing Home Survey covering a total of 1,174 nursing homes, facilities that were members of a chain was significantly more likely to use all types of ISs and ISs for administrative tasks than were nonchain facilities. In addition, nonprofit nursing homes were significantly more

likely to use administrative systems. Membership in a multifacility chain may both increase the need for network-wide communication and provide resources promoting use.

Kralewski, Dowd, Cole-Adeniyi, Gans, Malakar, and Elson (2008) explored the practice and physician characteristics influencing physician use of clinical electronic information technologies (e-scripts) after adoption by their medical group practice. Data were obtained from 27 primary care medical group practices that had e-script technology for 2 years. Practice-level variables explain most of the variance in the use of e-scripts by physicians, although there are significant differences in use among specialties as well. General internists have slightly lower use rates and pediatricians have the highest rates. Larger practices and multispecialty practices have higher use rates, and five practice culture dimensions influence these rates; two have a negative influence and three (organizational trust, adaptive, and a business orientation) have a positive influence. Practice administrators can improve physician acceptance and use of these technologies by making sure that there is a culture/technology fit before deciding on a product.

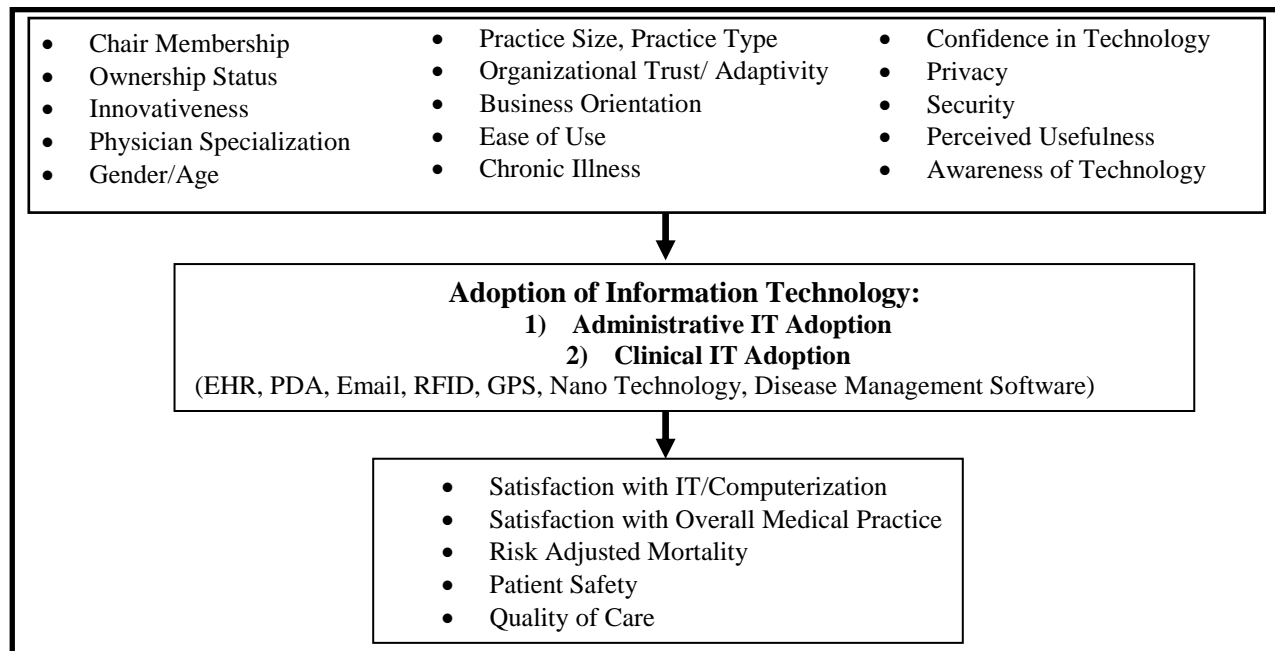
McGrady, Conger, Blanke, and Landry (2010) provide prescriptions to decision makers to become better informed about three technologies emerging in the healthcare arena by providing a basic description of the technology and describing their current applications, future healthcare deployment, potential risks, and related managerial issues. Two of the technologies, radio frequency identification (RFID) and global positioning systems (GPS), are currently available to healthcare organizations and appear capable of decreasing cost but may require significant initial investment and have disruptive potential. The third technology, nanotechnology, has limited current use but may revolutionize both the delivery of medicine and hospital infrastructure management. With cautious attention to managerial issues and meticulous attention to implementation details, healthcare organizations that can successfully navigate the coming technologically driven paradigm shifts will emerge more resilient organizations.

Ford, Menachemi, Huerta, and Yu (2010) discuss hospital IT adoption strategies in an environment where health systems are facing significant pressure to either implement health information technology (HIT) systems that have "certified" electronic health record applications and that fulfill the federal government's definition of "meaningful use," or risk substantial financial penalties in the near future. To this end, hospitals have adopted one of three strategies, described as "best of breed," "best of suite," and "single vendor," to meet organizational and regulatory demands. The single-vendor strategy is used by the simple majority of U.S. hospitals. However, the hospitals using the hybrid best of suite strategy had fully implemented HIT systems in significantly greater proportions than did hospitals employing either of the other strategies. Nonprofit and system-affiliated hospitals were more likely to have fully implemented their HIT systems. In addition, increased health maintenance organization market penetration rates were positively correlated with complete implementation rates. These results have ongoing implications for achieving meaningful use in the near term. The federal government's rewards and incentives program related to the meaningful use of HIT in hospitals has created an organizational imperative to implement such systems. For hospitals that have not begun systemwide implementation, pursuing a best of suite strategy may provide the greatest chance for achieving all or some of the meaningful use targets in the near term or at least avoiding future penalties scheduled to begin in 2015.

Mukherjee and McGinnis (2007) identify five major themes of e-healthcare research: cost savings; virtual networking; electronic medical records; source credibility and privacy concerns; and physician-patient relationships. E-healthcare systems enable firms to improve efficiency, to reduce costs, and to facilitate the coordination of care across multiple facilities.

The USA is striving to educate consumers and to promote awareness of personal health records (PHRs) with the launch of the American Health Information Management Association's "It's HI time, America!" campaign. Although the health management industry favours their use, there is little research from the consumer perspective. Whestone and Goldsmith (2009) identified factors influencing intention to create and use personal health records amongst US college students. The results showed that being innovative with regard to healthcare, confidence in the privacy and security of the records, and especially perceived usefulness of PHRs were positively associated with intent to create a PHR. Gender, age, presence of a chronic illness, and awareness of PHRs were largely unassociated. These results contribute to the effort to understand and to promote consumer acceptance of PHRs. Stressing PHR usefulness might enhance their promotion.

Figure 2 summarizes the main findings from the latest research in IT adoption in Healthcare.



QUALITY OF CARE

Landon, Normand, Meara, Zhou, Simon, Frank, and McNeil (2008) explored the relationship between medical practice characteristics and quality of care for Cardiovascular disease. The settings in which health care services are delivered have the potential to influence the quality of health care services in numerous ways, but little is known about the relationship between characteristics of medical practices and quality of care. In this study, the authors studied patients with coronary heart disease (CHD). The authors surveyed 225 medical practices in 2000 and 2001 and obtained information on quality measures from the medical records for more than 1,600 of their patients with CHD. Results suggest that quality of care, at least for common conditions with agreed-on measures, is not strongly influenced by financial characteristics of medical practices, although there does seem to be some relationship with practice structure such as size and quality.

Kolstad and Chernew (2009) explore the relationship between quality and consumer decision making in the market for health insurance and health care services. This article reviews the literature relating quality to consumer choice of health plan or health care provider. Evidence suggests that consumers tend to choose better performing health plans and providers and are responsive to initiatives that provide quality information. The response to quality and quality information differs significantly among consumers and across population subgroups. As such the effect of quality information on choice is apparent in only a relatively small, though perhaps consequential, number of consumers. Despite the wealth of findings on the topic to date, the authors suggest directions for future work, including better assessment of the dynamic issues related to information release, as well as a better understanding of how the response to information varies across different groups of patients.

Bokhour, Pugh, Rao, Avertisyan, Berlowitz, and Kazis (2009) sought to develop an approach to measuring patient-centered quality of care, using epilepsy as an exemplar. As health care systems seek to provide patient-centered care as a cornerstone of quality, how to measure this aspect of quality has become a concern. Previous development of quality indicators for treating individual chronic disease has rarely included patient perspectives on quality of care. The authors conducted six focus groups with adults with epilepsy. Using qualitative methods, the authors initially identified 10 patient-generated quality indicators, 5 of which were subsequently rated, along with literature-based quality indicators, by an expert panel using a modified RAND appropriateness methodology. The authors discuss similarities and differences in aspects of care patients and providers value as essential for good quality. The process presented in this article may serve as a model for incorporating patient perceptions of quality into the future development of quality indicators for chronic diseases.

Gregory, Way, Barrett and Parfrey (2010) attempt to identify predictors of perceived health care quality for registered nurses during and after health care reform. Limited research has focused on the predictive nature of organizational culture and trust on registered nurses' perceived health care quality in reformed health care systems. Nurses' perceptions of organizational culture factors, trust in employer, and perceived health care quality during and 5 years after major organizational reform in the acute care setting are captured. Select culture variables predicted health care quality at both periods, but trust emerged as a significant predictor in 2000 only. The findings support the negative impact of system transformation on nurses and the link between culture and health care quality. The study findings suggest that managers and policy makers must develop and implement supportive and nurturing strategies that will enhance the organizational culture (emotional climate, collaborative relations), which should result in more positive perceptions of health care quality. However, further research is required to gain a better understanding of the relationships among trust, organizational culture, and perceptions of health care quality and what implications this may or may not have for nursing practice.

Firbank (2010) explores the fit between organizational culture and quality improvement in a home-care environment. Although various quality management strategies have been used in different health care settings, continuous quality improvement (CQI) is still in the early stages of development among home-care service providers. The article reports on how differing organizational cultures-as found in a set of public and private home-care providers-appear to affect agency receptivity to CQI during program implementation.

Thornlow and Merwin (2009) explore the relationship between accreditation standards, safety practices, and patient outcomes, with an aim to improve quality. The aim of this study was to examine the relationship between patient safety practices, as measured by accreditation standards, and patient safety outcomes as measured by hospital rates of infections, decubitus ulcers, postoperative respiratory failure, and failure to rescue. Accreditation standards reflecting patient safety practices were related to some outcomes but not others. Rates of infections and decubitus ulcers occurred more frequently in hospitals with poorer performance in utilizing patient safety practices, but no differences were noted in rates of postoperative respiratory failure or failure to rescue.

Using a case study of Intermountain Healthcare, Reiss-Brennan, Briot, Savitz, Cannon, and Staheli (2010) demonstrate the cost and quality impact of a mental health integration program. Most patients with mental health (MH) conditions, such as depression, receive care for their conditions from a primary care physician (PCP) in their health/medical home. Providing MH care, however, presents many challenges for the PCP, including (1) the difficulty of getting needed consultation from an MH specialist; (2) the time constraints of a busy PCP practice; (3) the complicated nature of recognizing depression, which may be described with only somatic complaints; (4) the barriers to reimbursement and compensation; and (5) associated medical and social comorbidities. Practice managers, emergency departments, and health plans are stretched to provide care for complex patients with unmet MH needs. At the same time, payment reform linked to accountable care organizations and/or episodic bundle payments, MH parity rules, and increasing MH costs to large employers and payers all highlight the critical need to identify high-quality, efficient, integrated MH care delivery practices. Over the past ten years, Intermountain Healthcare has developed a team-based approach-known as mental health integration (MHI)-for caring for these patients and their families. The team includes the PCPs and their staff, and they, in turn, are integrated with MH professionals, community resources, care management, and the patient and his or her family. The integration model goes far beyond co-location in its team-based approach; it is operationalized at the clinic, thereby improving both physician and staff satisfaction. Patients treated in MHI clinics also show improved satisfaction, lower costs, and better quality outcomes. The MHI program is financially sustainable in routinized clinics without subsidies. MHI is a successful approach to improving care for patients with MH conditions in primary care health homes.

In response to legal and accreditation mandates as well as pressures from purchasers and consumers for quality improvement, hospital governing boards seek to improve their oversight of quality of care by adopting various practices. Based on a previous survey of hospital presidents/chief executive officers, Jiang, Lockee, Bass & Fraser (2009) examine differences in hospital quality performance associated with the adoption of particular practices in board oversight of quality. Board practices found to be associated with better performance in both process of care and mortality include (1) having a board quality committee; (2) establishing strategic goals for quality improvement; (3) being involved in setting the quality agenda for the hospital; (4) including a specific item on quality in board meetings; (5) using a dashboard with national benchmarks that includes indicators for clinical quality, patient safety, and patient satisfaction; and (6) linking senior executives' performance evaluation to quality and patient safety indicators.

Scale development of quality of care is another area of focus in contemporary research on quality in healthcare. Hadwich, Georgi, Tuzovic, Büttner, and Bruhn, (2010) develop a conceptual scale to measure perceived quality of e-health services based on the C-OAR-SE approach. The construct e-health service quality can be described as an abstract formative object and is operationalized with 13 items: accessibility, competence, information, usability/user friendliness, security, system integration, trust, individualization, empathy, ethical conduct, degree of performance, reliability, and ability to respond.

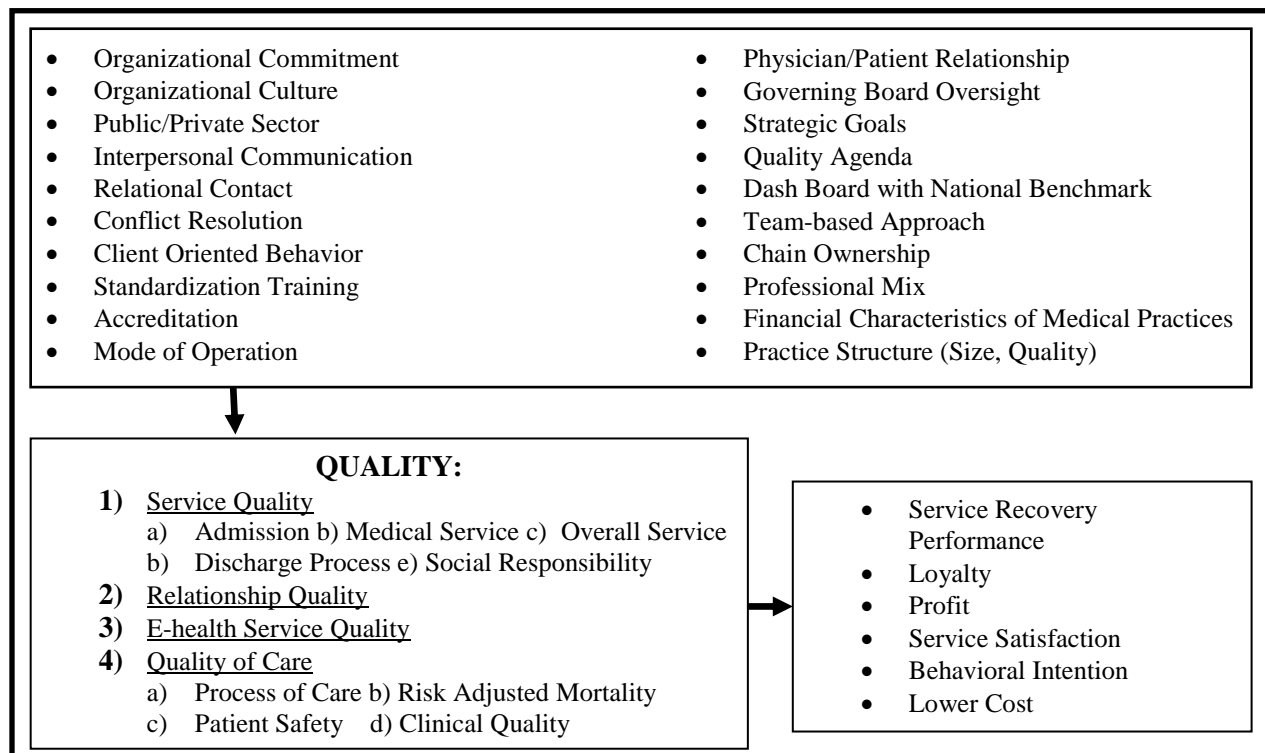
Aagja and Garg (2010) developed a scale for measuring perceived service quality for public hospitals (PubHosQual) from the user's (patient's) perspective. A reliable and valid scale called public hospital service quality (PubHosQual) is developed to measure the five dimensions of hospital service quality: admission, medical service, overall service, discharge process, and social responsibility.

Rod and Ashill, (2010) explore the relationship between management commitment to service quality and service recovery performance through a study of frontline employees in public and private hospitals in New Zealand. The results of the study suggest that the relationship between MCSQ and service recovery performance is mediated by organizational commitment. With the exception of the relationship between MCSQ and organizational commitment, there are no differences between FLEs in the private and public sectors.

Ben Naoui and Zaiem, (2010) explore the impact of relationship quality on client's loyalty in the parapharmaceutical industry. A survey on 300 pharmacists dealing with sales representatives of the parapharmaceutical products show that there is a significant relation between the antecedents of relationship quality, namely, interpersonal communication, relational contact, conflict resolution and client-oriented behavior, and relationship quality itself. Relationship quality has also an impact on loyalty which is accounted for positively by satisfaction, and negatively by affective conflict.

Hegji, Self, and Findley (2007) study the relationship between hospital quality and hospital profits for a sample of 88 Alabama hospitals. services profitability. Quality is measured by three groups of procedures performed on newly admitted patients as suggested by the health quality alliance (HQA). Profit is measured for eight hospital services. Quality of care for newly admitted cardiac and pneumonia patients are indicators of quality translatable into profits. Given a choice between the two, the pneumonia procedures were more effective in predicting profits.

Figure 3 summarizes the main findings from the latest research in Quality of Care.



RESEARCH AT THE INTERSECTION OF THREE POPULAR THEMES

Quality and information technology

Ngo-Metzger, Hayes, Chen, Cygan, and Garfield (2010) focus on Asian Americans with an objective of understanding how to improve communication between patients and providers using health information technology and other quality improvement strategies. Disparities in provider—patient communication has been shown to exist among Asian Americans, especially those who are low-income and have limited English proficiency. These disparities have resulted in unmet health care needs and poor quality care. To identify strategies for improving provider—patient communication in this population, we conducted a systematic review of the literature and in-depth interviews with key informants. Little published literature on interventions focused on Asian Americans was found. Most interventions were conducted among White populations and occurred in the waiting room before patients' visits with their providers. Interventions ranged from a leaflet encouraging patients to ask more questions, to more intensive face-to-face coaching before office visits. Health information technology (health IT) has not been widely used to improve communication, especially among patients with limited English proficiency. More research is needed using new health IT strategies to improve care for Asian Americans and other vulnerable populations.

Baig, Wilkes, Davis, Peek, Huang, Bell, and Chin (2010) address the use of quality improvement and health information technology approaches to improve diabetes outcomes in African American and Hispanic patients. Differences in rates of diabetes-related lower extremity amputations represent one of the largest and most persistent health disparities found for African Americans and Hispanics compared with Whites in the United States. Since many minority patients receive care in underresourced settings, quality improvement (QI) initiatives in these settings may offer a targeted approach to improve diabetes outcomes in these patient populations. Health information technology (health IT) is widely viewed as an essential component of health care QI and may be useful in decreasing diabetes disparities in underresourced settings. This article reviews the effectiveness of health care interventions using health IT to improve diabetes process of care and intermediate diabetes outcomes in African American and Hispanic patients. Health IT interventions have addressed patient, provider, and system challenges in the provision of diabetes care but require further testing in minority patient populations to evaluate their effectiveness in improving diabetes outcomes and reducing diabetes-related complications.

Menachemi, Chukmaitov, Saunders, and Brooks (2008) investigate the relationship between information technology adoption and quality of care in acute care hospitals. Hospitals have been slow to adopt information technology (IT) largely because of a lack of generalizable evidence of the value associated with such adoption. Data from 98 hospitals show that hospitals adopted an average of 11.3 (45.2%) clinical IT applications, 15.7 (74.8%) administrative IT applications, and 5 (50%) strategic IT applications. In multivariate regression analyses, hospitals that adopted a greater number of IT applications were significantly more likely to have desirable quality outcomes on seven Inpatient Quality Indicator measures, including risk-adjusted mortality from percutaneous transluminal coronary angioplasty, gastrointestinal hemorrhage, and acute myocardial infarction. An increase in clinical IT applications was also inversely correlated with utilization of incidental appendectomy, and an increase in the adoption of strategic IT applications was inversely correlated with risk-adjusted mortality from craniotomy and laparoscopic cholecystectomy. Overall, hospital adoption of IT is found to be associated with desirable quality outcomes across hospitals in Florida. These findings will assist hospital leaders interested in understanding better the effect of costly IT adoption on quality of care in their institutions.

Nursing and Quality

Leggat, Bartram, Casimir, and Stanton P. (2010) investigate the interactive effects of psychological empowerment and job satisfaction on the relationship between high-performance work systems (HPWS) and nurses' perceptions of the quality of patient care they provide. Psychological empowerment fully mediated the relationship between HPWS and perceptions of quality of patient care. Job satisfaction moderated the relationship between HPWS and perceptions of quality of patient care. The authors concluded that hospital managers should focus on promoting HPWS and ensuring that nurse unit managers have the competencies to empower and to enhance the job satisfaction of their staff.

Castle and Lin (2010) explored the relationship between nursing home management turnover and quality of care. In this research, the direct and indirect relationships among top management turnover, the number of staff, the types of staff, and the quality indicators are examined. The top managers included in this case are both nursing home

administrators and directors of nursing. The results show that high nursing home administrator turnover for four quality indicators are significantly associated with poor quality. These findings seem to contrast with those for director of nursing turnover, with high director of nursing turnover for three quality indicators significantly associated with better quality. Three practice implications emerge. First, nursing home administrators may want to be particularly vigilant to resident care in some specific areas associated with poorer quality resulting from turnover. Second, nurse aide agency staff should be used with caution. Third, higher caregiver staffing levels are generally associated with better quality of care.

FUTURE DIRECTIONS OF HEALTHCARE RESEARCH

The review above highlights specific research gaps that need to be filled. It is hoped that the recommendations discussed below help to overcome the fact that there are only a handful of healthcare management studies (about 5 per cent) in the top ten management journals. These future studies may focus on healthcare, but can be relevant to global management and interdisciplinary concerns.

Two critical research directions are suggested. First, healthcare management research should move from an healthcare-based perspective to a healthcare-driven perspective. Most current healthcare studies are still in the stage of answering the ‘what’ question in industry settings, either by testing established theories using patient samples or describing how a complex medical phenomenon differs from other mature industries. Future studies should go beyond this by asking the ‘why’ and ‘how’ questions to advance theory development. Thus, future studies should be driven by healthcare phenomena and inform the literature of why and how healthcare management research issues matter. Secondly, theoretical contextualization of the research in healthcare needs to occur. Many recent studies have good extensions of existing theory but the studies are still based on theories from the mature disciplines (such as economics, sociology, etc.). There is a need to focus more on the healthcare context and develop new theories that will help to influence the healthcare management research paradigm.

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FOLK MEDICAL LITERACY: PLAYING DOCTOR AND NURSE IN THE HOMES

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ABSTRACT

Folk medical literacy dates back virtually to the dawn of humanity. Folk medical literacy laid down the foundation for medical science and, on the way; it also crystallized itself as everybody's craft. As a form of literacy, it was ubiquitous in the past in areas of midwifery, small medications for the common cold, diarrhea, hair loss and many other minor ailments. However, the 20th and the 21 Centuries have witnessed a mutation in the ordinary person's attitude toward folk medical remedy as literacy, a social practice and a craft. The concept of home remedy has become tainted with ethical and serious health issues, some of them incriminating.

The current poster presentation explores the development of folk remedies and sheds light on how they manifest themselves as a hazardous activity bringing about the incrimination of innocent individuals and not-so innocent ones.

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A COMPARISON OF PERCEPTIONS AND ACCEPTANCE OF ALTERNATIVE MEDICINE AMONG CONSUMERS IN THE UNITED STATES AND INDIA

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ABSTRACT

This paper examines the perceptions and use of alternative medicine in two distinct countries, India and United States. A survey was developed and conducted in both countries. Evidence presented in this paper suggests that Americans have come a long way in their acceptance and usage of alternative medicines. They have not yet caught up with their Indian counterparts which has hundreds of years of experience with alternative medicines. Respondents from both the countries feel that alternative medicines are relatively inexpensive, but more expensive than allopathic medicine. Indians felt that their doctors were more aware of alternative medicines than Americans. Both groups felt that doctors should warn of alternative medicine. Indians are more like to recommend and get their alternative medicines from family and friends and Americans buy fewer alternative medicines per year than Indians.

INTRODUCTION

Alternative medicines are becoming more common in today's society. More than one-third of American adults use some form of alternative and complementary medicine, with a total cost of more than \$30 billion per year (Arias, 2005). The use has increased from 2.5% of the population in 1990 to 12% in 1997, with similar increases in the percentages of people consulting herbal medicine practitioners (Tatro, 2004). The reasons for the increase usage include perception of efficacy and safety, accessibility, sense of utilizing natural product, dissatisfaction with prescription drugs, and lower cost (Astin, 1998).

People have questioned the effectiveness of alternative medicines. In fact, many argue that alternative medicines should be held to the same clinical effectiveness standards as conventional medicine (Arias, 2005). Adding herbal medicines to a multiple drug therapy has the risks of possible herb-drug interactions (Ernst, 2002). There are also side effects which may not be known to the user (Maranton et al., 2005). In addition, only 20% of health care providers consider herbal and alternative medicines to be safe (Maranton et al., 2005). Jibrin (2010) points out that there are no safety regulations for dietary supplements. His argument is that health care reform should address this issue.

People utilizing alternative medicines rarely tell their physicians, less than 40% (Arias, 2005). This is quite a low percentage given the possible side effects that exist. It is suggested that physicians need to ask about the use of alternative medicines, especially herbal and dietary supplements (Bressler, 2005). When asked, more than one-half of physicians stated that they would encourage patients to discuss their use of alternative medicines (Arias, 2005). On the other hand, physicians know very little about herbal supplements and alternative medicines. Training on these matters should be incorporated into medical education programs (Maranton et al., 2005). Herbal therapy has been promoted as a possible treatment for Attention deficit hyperactivity disorder (ADHD). A study was done which showed some improvement, but the study was not scientific (Reddy and Devi, 2007). Certain herbs are good sources of antioxidants without the side effects of other sources (Ali et al., 2008).

India is one of the most prominent users of alternative medicines and the practice has been going on for centuries. In fact, one of the unique and well accepted medical practices in India is Ayurveda. Ayurveda, the indigenous holistic healing system of India, is a holistic approach to health and lifestyle management that incorporates diet, exercise, life activity routines, psychotherapeutic practices, massage and botanical medicine. Ayurveda focuses on prevention, applying techniques of self-care to restore health balance quickly and effectively. Ayurveda is one of the four large, long-practiced ethnic herbal medicine systems with large extant literatures

(Khalsa, 2007). During the ancient civilizations of India, China, Egypt, Persia, and Greece, herbal remedies were codified and, eventually, compiled into books (Sekhar et al., 2008). One of the problems here is numerous countries are trying to use some of these procedures. This has led to the government of India seeking protection of such things as herbal medicines, Darjeeling tea, and yoga positions, which it considers to be ancient intellectual property (Bellman, 2005).

The overall purpose of this paper is examining factors that are important in the usage of alternative medicines. In order to accomplish this, it becomes necessary to scrutinize the utilization of alternative medicines and perceptions of effectiveness. Perceived effectiveness of alternative medicines is examined through the eyes of both physicians and consumers. Next, the buying behaviors of alternative medicine users will be examined. Those behaviors will include who buys for whom, where they buy, and how often do they buy. The implications from these analyses are then converted to guidelines for an effective marketing campaign.

ANALYSIS OF DATA

A survey was administered to 692 individuals in the United States and 710 individuals in India. There was some missing data, making the sample size smaller in most cases. A convenience sampling technique was adopted for the purpose of this study. The rationale for adopting this type of sample was that despite its minor drawbacks, it had content validity, since all the respondents were legitimate consumers. The respondents were asked whether various questions about alternative medicine.

In the United State sample, there were 322 men and 366 women. The age classification was as follows: 18- 25 260, in the age class 26-45 there were 249 people, and over 45 there were 167. There were 397 single individuals and 287 married individuals. Education level was as follows, 274 with less than college degree and 402 with college degree and above.

In the Indian sample, there were 392 men and 312 women. The age classification was as follows: 18- 25 348, in the age class 26-45 there were 230 people, and over 45 there were 123. There were 436 single individuals and 260 married individuals. Education level was as follows, 85 with less than college degree and 594 with college degree and above.

ANALYSIS OF THE DATA

There were eight basic questions asked on alternative medicine and its relationship to allopathic/Western medicine. Each respondent was asked in terms of a five-point scale from 1 – strongly agree, 2 – agree, 3 – Neutral, 4- Disagree, and 5- Strongly Disagree. Table 1 provides the mean responses to each question for those respondents from the United States. Table 2 gives the results of a t-test between the two means to determine whether the difference is statistically significant.

Table 1: Basic Statistics – United States and India

Question	United States			India		
	N	Mean	Std Dev	N	Mean	Std Dev
Alternative medicine products are usually expensive	687	3.94	1.827	693	2.95	1.412
Alternative medicine products are more expensive than allopathic/Western medicines	687	4.45	1.665	691	3.39	1.433
Alternative medicine products are usually effective	685	3.96	1.707	685	2.53	1.210
Alternative medicine products are more effective than allopathic/Western medicines	678	4.42	1.558	683	2.98	1.364
Belief that most of the doctors in each country are aware of the various alternative medicines available	682	3.54	1.654	693	3.21	1.368

Doctors should warn patients of the possible interaction of alternative medicines when taken along with current medications	685	2.33	1.692	693	2.31	1.349
Family or friends are usually the one recommended alternative products that people often buy	684	3.22	1.828	694	2.64	1.258
Belief that alternative medicines are harmful	683	4.37	1.402	694	4.10	1.163

Table 2
Tests for Differences in the Means – United States and India

Question	t	Sig.	Mean Difference (U.S – India)
Alternative medicine products are usually expensive	11.331	.000	.997
Alternative medicine products are more expensive than allopathic/Western medicines	12.753	.000	1.068
Alternative medicine products are usually effective	17.989	.000	1.438
Alternative medicine products are more effective than allopathic/Western medicines	18.236	.000	1.448
Belief that most of the doctors in each country are aware of the various alternative medicines available	4.032	.000	.333
Doctors should warn patients of the possible interaction of alternative medicines when taken along with current medications	0.345	.731	.028
Family of friends are usually the one recommended alternative products that people often buy	6.846	.000	.084
Belief that alternative medicines are harmful	3.964	.000	.069

Both American and Indians disagree with the statement that alternative medicines are expensive. American disagreed stronger than Indians. In addition, American strongly disagreed that alternative medicine was more expensive than allopathic medicine. Indians only disagreed slightly. As compared to India, allopathic medicines in United States are very expensive. In India, there are several generic options available to consumers for various allopathic medicines and thereby they are much closer to the cost of alternative medicines as they are in the United States. It seems like the consumers perceived that some of the alternative medicines are relatively cheap. However, for Indians, all medicines may be expensive in relationship to their income and allopathic medicines may be cheaper there.

Indians are more likely than Americans to believe that alternative medicines are effective and better than allopathic/Western medicine. This probably is due to the long history of alternative medicines in India. There is still a large segment of the population in American that is skeptic about various alternative medicines, even though medical doctors are recommending these products. For example, there are several cardiologists who have anecdotally, recommended to their patients take fish oil capsules. Ophthalmologists and optometrists are recommending vitamins for the eyes that include lutein.

Americans disagree more strongly that doctors are aware of the various alternative medicines than Indians. Again, the Indian culture has been dealing with alternative medicines for centuries. They are extremely aware of the available medicines and the culture reflects a belief in the effectiveness of these medicines. In fact, there are several allopathic medical schools in India which have an Ayurvedic medicine department, and this in turn helps in providing greater awareness of this form of alternative medicine to future would-be doctors. Unfortunately, there is extremely limited such exposure to medical students in the United States.

There is no significant difference between the two countries of whether doctors should warn patients of the interactions between alternative medicines and other medicines being taken. Respondents from both countries agreed that doctors should warn patients about interactions. This is an important find indicating that health professionals in both the countries are aware of possible drug interactions between alternative and allopathic medicine.

Surprisingly, Americans disagreed more strongly than Indians that family or friends are usually the ones that recommend alternative products. The culture in India is a traditional culture with strong family ties. Family and friends have used the alternative medicines for years and recommend these to others. However, in the United States, consumers are more willing to listen to doctors' or any other health professionals advice over that of their family or friend.

Both groups disagree that these medicines are harmful, however, Americans more strongly disagreed that alternative medicines are harmful than Indians. Recent studies have shown that certain herbs are harmful when mixed with prescription drugs. This may change the opinions of individuals as more scientific evidence is gathered.

Table 3
Cross-Tabulation of Country versus Purchase Alternative Medicine

Question	p-value	Likelihood Ratio (US/India)
Purchased alternative medicine products for oneself	.000*	.281
Purchased alternative medicine products for someone else	.000*	.215
Bought from friend/relative	.007*	1.710
Bought from drug store/pharmacy	.000*	2.411
Bought from alternative medicine store	.000*	.223
Made myself	.411	-
Bought from doctor's office	.080	-
Bought from other	.000*	9.359

*-Significant at the .05 level

Table 3 above presents differences in the two countries in terms of where and for whom the alternative medicines were bought. A cross-tabulation was performed on each item (yes/no) and the two countries. The p-values are given along the likelihood ratio (US/India). Several items were significant. There is a significant difference in terms of for whom the medicine was bought, oneself or someone else. For oneself, Indians are 3.56 times (reciprocal of .281) more likely to buy alternative medicines for themselves than Americans. In purchasing for others, Indians are 4.65 times (reciprocal) more likely to buy for someone else than Americans. Indians more freely purchase medicines for themselves and others. This may be due to the fact that pharmaceutical and alternative medicine sales in India are much less controlled than they are in the United States. In the U.S., a patient can rarely get access to a prescription drug without the involvement and approval of a registered pharmacist whereas in India a pharmacy, often referred to as a drug store, does not require a pharmacist on staff for drug dispensing.

The next questions deal with where the medicine is bought. Americans are 1.710 times more likely to buy alternative medicines from friends or relative. Given the culture of the two countries, this does not appear to mesh with establish beliefs about the culture. One would have expected Indians to be more willing to buy from a friend or relative. Americans are 2.411 times more likely to buy their alternative medicines from a pharmacy than Indians. This fits with the observed cultures of the two countries. Indians are 4.84 times (reciprocal of .223) more likely to buy their alternative medicines from an alternative medicine store than Americans. Alternative medicine stores are not readily accessible in the U.S. Finally, Americans are 9.359 times more likely to buy alternative medicine from others than Indians. Again, this does not seem to coincide with the cultures of the two countries.

The final question was in terms of how often you bought alternative medicine. Only individuals in the survey who bought alternative medicine were included. There were 237 Americans and 481 Indians. A cross-tabulation was done to see if there was a relationship between country and how often you purchased medicine. There was a significant relationship ($p = .000$). The standardized residuals were examined to determine which cells were important. When the standardized residual is greater than an absolute value of 2, then it is important. More Americans bought alternative medicines once a year than were expected. Similarly, less Americans bought alternative medicines more than 3 times a year than expected. (See Table 4 below)

Table 4
Cross-Tabulation of Country versus How Often Purchased Alternative Medicine

Country		Once a Year	2-3 Times a Year	More than 3 times a year
United States	Actual	92	101	44
	Expected	70.6	104.3	62.1
	Standardized Residual	2.5	-0.3	-2.3
India	Actual	122	215	144
	Expected	143.4	211.7	125.9
	Standardized Residual	-1.8	0.2	1.6

In summary, some of the major findings are as follows:

1. Both, Americans and Indians disagree that alternative medicines are expensive. Americans more strongly disagree than their Indian counterparts.
2. Both disagree that alternative medicines are more expensive than allopathic medicine. The Indians are more likely to see both as expensive.
3. Indians are more likely to see alternative medicine as being an effective medical treatment option than Americans. This may be due to different types of medicine and much more familiarity.
4. Americans are less sure that doctors are aware of appropriate alternative medicines than Indians.
5. There is no difference in the two countries in believing that doctors should warn of side effects. Both countries agreed that doctors should.
6. Indians are more likely to recommend to family and friends than Americans.
7. Americans take doctors' recommendations regarding alternative medications more seriously.
8. Both groups disagreed that alternative medicines were harmful with Americans more so.
9. Indians are more likely to buy for themselves and other. Americans are more likely to buy from friend and pharmacy with Indians more likely to buy from alternative medicine store.
10. Americans buy alternative medicines less frequently than Indians.

CONCLUSIONS

Naturally, there are many similarities and differences between Americans and Indians when it comes to alternative medicines. However, probably one of the major factors is that alternative medicine has been used in India for centuries; whereas, use of alternative medicine is relatively new in the United States. Indians have many different herbs and treatments which are indigenous to their region. Yet, there are many similarities in beliefs about effectiveness and use of alternative medicines. Despite the major difference in cultures and history with alternative medicine in the two countries, it is surprising that the differences are not greater. Americans in the last few decades have significantly changed their behavior. Most herbal medicines would not be found in pharmacies fifty years ago. Today, every major chain has their own brand of herbs and vitamins. The differences between the two cultures are shrinking at an ever increasing rate.

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SOCIAL AND HEALTH CARE PROVIDED IN SHELTERS FOR HOMELESS IN SLOVAKIA

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ABSTRACT

Social work programmes should in BSc degrees focus on practice in various fields of social work, e. g. social work with homeless. Homeless is a relative new phenomenon in CEE after major changes in economy in the last 20 years. In this communication we describe three of our homeless shelters and refuge homes. They are located in Bratislava, Malacky and Dolna Krupa. These shelters provide social and health care for 42 adults and 16 families. All these people lost their homes because of poverty, unemployment, domestic violence or health problems and ended up on the street of Bratislava.

INTRODUCTION

Homelessness is a relative new phenomenon in CEE after major changes in economy in the last 20 years. In this communication we present three of our homeless shelters and refugee houses in Bratislava (Mea Culpa), Malacky (Bethanyhouse) and Dolna Krupa (Josephinum). There is also an overview of the activities St. Elisabeth University of health and social work in Bratislava for homeless presented.

METHODS

Social services and basic health care is provided in following these three shelters.

Table 1

Venue	Capacity	Numer of person	Target group	Remarks	Partners
Mea Culpa (Bratislava)	8 rooms	36	Adults	Zero tolerance of alcohol	MHIMB Bratislava Majors office
Bethany (Malacky)	7 rooms	22	Mothers / children	40 km from Bratislava	NGO Krizovatky
Josephinum (Dolna Krupa)	12 families rooms	24	Mothers / children	60 km from Bratislava	NGO Goodness of St. Elisabeth

RESULTS

Almost 50 homeless people (40 males and up to 10 female) are daily cared for in the shelter Mea Culpa for 1 USD. Included in the social care provided is an overnight accommodation, warm dinner, hygienic materials, basic social counseling. Health care includes basic treatments, offering of the analgesics' - antipyretics, antihypertensive drugs, *bronchodilators* drugs etc. In Bethany and Josephinum are accommodated families (mothers with their children) for 15 USD per month. They have temporary accommodation in their own rooms, common kitchen for preparation of food, washing, toiletries, basic health care and school transport for the children. Education for children is for free. Social workers provide basic and specialized social counseling.

CONCLUSIONS

There are probably about 50 shelters for homeless people in Slovakia, since the legislative bounded the towns or cities to take care of the homeless people. Also the education of social workers, who are specialists in this area of social work, is very important. St. Elisabeth University in Bratislava therefore connects academic study of social work, nursing and health care to support the people, who lost their homes.

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TRACK
NURSING ADMINISTRATION

HEALTH CARE MANAGEMENT AND MEDICAL AND SOCIAL SERVICE AFTER TSUNAMI IN THAILAND, CAMBODIA AND VIETNAM

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ABSTRACT

Although risk factors for transmission of epidemic-prone diseases in tsunamis existed, no large outbreaks occurred in the acute phase of the emergency, a situation similar to previous tsunamis. However, waterborne diseases (cholera, shigellosis, typhoid, hepatitis A and E) occurred, as a result of limited safe water and sanitation, as did vector-borne diseases (malaria, dengue), caused by increased mosquito breeding sites, and measles, acute respiratory infections, influenza and meningitis, spread by overcrowding.

INTRODUCTION

Tsunami has been devastating South-East Asia in 2004, 2009 and 2010. On December 26, 2004, movement of the two tectonic plates to the west of the Indonesian island of Sumatra cause an earthquake followed by devastating tsunami waves which struck the coast of number of countries along the Indian Ocean and disaster was catastrophic. There were almost 300 000 death in 2004 and 3 000 in 2010. Thousand people were injured and about a million people made homeless. Public-health infrastructure was destroyed and massive international aid came to this area. The economic cost of the catastrophe has been difficult to estimate, but almost certainly exceeds 50 billion euros (1, 2).

PATIENTS AND METHODS

Aceh Province in Indonesia was the area most severely affected tsunami in 2004. A large segment of the population remained without basic needs and vulnerable to epidemic-prone diseases. During the acute phase of the emergency, governmental structures and WHO teams developed a surveillance/early warning and response network (EWARN) system for the detection of epidemic-prone diseases; to investigate outbreaks, with confirmation of potential pathogen, mode of transmission and individuals at risk, and appropriate control measures; and to prepare for outbreak management and control. The target population included both residents and internally displaced populations (IDPs). Sources of information were health facilities (fixed/mobile clinics, permanent/field hospitals) and public health laboratories run by national and international governmental and nongovernmental organizations (NGOs) in affected districts. The syndromic surveillance system targeted identification of diseases/ conditions of epidemic potential (acute watery diarrhea, bloody diarrhea, dengue, fever of unknown origin, jaundice, measles, meningitis, and malaria) and acute respiratory infections and tetanus. Data collected on morbidity and mortality were compiled on a weekly basis by age group (<5 years and >5 years). Reported alerts that were investigated included: bloody diarrhea (11), acute watery diarrhea (1), dengue (5), typhoid (3), jaundice (11), malaria (4), meningitis (4), encephalitis (1), scrub typhus (1) and measles (14).

RESULTS

The major causes of morbidity reported by Indonesian Red Cross clinic were diarrhea (33,1%), acute respiratory infection (614,8%), fever (11,7%), wound infections (6,4) and acute injury (3,3%). The Indonesian army clinic reported only two conditions: diarrhea (63,5%) and wound infections (63,5%). There were no detected outbreaks of cholera, dysentery, measles or meningitis (3)

After tsunami disaster lack of appropriate water sources and disturbing living conditions increase risk of cholera outbreaks and pertinence of using of cholera vaccination merit attention. In Aceh province, government of Indonesia carried out a mass vaccination campaign using oral cholera vaccines. Only 69,3% of the target population received immunization and campaign was cost consuming. Evidence gathered during this campaign could be compared with campaign in another emergency situations as in Darfur. It is remain question of feasibility of vaccination campaign and relevance of interventions, as well as prioritization of health needs in complex emergencies, remain crucial to alleviate the affected population (4).

Monitoring of this area didn't showed significant increase of malaria after tsunami. The malaria incidence was historically in this low, which implies a limited parasite reservoir in the human population. In spite of the fact that the months of December - February are normally the peak period for transmission, given the transmission level in the months leading up to the disaster, the risk of a large-scale outbreak seems to be limited. However, the low transmission levels over the past years may also have made people less alert to possible outbreaks, and the population would have less protective immunity towards the disease. People living in emergency camps or returning to pre-disaster areas of residence are at higher risk of mosquito bites than normal (7,8,9).

Measles remains an important cause of childhood mortality, especially in developing countries. In 2000, measles killed 770,000 children worldwide, accounting for nearly half of vaccine preventable deaths . Failure to deliver at least one dose of measles vaccine to all infants remains the primary reason for high measles mortality and morbidity in developing countries . Measles vaccination coverage among infants in Southeast Asia and Africa is still low, ranging between 54–55% in 1999 to 65–67% in 2003 (10,11,12).

Population movement and high population densities facilitate transmission of the measles virus. Thus, outbreaks of measles are common among refugees and displaced populations (13). After tsunami struck in 2004 tsunami to the coast of the state of Tamil Nadu, India, where one-dose measles coverage exceeded 95%. On 29 December, supplemental measles immunization activities targeted children 6 to 60 months of age in affected villages. It was collected information regarding date of onset, age, sex, vaccination status and residence and collected samples for IgM antibodies and genotype studies. It was identified 101 cases that met the WHO case definition for measles. There were no deaths. It was collected eleven blood samples from the case-patients for serological testing. Of these, eight were positive for IgM antibodies against measles virus. Transmission despite high one-dose vaccination coverage pointed to the limitations of this vaccination strategy. A second opportunity for measles immunization may help reducing measles mortality and morbidity in such areas. Children from 6 month to 14 years of age must be targeted for supplemental immunization during complex emergencies (14).

CONCLUSIONS

Although risk factors for transmission of epidemic-prone diseases in tsunamis existed, no large outbreaks occurred in the acute phase of the emergency, a situation similar to previous tsunamis. However, waterborne diseases (cholera, shigellosis, typhoid, hepatitis A and E) occurred, as a result of limited safe water and sanitation, as did vector-borne diseases (malaria, dengue), caused by increased mosquito breeding sites, and measles, acute respiratory infections, influenza and meningitis, spread by overcrowding. There are several reasons why major outbreaks were not recorded. First, large outbreaks of communicable diseases are uncommon following natural disasters and are related mainly to suboptimal living conditions, lack of safe water and sanitation, environmental changes and lack of health care. Second, the Aceh population was accustomed to hand-washing and to boiling their drinking-water before consumption. Furthermore, the population was generally healthy, with low levels of malnutrition and infant mortality.

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BOOK REVIEW: HUMANISTIC NURSING BY J.G. PATTERSON & L.T.ZDERAD

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ABSTRACT

J.G. Patterson and L.T. Zderad's *Humanistic Nursing* provides a close scrutiny of nursing from a humanistic perspective. The authors explore extra dimensions of nursing by looking at it with a humanistic lens. In so doing, the authors unveil extra responsibilities placed on the nurse's shoulders and provide an in-depth analysis of the bond between nurse and patient. Such analysis reveals that the nursing profession lies in a grey, interdisciplinary area between science and art where nursing is looked at as an art-science, a synthetic property which is more convenient for the sophisticated requirements of the nursing profession in 21st century.

REVIEW OF J.G. PATTERSON & L.T.ZDERA'S *HUMANISTIC NURSING*

Patterson and Zderad highlight the humanistic side of nursing. They view nursing as an act of love in which an authentic dialog between nurse and patient can play can change the life of both nurse and patient. Such changing power of the nursing profession justifies why nursing still obtains despite its low incomes. Additionally, it is also subtle that the authors refer to nursing as an experience not a mere profession

On another front, the authors also address the bond between nursing educationalist and students. All the system, including the administration and the dean of the college, is based on dialog and mutual understanding, regardless of how successful the system is.

.According to the authors, humanistic nursing is based, existentially, on the nurse's awareness of the Self and the other and on the inevitability of dialog and understanding between both parties where meaning can be encoded and decoded in a variety of ways: auditory, olfactory, oral, visual, tactile, kinesthetic and visceral. The authors also highlight the concept that offering genuine presence to others requires the existence of a belief in the person, a belief in their ability to communicate with others and make a change.

The authors also refer to the nurse's choice either to relate or not to relate to the other. Such choice cannot be superimposed on nurses. Nevertheless, coercion is sometimes exercised on nurses in order to get into parallel existence with the other. But being existentially present with the other is different according to the authors. In order for a nurse to be able to be existentially present, they must have faith in the value of being existentially present. Some gifted nurses have a natural talent of being devoted and extentially present. However, the know-how of such attitude is always absent. That is why humanistic nursing is best studied with a phenomenological lens. Within this framework, humanistic nursing asks nurses to describe the kind of knowledge which thy gain, the responses of the other.

The authors also shed light on the foundations of humanistic nursing. They view nursing as "a response to human situation" (P.11) in which one human being needs the help of another human being. Building on this, the concept of nursing as a human act becomes clear by scrutinizing the act itself. In so doing, it is important to note that the phenomenon of nursing varies as to the conditions it is within: the patient's age, type of disability or pathology and what kind/how much helps the patient needs. The authors, thus, view nursing as a reflection of the predominant socio-cultural conditions which shape and color the nursing profession from a humanistic perspective. Humaneness is, therefore, part and parcel of the nursing profession.

THE BEING/DOING DICHOTOMY

The authors differentiate between two aspects of the nursing profession: being a nurse and doing nursing. Both aspects are interrelated to the extent that there is no clear cut between them. So, the in the actual *doing* of nursing, the *being* is manifested.

A nurse would respond to another nurse's question about what he/she did in a certain situation by indicating they were not actually doing anything remarkable other than being by the patient or checking on them. Whereas such acts may sound as "doing nothing" to a nurse, they are basically a pure reflection of *being* a nurse.

In this sense a nurse is the outcome of his/her history and what they have become. But they are also what they are not and what they have not yet become. Such meta-cognition is important in the development of a nurse from a humanistic perspective with regards to the being/doing dichotomy.

Thus, humanistic nursing is not only concerned with being a nurse but also with doing nursing. Within this framework, "every nursing event is unique" (P.17). It reflects the idiosyncrasies of a given context in which the nursing event occurred. And the event, despite being ephemeral, is of an accumulative and everlasting nature. It, accumulatively, shapes and colors the character of the nurse and is reflected directly on the being a nurse and the doing of nursing.

The authors argue that within the humanistic framework, the nurse is viewed not as merely physical care of an individual about another, but additionally, nursing transcends the physical care boundaries to more sensitive boundaries which are directly related to how the nurse grasps the patient's view of life and how the patient sees the world. Acquiring such kind of knowledge is necessary for a nurse to be a better *doer* of nursing from a humanistic perspective.

The authors regard nursing as a lived dialogue which involved the nurse, the patient and other surrounding elements. They set up a framework for their configuration of nursing as a dialogue. The framework includes individuals (nurse, patient and others), meeting (being and becoming), inter-subjective interaction (being with and doing with) and time and space (as lived by the individuals involved in the nursing event, particularly the patient and the nurse).

The framework encourages self reflection and meta-cognition on the part of the nurse and the patient and the interaction between them which runs through the nursing event. In this respect, nursing is viewed in the book as a lived dialogue, although the word "dialogue" might be meager in conveying all the shades of meaning which the term "nursing" entails as "dialogue" when it comes to nursing entails not only encoding and decoding messages but also communication between both nurse and patient in terms of call and response.

Relating the dialogical properties of nursing to the nurse plays a pivotal role in rendering the nurse well-rounded and accumulatively experienced. The nurse analyzes the context in which the nursing event takes place as to where it occurred, who was involved there, what exactly happened and how did the interaction close down.

THE NURSING FRAMEWORK

The framework specified by the authors consists of several pillars: meeting, relating, presence, call and response, other human beings, things, time and space.

Meeting

Nursing implies the meeting of individuals: the nurse and the patient. Whether such meeting is planned or accidental, both parties have certain expectations of the other. The nurse expects the patient to need and ask for help and the patient expects the nurse to provide such help. In this case, both nurse and patient have the same goal: well-being and more being. The nurse's purpose is to nurture and the patient's purpose is to be nurtured.

Relating

Relating refers to the connection between nurse and patient. Establishing such bond between nurse and patient is important as it opens the way to in depth interaction between both of them which results in better understanding and, ultimately, a better nursing event.

Presence

In nursing both nurse and patient interact in physical proximity. Relating to one another as presence rather than as objects is vital for a successful nursing event. Presence can be welcomed or rejected. This is where the authors highlight the patient's role in maintaining the nursing event as to the concept of presence. This is because a nurse may show up and upon encountering a negative reaction from the patient, such as a look of fear or distrust, she is stopped and her presence is interrupted. Thus reciprocity and openness is a requirement for a successful dialogue between nurse and patient.

Call and response

The nursing event is also about call and response. The patient calls for help and the nurse responds to help them. This is part of the dialogical nature of nursing. The authors also highlight the importance of non-verbal communication between nurse and patient as a dramatic in the nursing dialogue.

Other human beings

Other individuals involved in the nursing events are the patient's family and friends are very real parts of the nursing event. Their frequent appearance and how they are received matter to the patient and make a difference to the nature of the dialogue between nurse and patient.

Additionally, the patient's awareness that the nurse cares about him/her in a group of other patients is also important in shaping the relationship between nurse and patient. It is also important that the patient be aware that the nurse treats all his/her patients equally. A good nurse brings her patients to the conviction that all of them are the same in her eyes.

Things

The patient enters the hospital and finds themselves surrounded by strange things of all types: utensils, medical tools and apparatus. It falls on the nurse to familiarize the patient with such things until the patient starts to consider them as part of the nursing context as a whole, which reflects positively on the nursing dialogue and event.

Time

In order for the dialogical nursing event to be viewed realistically, it needs to be viewed within a time framework not only as measure by time but also, and more importantly from a humanistic perspective, as a lived experience. Such regards of the nursing event renders it more valuable and effective to both patient and nurse.

Additionally, both nurse and patient view time differently. To the nurse, time is not always enough for her patients and for the care she/he would wish to provide to her patients. To the patient, time means boredom. It passes very slowly. This could be the opposite to the nurse's conceptual image of time. Being aware of each other's lens of time, the patient finds it awkward sometimes to ask for help so they ask the nurse using forms like "do you have a minute?" (P.34)

Space

The nursing event happens within the hospital. Space is lived as being large or small, near or before or behind etc... Place is also a lived experience when it comes to humanistic nursing. Patients sometimes spend years in hospitals and it helps them greatly to be in good terms with space and simply like it.

Other than the concept of space in hospitals, one can add to the authors' view of space the concept of home nursing where the patient stays in their home and is visited by the nurse. In this case the nurse becomes the outsider who needs to be familiarized with space for optimal nursing event from a humanistic perspective.

Attachment to space is a characteristic of prolonged nursing, where the patient becomes part of the place and the place becomes part of the patient. Additionally, building on the concept of the nurse's attitude toward space in the case of home nursing, prolonged home nursing results in the nurse's attachment to patient's home and, similarly, the nurse becomes part of the patient's place and the place becomes a lived experience to the nurse and part of her life and nursing experience as well.

The authors then allude to Plato's depiction of a community as a macrocosm where the individuals therein are the microcosms. In this respect, nursing can be viewed as a community where the nurse, the patient and other components, as specified in the nursing framework above, are the microcosms. The nurse's meta-cognition of his/her role in the nursing community is reflected positively on the nursing event. The authors contend that in order for a nurse to be open to the "endless innovative possibilities" (P. 37) he/she must be aware of their role as a microcosm in the whole macrocosm within which they function by internalizing their experience with the other microcosm of the nursing macrocosm (community). Based on Buber's "I-Thou", the authors argue that the nurse can be regarded as the Self which is in direct contact with the other, the patient.

Like Nietzsche, Buber sees man as within a community with potentiality of evolving into a better individual. This is applicable to nursing. The nurse puts his/her input throughout their career together and forms an experiential amalgam which signals an improved nurse after all.

HUMANISTIC NURSING AND RESEARCH

Humanistic nursing research is basically phenomenological. It involves description of individuals which requires confidentiality to protect those individuals' private data. Within the humanistic framework, a nurse is expected to be in harmony with all the discrepancies around them, grasp such discrepancies and be able to live with them as well as the resulting chaos.

Similarly, the language which a humanist nurse would use to describe an incident is basically; purely humanist as to word selection and usage. Using such simple language is sometimes more powerful than using technical language of the field, especially when it comes to describing the emotional and psychological condition of the patient.

HUMANISTIC NURSING AND ART

One of the strongest points of the book is its regard of humanistic nursing as closely related to art. The term "humanistic nursing" implies humaneness. For a nurse, to be humane implies that he/she is capable of better expressing, describing and feeling for the macrocosm and the microcosms who interact in it. Thus, philosophy, literature and art become very effective tools for a nurse in order for him/her to be able to read the world around them, grasp it and interact with it successfully. Nursing, therefore, is an art and science. The authors contend that strict adherence to methodology and technicality lies in science while uniqueness and freedom of expression and style reign in art. They allude to Tarautman's article Nurses as Poets which sheds light on poetry written by nurses who express their emotions as nurses. The current change of perspective in nursing from a purely technical profession to a highly artistic and emotional one marks a change in times as well as a reflection of a change in the nursing practice. It calls for mutuality between nurse and patient on the humanistic level.

The authors conclude the book by proposing that nursing is an art, like teaching. However, it is not an aesthetic art. Nursing is an art in the sense that a nurse should be able to use his/her knowledge in impacting the patient and changing their attitude of themselves, their illness, and life in general.

Additionally, the authors also contend that nursing is art-science. In this respect, nurses get into objective and subjective dialogues in their career and they synthesize knowledge accordingly. Such synthesized knowledge is worthy of being described and shared.

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A NURSING EDUCATION CHALLENGE: SIMULATION CLINICAL EDUCATION IN OBSTETRIC NURSING

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ABSTRACT

Nursing education has undergone many changes as more diverse students enter tradition, accelerated, and graduate nursing programs. Health care policies and legislation have dictated the type of patients that are admitted to health care settings and length of hospitalizations. These factors influence the learning experience for students. Traditionally, students learned by caring for patients in the hospital. This allowed for direct application of theoretical knowledge in real life situations. This was an effective way of learning but we need to be concerned about what situations the students need to foster learning while maintaining patient safety, care, and privacy.

The challenge that nursing education must confront involves providing the foundation for critical thinking and the opportunities to achieve clinical skills and competencies. Exploring effective teaching strategies in the classroom and clinical setting has been greatly enhanced with technology and simulation. In the 1900's, the use of patient simulations emerged in the areas of emergency medicine, intensive care, surgery, trauma, and pediatrics. Patient simulators with sophisticated technology began to offer a way to create dynamic patient situations that mirror actual clinical settings.

Nursing has a need for technology and simulation education. Because nursing is both an art and science, nurses can draw on critical thinking skills to intervene in simulation modules. Nursing education must encourage students to be actively involved in simulation exercises because these opportunities may actually provide situations that students may not observe in the clinical setting. It is important that the education of nurses move forward with technology as we move into the 21st Century.

The objectives of this presentation will be to:

1. Briefly review the historical education of the professional nurse
2. Identify simulation methods in nursing education
3. Understand the role of simulation education in maternal child and pediatric nursing education
4. Assess the advantages of simulation technology in nursing education
5. Identify the role of the nurse educator in simulation technology

The outcome of this presentation will be that simulation technology will be considered a creative learning strategy for nursing education. It will provide students the opportunity to learn clinical skills and critical thinking in clinical situations before they enter the patient care settings.

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PERCEPTION OF BARRIERS OF EVIDENCE BASED PRACTICE AMONG SAUDI NURSES

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ABSTRACT

Evidence based practice is the buzz word these days among nurses. It is the process of which nurses make clinical decisions using the best available research findings, and their clinical expertise.

EBP is essential for the advancement of the nursing professionalism and accountability.

The purpose of this paper is to investigate the barriers and the obstacles that face nurses in Saudi Arabia to utilize evidence nursing practice in their daily activities of nursing practice and patient care in order to improve quality of patient care, and advance their nursing profession. This study will provide recommendations to nursing administrators in order to override these obstacles and improve the quality of care provided by nurses, and reduce cost for the institution.

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SPECTRUM OF DIAGNOSES AND PATHOGENS AMONG IN-PATIENTS IN FIELDHOSPITAL IN MARIAL LOU, SUDAN

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ABSTRACT

Field hospitals in a post war zone of remote areas of Southern Sudan provides basic diagnostics and treatment of life threatening conditions among all age groups of patients. Hospitals serve to patients from a large geographic area. An improvement of accessibility by a road from far places is a key factor to improve a health.

INTRODUCTION

Field hospitals in a post war zone of remote areas of Southern Sudan provides basic diagnostics and treatment of life threatening conditions among all age groups of patients. Hospitals serve to patients from a large geographic area. An improvement of accessibility by a road from far places is a key factor to improve a health.

METHODS

In total 372 patients referred from an out-patient department and clinics in diameter 90 km was admitted to AAA St. Francisco Field Hospital Marial Lou, Warrap, Southern Sudan. We have prospectively analyzed a spectrum of diseases within one month from January to February 2008 in 3 groups – children, adults and pregnancy associated conditions. We have analyzed etiologic infectious agents and antimicrobials available. Laboratory with basic tests was available (blood count, microscopy native and stained samples – Gram, Ziel Nielsen, Giemsa, urine dip test, HCG rapid test, stool microscopy, HIV, HBV, HCV, RRR, blood group) and ultrasound was available. Parenteral drugs, an operation theatre, a simple sterilization, a blood transfusion and a basic oxygen enriching device were available. The general anesthesia was not available. Patients with suspected TB and leprosy were referred to a close specialized center for further diagnostic and treatment during long term hospitalization.

RESULTS

199 patients (53%) were children 153 (77%) under 5 years. Main pediatric diagnoses were severe malaria 132 (66%), lower respiratory tract infection 73 (37%), intestinal parasites 45 (22%), diarrhea with severe dehydration 23 (12%), severe malnutrition – kwashiorkor 17, burns and soft tissue infections 13, meningitis 12, snake and scorpion bites 12, scabies 12, anemia 11, trauma 7 and osteomyelitis 2. One case of whooping cough was treated. No HIV positive child was found within a period. Mortality in group under 5 years was 3% (6) due to neglected cases. 21 pediatric patients were brought in moribund state after they have been treated by local witch doctors. 173 patients were adults, women with complications of pregnancy and puerperium 49 cases (28%). 32 were treated for severe malaria, 11 gunshots or cut wounds, 11 appendicitis, 10 soft tissue infection and abscess, 11 pelvic inflammatory disease, 10 severe pneumonia, 9 cardiac failure, 8 acute urine retention, 8 fractures, 3 open fractures, 4 incarcerated hernia, 3 non incarcerated hernia, 4 malignant tumors, 4 meningitis, 4 osteomyelitis, 4 severe malnutrition, 3 septic arthritis, 3 poly-trauma due to road accident, 3 nephropathy, 3 burns, 3 snake and

scorpion bites, 2 AIDS, 2 hepa- topatia with ascites, 1 case of panophthalmitis, 1 case of elephantiasis . 5 cases of TB and 1 case of leprosy were referred. 7 patients died due to health conditions, limited resources available and delayment of treatment. Pregnant women - 11 had vaginal delivery. Main complications of pregnancy, labor and puer perium - 12 caesarean sections - 3 cephalopelvic disproportion, 3 prolonged labor, 2 gemini, 1 eclampsia, 1 placenta praevia, 1 intrauterine asfyxia and 1 preeclampsia with antepartal bleeding due to placental abruption. 4 women were treated for premature labor, 5 pregnant had severe malaria, and 1 had severe pneumonia. 7 curettage due to incomplete abortion, 2 of them septic, 1 ectopic pregnancy, 3 cases of postpartum pelvic infection, 3 cases of puerperal breast abscess, 1 placenta retention, 2 severe anemia. No women died, 4 stillbirths, one newborn died due to severe prematurity. Main pathogens among inpatients were Plasmodium falciparum 145 cases, Pl. ovale 2, Staphylococci 7, Streptococci 6, N. meningitis 3, N. gonorrhoe 4, Trichomonas vaginalis 7, Candida 6, Mycobacterium tuberculosis 2, HIV 2, HBV 3, HCV 1 and 7 RRR tests were positive. Intestina parasites – Entamoeba histiolytica 10, Giardia intestinalis 7, Ancylostoma duodenale 6, Ascaris lumbricoides 6, Tenia saginata 2, Enterobius vermicularis 1. Filarioses – Dracunculus medinensis 1. Antimicrobial generic drugs available – parenteral – quinin, artemeter, chloramphenicol, cefriaxon, gentamycin, ampicilin, cristalin penicilin G, benzatin penicilin G, cloxacilin, metronidazol, peroral druha artemeter/lumefantrin, quinin, chloroquin, mefloquin, fansidar, cotrimoxazol, amoxicilin, cloxacilin, chloramphenicol, azitromycin, amoxicilin/calavulanat, erytromycin, tetracyclin, ciprofloxacin, norfloxacin, metronidazol, fluconazol, ketoconazol, mebendazol, albendazol, acyclovir.

CONCLUSION

Hospital care in remote areas can save most of lives in cases, which are not possible manager in the outpatient departement. Key factors are presence of multidisciplinary medical team, trained nursing personnel, operation theatre, simple laboratory and possibility of blood transfusion. The accessibility of the hospital care can be improved by building of roads and by a distribution of bicycles to community health workers. An education of community health workers to recognize life threatening conditions helps people to ovoid risky visit at a traditional witch healer. It saves prescious time and lives in hospitals can be saved better.

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TRACK
SOCIAL JUSTICE
AND
SUSTAINABILITY

THE INFLUENCE OF ACADEMIC ORGANIZATIONAL CLIMATE ON NURSING FACULTIES COMMITMENT IN SAUDI ARABIA

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ABSTRACT

Higher education in the Kingdom of Saudi Arabia was established to enhance the nation's growth and well-being of Saudis. The nurse faculty in Saudi university and college settings have mission. Typically this mission covers teaching, research, and community service. The interaction of these factors may influence the climate of the academic setting and has impact on the organizational commitment of faculty. The purpose of this study is to examine how dimensions of organizational commitment is influenced by organizational climate and nurse faculty work role in nursing academic settings in Saudi Arabia.

Method: this study non-experimental descriptive crosssectional correlational was conducted. Three oldest and largest universities under The Ministry of Higher Education responsibility were selected. Full-time nurse faculties employed in the selected universities were recruited to participate in the study.

Instrument: The Meyer and Allen Organizational Commitment Instrument (1993) and the Organizational Climate Description Questionnaire- Higher Education (partial) (Borrevik, 1972) were used for data collection. In addition, the Nursing Academic Index Form, which was develop by the researcher to collect the faculty characteristics and to measure work role. Self-reported survey procedures were used to collect the study data. Descriptive procedures, Pearson's product-moment correlation coefficients were used in this study.

Results: The mean age of nursing faculty is 36.86years and the majority is non Saudi. The results revealed that the high mean score of nursing faculty commitment was normative commitment followed by continuance commitment then affective commitment. In addition the results showed that the intimacy was reflect lowest mean score. Organizational climate of consideration, intimacy, and production emphasis were significantly related to all dimensions of organizational commitment affective, continuance, and normative organizational commitment.

Discussion and recommendations: With caution to the assumption regarding commitment impact on performance, this result designated that the nursing faculty commitment is obligation base and they *have to* do so but their commitment is not desire based and they *want to*. These findings have implications for the recruitment and retention of nurse faculty. Efforts should be made by university deans to match institutional and individual goals, and open discussions should take place between administrators and faculty about role expectations, criteria for permanent status and promotion, and other institutional rewards.

BACKGROUND

Higher education in the Kingdom of Saudi Arabia was established to enhance the nation's growth and well-being of Saudis. For instants, the mission of oldest university, King Saud University is to provide students with a quality education, conduct valuable research, serve the national and international societies and contribute to Saudi Arabia's knowledge economy through learning, creativity, the use of current and developing technologies and effective international partnership (KSU, 2009). The mission statement of the nursing faculty in Saudi universities and colleges encompasses three folds: teaching, research, and community service.

Nowadays, academic settings have placed emphasis on reputation, image, and the pursuit for research level status. Because of the need to sustain a significant link between faculty work and the discipline of nursing, nurse faculty are required to prioritize their work role to meet these changes. Whereby, the organizational climate is changing through its practices and member behavior and attitudes. It has been shown that a link exists between

organizational climate and factors such as motivation, productivity, and satisfaction. Any multi-factor combination can either emphasize or deteriorate organizational commitment. Borrevik's (1972) published work divides organizational climate into four interlinked categories. The first is consideration, where the leadership role creates a supportive working environment. The second is intimacy, where social fulfillment is not required for task achievement. The third is disengagement, where a closed climate is created through task division among faculty. The fourth is production, where micromanagement style of leadership is practiced. The interaction of these factors may influence the climate of the academic setting and affect the organizational commitment of faculty.

A study done by Liou and Cheng (2010) showed that Taiwanese nurses were satisfied with their associated hospital organizational climate. On the other hand, their commitment to their respectful hospitals was low with a low intention for turnover. The marital status of the nurses has some affect of the level of satisfaction. Generally, single nurses were more satisfied; they had higher commitment to their employer and lower intention to leave in comparison to married nurses. The overall result of the study showed that a well fitted organizational climate that addresses employee needs will increase commitment and decrease turnover.

Gormley and Kennerly (2010) explored how commitment is influenced by organizational climate and faculty work role in an educational setting. The study used Meyer and Allen's Multidimensional Model of Organizational Commitment. The study yielded a significant difference between work role, unclear role, conflict and organizational climate. A negative relationship was discovered between affective and continuance organizational commitment and unclear role and conflict.

Meyer and Allen (1993) defined organizational commitment as a multidimensional psychological circumstances that characterizes the person's connection with the organization and had implications for the decision to remain involved in the organization and are distinguishable components of commitment. In addition, affective, continuance, and normative commitments have effects on predicted outcomes. The employee's emotional connection and involvement in the organization refers to affective commitment and continuance commitment refers to an awareness of the employees costs associated with leaving the organization. As a result, the employees sense of responsibility to the organization which reflect normative commitment (Meyer, Stanley, Herscovitch, & Topolnytsky, 2002).

Allen and Meyer's 1990's work showed a positive relationship between commitment and work experience in comfort promotion and personal competence. Meyer and Allen (2001) study reveals a positive correlation between affective commitment and supervisory ratings and a negative correlation between continuance commitment and supervisory ratings. A study done by Hinshaw (2001) showed those nurse faculties are 45 percent dissatisfied with their work role. The number one reason provided for leaving their position was the lack of motivating factors in the workload. Thornton (1970) published work explored the relationship between organizational involvement and commitment to an educational facility. He found that the level of faculty influences the level of commitment observed in both work role and facility.

In Saudi Arabia, few researches explored organizational climate and their effect on organizational commitment to the academic setting.

Purpose

This study is to examine how dimensions of organizational commitment is influenced by organizational climate and nurse faculty work role in nursing academic settings in Saudi Arabia. Mainly this study will focus on the following objectives

1. To assess the demographical characteristics of nursing faculty in Saudi Arabia.
2. To describe faculty nursing work role, nursing organizational climate, and organizational commitment.
3. To examine the relationships among study variables that is dimensions of organizational commitment and organizational climate

METHODOLOGY AND METHODS

The design of this study is non-experimental descriptive cross-sectional correlation. Three oldest and largest universities under the Ministry of Higher Education responsibility were selected. Full-time nurse faculties

with professional rank rang from full Professor to clinical specialist and hold academic degree rang from PhD degree to bachelor degree in nursing employed in the chosen universities were recruited to participate in the study.

Instrument

Four questionnaires sent to nursing faculty were: (1) The Meyer and Allen Organizational Commitment Instrument (1993) (2) the Organizational Climate Description Questionnaire- Higher Education (OCDQ-HE) (Borrevik, 1972) (3) the Nursing Academic Index questionnaire, and (4) a demographic questionnaire. Approximately 15 to 20 minutes were needed to complete questionnaires.

The Meyer and Allen Organizational Commitment Instrument (1993) consist of 18 items seven-point Likert scale. These statements (items) pertaining to employees' awareness of their relationship with the organization and their reasons for staying. After faculty reading each item, they show the strength of their agreement by selecting a number from 1 (strongly disagree) to 7 (strongly agree). There are six statements for each scale for each the three commitments scales: affective commitment scale (ACS), continuance commitment scale (CCS), and normative commitment scale (NCS) (Powell & Meyer, 2004). Reverse-keyed statements in the scale were recoded (i.e., 1 = 7, 2 = 6, 7 = 1) before scoring. The scores should range in value from 1 to 7 with higher scores indicating stronger commitment. In this study, Cronbach's alpha reliability coefficients for AC, CCS, and NCS subscale were 0.61, 0.73, and 0.77 respectively. Permission was granted by John Meyer to use the commitment scales for purposes of this study.

The 42-item form of the OCDQ-HE contains four subsets addressing the climate domains. The total possible organizational climate score is 42 to 210. Items 4, 5, 10, 19, 20, 21, 24, 25, 28, 34, 35, and 40 measured Consideration. Consideration subscale scores could range from 12 to 60. Items 8, 16, 18, 23, 26, 27, 36, 38 and 41 measured Intimacy. Intimacy subscale scores could range from 9 to 45. Items 3, 6, 7, 12, 17, 22, 29, 30, 33, 37, and 42 were Disengagement items. Disengagement subscale scores could be from 11 to 55. Items 1, 15, 14, 13, 11, 9, 2, 32, 31 and 39 measured Production Emphasis. This subscale score could range from 10 to 50. in the current study, Cronbach's alphas for the climate domains were 0.84 for consideration, 0.75 for intimacy, 0.70 for disengagement, and 0.77 for production emphasis. Nursing faculty members used a five-point Likert scale to rate the extent which the survey items occurred in their academic department (1 = Almost Never, 5 = Always). Means were calculated for each climate domain on survey.

In addition, the Nursing Academic Index and a demographic questionnaire were developed by researcher to collect information on faculty members. The index elicited the percentage of work role and time actually devoted to teaching, research, and community service. The faculty demographic form was developed to measure characteristics of participants such as age, gender, nationality, highest degree earned, academic rank, and years employed in baccalaureate nursing education.

Procedures

Self-reported survey procedures were used to collect the study data. Faculty was contacted upon receipt of the college's agreement to participate. Study participants received data collection packets. Each packet contained (1) a cover letter that explained the study purpose and procedure and outlined participants' rights and confidentiality; (2) a set of self-administered questionnaire. Data was collected on site. There was no identifying information on any of the data collection forms.

Data analysis

Data were managed and analyzed with SPSS 14.0 (SPSS Inc., Chicago, IL, USA). Descriptive analyses were used to examine demographic information and level of measured variables. Pearson's product-moment correlation coefficients were used in this study. An alpha level of .05 was the criterion level of significance for this study and .01 levels were reported as well.

RESULTS

For the present study, there was a response rate of 60%, in that, 120 questionnaires were distributed and 72 of them were returned. Table 1 presents the mean age of nursing faculty is 36.86 years with Std. Deviation 10.57 and

the majority are international expatriates 62.5%. Gender dominated as usual is female with 89% and only 44% earned Ph. D degree with mean of year of experience is 5.97years with Std. Deviation 5.64.

Table 1: Demographics Data of faculty members (N= 72)

Demographics Data		Frequency	Percent
Age Group	23-32	32	44.4
	33-42	17	23.6
	43 +	23	31.9
Mean Age	36.61	Std. Deviation	10.475
Nationality	Saudi	27	37.5
	Non Saudi	45	62.5
Gender	Male	8	11.1
	Female	64	88.9
Academic Degree	PhD	32	44.4
	Master	18	25.0
	Bsc	22	30.6
Professional Rank	Professor	1	1.4
	Assoc. Prof.	10	13.9
	Assist. Prof.	21	29.2
	Lecturer	18	25.0
	Clinical Specialist	22	30.6
Years of Experience	0-5	43	59.7
	6-10	16	22.2
	11+	13	18.1
Mean Years of Experience		5.97	Std. Deviation 5.64

The times that are devoted to faculties work role in percent presented in table 2. Unfortunately, the majority of nurse faculties 64% were never conducting research since they employed in the current organization. This is reflected in number of publications per faculty. Around 64% of nursing faculty, never published. In addition, 57% of faculty never participating in community services while, 49% spent 100% of their time in teaching.

Table 2. The percentage of time devoted to faculty work role: research, community service, teaching and number of publication (N=72)

		Frequency	Percent
Research	0%	46	63
	5% to 50%	26	36
Community Services	0%	41	57
	5% to 40%	31	43
Teaching	100%	35	48.6
	25% to 90%	37	51.4
Number of Publications	0	46	64
	1-8	18	25

	9+	8	11
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The results in Table 3 reveal that the highest mean score of nursing faculty commitment was normative commitment ($28.42 \pm DS 6.0$) followed by continuance commitment ($26.75 \pm DS 6.6$) then the affective commitment was reflected the lowest mean score ($23.73 \pm DS 5.7$). In addition, the table shows that many nurse faculties are experiencing considerations in the academic organizational climate with the highest mean score was ($42.18 \pm DS 9.4$). The intimacy was reflected the lowest mean score ($28.60 \pm DS 6.0$). However, the nurse faculties are experiencing disengagement and production emphasis with the mean score ($33.58 \pm DS 6.6$) and ($33.56 \pm DS 6.9$) respectively.

Table 3. Descriptive Statistics of Commitment domains and Organizational climate domains

Commitment domains	Mean	Std. Deviation
Affective Commitment	23.7361	5.76046
Continuance Commitment	26.7500	6.68981
Normative Commitment	28.4167	6.09260
Organizational climate domains		
Consideration	42.18	9.441
Intimacy	28.60	6.065
Disengagement	33.58	6.643
Production Emphasis	33.56	6.948

Statistically significant relationships between organizational climate domains and organizational commitment at level .05 and .01 were found. Disengagement correlated to the affective commitment ($r = 0.31, p < .01$) and normative commitment ($r = 0.25, p < .05$). The correlation was seen between the production emphasis and normative commitment ($r = 0.29, p < .05$), while the continuance commitment correlated to production emphasis ($r = 0.25, p < .05$). All dimensions of organizational climate were found significantly correlated to each at level $p < .01$. Unexpectedly affective commitment was not correlated to any commitment domains. (Table 5).

Table 5. Correlations between organizational climate domains and organizational commitment domains

	Consideration	Intimacy	Disengagement	Production	Affective	Continuance	Normative
Consideration	1	0.594**	0.373**	0.627**	.001	.079	0.144
		.000	.001	.000	0.994	0.508	0.227
Intimacy		1	0.313**	0.592**	.070	.052	0.185
			.007	.000	0.559	0.662	0.119
Disengagement			1	0.520**	0.314**	0.128	0.252*
				.000	.007	0.283	.033
Production Emphasis				1	.097	0.255*	0.295*
					0.418	.030	.012
Affective					1	0.405**	0.156
						.000	0.190
Continuance						1	0.432**
							.000

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

DISCUSSION

With caution to hypothesis that commitment impact on performance, this result designated that the nursing faculty commitment is the obligation (normative commitment) base and they *have to* do so but their commitment is not desire (affective commitment) based and they *want to*.

Continuance commitment is established when an individual is faced with the loss of perceived investment and the only alternative available is to pursue a specific course of action. On the other hand, normative commitment is established through socialization, it is evident when an individual receives benefits and needs to reciprocate of this social contract (Herscovitch, & Meyer, 2002).

In Meyer and Allen (2001) published work shows that individuals that received high scores of affective commitment tended to have higher performance levels. This shows the direct relationship between score obtained and performance levels. The discrepancy in the results can be attributed to difference in sample characteristic and demographics. Saudi citizens might place focus on desire to achieve and excel differently than other population due to cultural or environmental factors. In contract, employees who experience a required need to maintain their employment and cannot afford to lose their job have little incentive to go beyond what their job description states.

The academic field of nursing in Saudi Arabia is diverse; the workforce is dominated by international expatriates. Based on this composition, the development of affective continuance and normative commitment maybe greatly affected. Affective commitment development needs to be altered to address the new desires and relevance of the international workforce (Meyer & Herscovitch 2001).

In addition, Zakari, Al Khamis, and Hamadi (2010) studied conflict and professionalism perception among nurses. Their findings pointed to a low perception among the participating nurses regarding their professionalism, which includes the personal interest in the nursing profession. They conclude that to the personal background of the nurses, which includes the personal interest in the nursing profession, as well as the family's, societies and the consumers' views of the profession may have impact on their commitment. Suggestion for more systematic primary research concerning cultural differences in professionalism and commitment is warranted (Bentein, Stinglhamber, & Vandenberghe, 2002; Bhuian, Al-Shammari, & Jefri, 2001).

The study results show that members of the faculty workforce have a different perception of what their role is than their colleagues and/or college dean. Faculty members experience deliberation, disengagement, and lack of intimacy in the academic sitting. The faculty members' educational background ranges from college graduate to master graduate. The reasons for this finding may be attributed to the imbalance in faculty role; this affected the deliberation relationship among faculty and negatively affected the enjoyment of a social environment. Gormley and Kennerly's (2010) study supports the findings of fractionalization that faculty members experience amongst each other; this disengagement decreases work productivity, facilities welfare and increases ambiguity of role. Role ambiguity may increases as nurse faculty focus on one role rather than the other. It is important to implement balance between teachings, research, and community services as described in Hinshaw (2010) Miller and Anderson (2004) studies. Furthermore, the creation of a bridge between official and unofficial roles of faculty members can aid in restoring this balance.

The study shows that normative commitment is significantly related to disengagement and production emphasis, while affective commitment is significantly related to disengagement only. Affective and normative commitment are likely to be required to ensure a willingness to work cooperatively with others and exert extra effort to achieve the objectives of the organization (Chen, & Francesco, 2003; Wasti, (2005; Wasti, 2003).

There is a need to improve the higher education climate in Saudi Arabia. Consequently, King Saud University (KSU) developed specific initiatives to promote academic climate to excel in all teaching and research fields. Furthermore, KSU established deanship of skills that aids in the development of faculty, lecturers, and

teaching assistants skills to reach teaching excellence (KSU 2009). Moreover, focusing on efficiency, flexibility and productivity is important to achieve this objective.

CONCLUSION AND RECOMMENDATIONS

Overall, organizational climate is an important area of research; it provides evidence of the relationship between different organizational factors. Organizational climate is a vital part of organizational development of a college, and had been linked to motivation and behavior of faculty (Christmas & Hart 2007). It is important to understand how organizational commitment affect nursing faculty. The current nursing faculty shortage in Saudi Arabia is evident as the number of nursing collages increase. This will create an increase the workload of full time nursing faculty According to Kaufman (2007), the average weekly workload of nurse educators has increased to 56-hour.

The results of this study have important implications in recruitment and retention of nurse faculty through the development of effective strategies that addresses both affective and normative commitment. For example, commitment can be improved through proper places socialization of faculty. The deans of the universities should be able to better match faculty goals and institutions. This can be done through interactive dialogue between both parties.

Furthermore, other aspects of this study that yields questions that can be answered by future research. First, additional research can examine the difference in commitment components that interlink with higher education behavior over an extended time. Second, research can examine how these commitment components changes based on employee-relevancy and how it affects quality of work role.

Limitations

Findings from the current study offer an initial step to exploring organizational climate, organizational commitment, and nurse faculty role in Saudi academic setting. However, generalisability of the study's findings is limited because of the sampling method, which was based on responses from nurses working in three universities in Saudi Arabia.

To increase the power of generalisability of results, it is recommended that future investigations include nurses working in other universities government and private. Additional limitation in this study was the use of a cross-sectional design. A one-time measure does not permit testing causal effects relationship.

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GOING GREEN: ARE THERE BENEFITS BEYOND THE BOTTOM LINE?

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ABSTRACT

Minimizing waste. Recycling materials. Using and re-using green products. In a world where supplies are limited and reimbursement methods are in a state of constant – and oftentimes downward – flux, the healthcare industry is taking important strides toward creating more sustainable environments. By “going green,” organizations across the United States are not only bettering the environment but they are helping their bottom lines as well. In addition, promoting these eco-friendly practices often holds positive appeal for those consumers interested in companies actively working to reduce their carbon footprint. The purpose of this paper is to evaluate some of the sustainable methods currently being tried and used in the healthcare world and the effects these practices have on both the organization and the environment.

“Going green” is a popular and oft-used phrase in society today. As used in this paper it refers to the process of changing standard business practices for the safety and benefit of the environment. Healthcare organizations that “go green” are considering what impact their everyday business practices may have on global warming, pollution, loss of natural habitats, and other environmental concerns. At the same time, organizations are faced with limited and sometimes shrinking resources, particularly in this current state of economic uncertainty and are doing all that they can to better their bottom lines. Although unique in a number of ways, healthcare entities are not at all exempt from these economic challenges. One of the ways in which businesses are looking to save money is by re-evaluating their existing practices and moving toward more sustainable methods. Rising costs coupled with tightfisted reimbursement policies leave healthcare organizations scrambling to keep expenses down without sacrificing patient safety and satisfaction. Increasingly, the healthcare industry is making significant strides toward creating more sustainable environments. By “going green,” healthcare organizations across the United States are not only bettering the environment but they are helping their bottom lines as well. Particularly in the healthcare sector, promoting these steps can serve as an attraction for consumers interested in companies concerned with reducing their carbon footprint.

The purpose of this paper is to examine some of the ways in which healthcare organizations are going green, how these methods are improving the environment and the organization’s bottom line, and the impact this has on consumers’ perceptions. One of the first steps in completing this examination is to determine exactly what it means to “go green” by defining sustainability and looking at practices commonly considered “green” efforts. The next step looks at which of these methods are being utilized in the healthcare world and how these practices affect the bottom lines of organizations. Finally, this review concludes by looking at the effects, if indeed there are any, that going green has on consumers’ preferences in selecting a healthcare organization.

DEFINING GREEN

Sustainability and green are common buzz words in the world today. But what exactly does it mean for an organization to have sustainable practices or to be green? Simply put, going green means utilizing environmentally friendly practices. Recycling materials as opposed to disposing of them in a landfill, using cleaning products that do not contain harsh chemicals, eliminating the use of products that include excess packaging, choosing and operating energy efficient machines, and reducing waste by creating less waste are key ways that organizations can go green.

GREENING HEALTHCARE TECHNIQUES

Some of the commonly mentioned suggestions for going green in healthcare involve the industry’s cleaning systems, food services, waste management, and use of energy efficient products. Cleaning products that are eco-

friendly eliminate the use of harsh chemicals that adversely affect the environment by polluting the air or contaminating groundwater. A seemingly simple way to go green, then, is to switch the current cleaning supplies with eco-friendly ones. One such case that makes clear the benefits of switching to eco-friendly cleaners was a project done in Santa Clara County, CA. As per the organization Sterlinggreen, this project "...worked with 47 maintenance contract organizations employing 6,800 janitors and custodians. Each year these workers use[d] chemical products that contained 400,000 pounds of hazardous materials. The project found that by changing to safer chemicals, using fewer products, and utilizing other techniques, the amount of hazardous materials could be reduced by 131,000 pounds per year" (ECO-Friendly Cleaners, 2010).

Food service is another sector often singled out in the sustainable movement. Eliminating use of Styrofoam packaging, recycling leftovers, and utilizing local farmers are all ways to ultimately improve the environment. Replacing Styrofoam disposable cups with reusable materials drastically eliminates waste and instantly benefits the environment. According to the Earth Resource Foundation, Styrofoam's basic component, Styrene, has been linked to numerous health risks because of its chemical composition (which poses a greater chance of harm when food and/or drink are stored for extended periods of time) and makes disposal hazardous, as chemicals leak from the product in the landfills (Earth Resource Foundation, 2010).

Recycling materials from the food services – e.g., coffee grounds – can have double benefits. Not only does recycling this material reduce the amount of waste going to a landfill, this seemingly useless waste can actually be reclaimed and reprocessed. According to Green Living Tip – a resource for green practices – coffee grounds can be recycled and reused in many products such as plant fertilizer, odor absorbers, nutrient enrichment for compost piles, and wood stain. Other garbage can have similar 'second lives' (Bloch, 2010).

Building relationships with local food producers is beneficial for a number of reasons. Reducing the distance food has to travel from Point A to Point B reduces carbon emission from transportation vehicles, increases the freshness of the food served and eliminates the need for harsh chemicals that normally are used to preserve and prevent food from spoiling. Additionally, buying locally supports the local economy, making the healthcare system a true partner in the community. This side benefit of "going green" should not be discounted. It not only ingratiates the healthcare organization with the local populous, it entices local industries to become stronger supporters of the healthcare network.

Utilizing energy efficient products can be as simple as replacing incandescent light bulbs with compact fluorescent light bulbs to implementing a paperless electronic medical records system and eliminating the reams of paper filed and discarded daily. Compact fluorescent light bulbs use about 75% less energy than regular incandescent light bulbs and also last around 10 times as long. According to Energy Star, using one CFL bulb can save about \$40 in electric costs during the life of the bulb (U.S. Department of Energy, 2010). Imagine the vast savings that would come using hundreds of these bulbs throughout the organization.

There are larger steps that organizations can take to increase efficiency and reduce waste. Utilizing Electronic Medical Records (EMRs) eliminates paper files and condenses the necessary patient and healthcare information to computer format. Although implementation costs for such programs are high, the benefits of using EMRs are tremendous. In one study published in the *Health Affairs* in September/October 2005, Richard Hillestad, James Bigelow, Anthony Bower and Frederico Girosi estimated that "the potential HIT-enabled efficiency savings for both inpatient and outpatient care could average more than \$77 billion per year."

GOING GREEN, SAVING GREEN

Many organizations have already chosen to go the "green way" and have reaped substantial benefits by moving toward a more sustainable environment. Laura Kinney's article, "Environmental Sustainability in Healthcare," published in *The Journal for Quality and Participation*, focuses on one such entity that began its efforts to reduce its carbon footprint several years ago and has already seen success. MultiCare Health System has eliminated the use of Styrofoam packaging in food services, implemented green products in its cleaning systems, recycled coffee grounds, reached out to vendors for sustainable suggestions, created relationships with local produce farmers, and implemented mixed recycling (Kinney, 2010, p. 24). After initially assessing the volume of its waste – garbage, medical waste, and recycling – MultiCare Health System revamped its practices and has saved well over \$114,000 since 2008. (Kinney, 2010, p. 24) MultiCare Health System has also become a member of Practice

Greenhealth – a not-for-profit entity that, through its membership, works with healthcare organizations to move toward a greener environment. Practice Greenhealth educates facilities on various aspects of “going green” and promotes more sustainable ways to live, operate and thrive.

Likewise, Boulder Community Hospital has made significant strides toward a greener way of life. According to Anna Gilmore Hall in “Greening Healthcare: 21st Century and Beyond,” Boulder Community Hospital has implemented new waste management strategies and, since 2000, has reduced its amount of waste by about 500,000 pounds per year. This substantive reduction has prevented over three million pounds of waste from ending up in landfills. (Hall, 2008, p. 39) Hall’s article also highlighted St. Mary’s Hospital Medical Center which has increased its recycling rate to 40 percent from 31.5 percent since 2007 through conducting a waste assessment. (Hall, 2008, p. 39) These changes in waste management not only have a critical effect on the environment (by eliminating the overall amount of garbage going to landfills) but also impact the bottom lines of the institutions by cutting down on the number of times waste pick-up must be done.

Yet another example of a healthcare institution going green to save green is Thomas Jefferson University Hospital. As of January 2011, 35 percent of the electricity used throughout their facilities comes from wind sources. Utilizing wind energy cuts back on pollution and significantly reduces the amount of carbon dioxide being released in the air. Thomas Jefferson University Hospital has, to date, implemented \$6.9 million in energy-saving projects. Moving to more eco-friendly energy sources will save the organization approximately \$1.77 million every year (Thomas Jefferson University Hospitals, 2010).

IMPACT ON CONSUMERS

With the growing use of the Internet as a means to get information about anything and everything, today’s consumers are more informed about their healthcare needs, more aware of their healthcare choices and more involved with their healthcare decisions than ever before. Not only can people read about the types of physicians practicing and the different procedures offered at various healthcare institutions, but they can now also familiarize themselves with the organization’s mission, vision, and values before ever stepping foot into the physical facility. Within the information posted on a healthcare system’s website, consumers can learn, almost in real time, about what is happening in that healthcare institution – i.e. new methods that may be moving the organization to a more sustainable environment. This information can attract patients with eco-friendly preferences to the facilities committed to reducing their carbon footprints.

The question remains, “Does it?” Have hospitals and healthcare systems that have gone green actually seen a difference in their client base? Has becoming more responsible “citizens” in their communities made a difference to consumers? Are increasing numbers selecting a green facility over one that has not taken up the environmental call?

One organization that has invested in going green and has experienced a positive patient reaction is Main Line Health – a healthcare system located in Philadelphia, PA. According to their SVP Facilities, Design and Construction and the senior marketing leader, making strides to be more environmentally friendly has been helpful in attracting more patients. “Patients who are well want to stay well and patients who are sick want to get better and both want to do this in a facility that promotes healing and wellness... patients and their families also want to know that the care is provided in a patient friendly environment” (G. Benjamin, personal communication, December 2, 2010).

Other facilities in similar geographic locations, however, have elicited different reactions to going green. According to Garry Scheib, Chief Operating Officer of the University of Pennsylvania Health System, “We do not believe that our green designation has resulted in any additional patients.” Although Mr. Scheib noted that UPHS has not made green efforts a significant part of marketing, he also shared that, “The types of high intensive services we provide are for the most critical conditions and patients tend to look for the best doctors and outcomes to the exclusion of most other factors” (G. Scheib, personal communication, November 17, 2010).

The environmental benefits of going green are obvious – fewer landfills and cleaner air are natural and welcomed outcomes of reducing waste and promoting energy efficient practices. And such reputable institutions as Thomas Jefferson University Hospital have already documented the financial benefits that can be reaped. Still, it

must be acknowledged that the benefits of marketing environmentally sound practices remain unclear. While Philadelphia's Main Line Health asserts that its eco-friendly practices have attracted more patients, the cause-effect relationship is difficult to confirm. Whether an organization chooses to promote its green status in an effort to attract patients or not, going green is a trend in healthcare that is certain to be around for the foreseeable future. The financial and environmental benefits of going green have been researched and made evident. The benefit of marketing environmentally sound practices, however, remains a topic ripe for additional empirical research.

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LIMITATIONS OF HEALTH MANAGEMENT IN DISASTER SETTINGS

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ABSTRACT

Infectious diseases outbreaks are common accompanying event of every disaster setting, mainly in developing countries with substandard global and health care infrastructure. Classic examples are outbreaks of bacterial gangrene in victims of Ban Sichuan and Marmara earthquakes (Iran, China, Turkey), malaria and leptospirosis after tsunami in Indonesia/Sri Lanka, cholera outbreak after earthquakes in Haiti, Ebola and Yellow fever due to ethnic and tribal unrests in Uganda, DR Congo, South Sudan, and another cholera epidemic in Goma (Rwanda genocide). Effective intervention is unknown despite of preparedness plans and stockpiling within global armed alliances (e.g. US army, NATO armed forces) due to limitations of their use due to acute and unpredictable event (e.g. earthquake, tsunami) or political situation (e.g. typhoon in Myanmar, civil war in Darfur and South Sudan), unstable transport infrastructure and disorganised human resources for rescue operations. The largest enemy of success in catastrophic medicine is time, and emerging infectious diseases are related in 2nd wave of casualties on 1st place among catastrophe related mortality.

INTRODUCTION

Catastrophic medicine is unfortunately a real part of global health and social care management in last years. Infectious diseases outbreaks are common accompanying event of every disaster setting, mainly in developing countries with substandard global and health care infrastructure. Classic examples are outbreaks of bacterial gangrene in victims of Ban Sickman and Marmara earthquakes (Iran, China, Turkey), malaria and leptospirosis after tsunami in Indonesia/Sri Lanka, cholera outbreak after earthquakes in Haiti, Ebola and Yellow fever due to ethnic and tribal unrests in Uganda, DR Congo, South Sudan, and another cholera epidemic in Ghana (Rwanda genocide).

Effective intervention is unknown despite of preparedness plans and stockpiling within global armed alliances (e.g. US army, NATO armed forces) due to limitations of their use due to acute and unpredictable event (e.g. earthquake, tsunami) or political situation (e.g. typhoon in Myanmar, civil war in Darfur and South Sudan), unstable transport infrastructure and disorganised human resources for rescue operations (1-4). The largest enemy of success in catastrophic medicine is time, and emerging infectious diseases are related in 2nd wave of casualties on 1st place among catastrophe related mortality.

HEALTH AND SOCIAL WORK MANAGEMENT IN ACUTE AND CHRONIC PHASE

Acute disaster phase – 1st phase of acute trauma and panic related mortality

During the acute phase (minutes and hours, max 24 hours) most of casualties are related to acute trauma, crush syndrome, blast syndrome. Infections follows trauma as infected wound and burns during earthquakes, punctual wounds, drowning in contaminated (or sewage) water, open fractures infected with mud or contaminated water (tsunami, hurricanes). Wound infections and infected burns are commonest infectious diseases during first phase and without treatment patients die on septic shock in 24 -72 hours.

Panic, chaos and psychotrauma are accompanying the acute phase as well, requiring apart of surgery and antibiotic and antishock remedial treatment also psychosocial/psychiatric support.

Postacute disaster phase – 2nd phase of epidemic infectious diseases related morbidity and mortality

In second phase (days to weeks), majority of casualties are caused by infection related to internal (floods, hurricanes, quakes) or external (civil war, genocide, war conflicts) displacement, crowding, lack of infrastructure, housing, food, water. Diarrhoeal disease including cholera and respiratory tract infections (pneumonia) may be responsible for majority of infectious diseases related deaths, without proper water purification system and water supply/food supply.

Chronic phase – individual, infrastructure and country associated rehabilitation

Rehabilitation of infrastructure (roads, airports, hospitals, housing), water and gas, electricity lines to secure transport of food, water, medicine, human resources and humanitarian aid in next months to years is mandatory. Without this country and infrastructure rehabilitation, population is threatened with sporadic outbreaks of water/food related infectious diseases such as hepatitis B, leptospirosis, cholera, typhoid fever etc.

CONCLUSION

In conclusion, intervention of rescuers other trained health personnel, medical doctors, nurses etc. in acute and post acute phase and after that constructors, water and electric engineering and constructing specialists and managers when adequate resources have been allocated by international community (UN, WB, EU) are of great need.

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HEALTH CARE FOR MARGINALIZED POPULATIONS

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ABSTRACT

Marginalization is old phenomenon however emerging last 3-5 years due to global economic crisis. In developed countries both social and ethnic marginalization has been observed psychosocial and socioeconomic (homelessness, nursing for elderly, hospices, ethnic minorities-Roms etc.). In developing countries more social marginalization due to poverty and global tropical diseases is observed (orphanages, malnutrition, street children, parents with AIDS and TB not receiving any treatment etc.)

INTRODUCTION

1. Number of patients in marginalized population in last 3 years of global economy crisis increased both in developed and developing countries, in EU as well in USA. Less affected are middle income countries (China, India) as well as western Pacific economic area (Japan, Korea, Taiwan). In developed countries both social and ethnic marginalization has been observed psychosocial and socioeconomic (homelessness, nursing for elderly, hospices, ethnic minorities-Roms etc.). In developing countries more social marginalization due to poverty and global tropical diseases is observed (orphanages, malnutrition, street children, parents with AIDS and TB not receiving any treatment etc.) (1-6)

2. Marginalization in developed countries-elderly, homelessness, terminally ill, Roma. Even in developed and high income countries with GNP > 10 000 USD/year/individual due to global economic crisis, marginalization exists mainly in 2.1 elderly and individuals with terminal civilization diseases (cancer, cardiovascular, vascular) isolated in hospices and nursing homes. Marginalization is not economic, but psychosocial. Most marginalized patients in hospitals and nursing homes does not suffer economically but due to terminal illness or age related disability and are psychosocially marginalized from their relatives, who are not alive or just too occupied with busy life style to take care about them. This marginalization is not due to lack of resources but lack of time and love. Second marginalization is due to poverty. In acute poverty classical example is homelessness. Poverty is seen as a result of racial or ethnic marginalization due to the race or ethnicity in EU Roms. Level of employment and education as well as living standard in Roms is much lower in comparison to non Roma population. The reasons are psycho cultural barriers and male education and less democratic traditions in some CEE countries (Czechoslovakia, Romania, Serbia etc.) The ethnic minority is treated, employed and integrated without any major problems in Scandinavia, UK and Ireland since they are considered as citizens from commonwealth countries, where were originally historically coming from (Palestine, India, Sri Lanka etc.)

3. Marginalization in developing countries – orphans, street children's, tropical diseases. In developing countries, marginalization has more clear features and is related apart of ethic rational and religion reasons to poverty. Typical examples of marginalization due to inequity access to economic sources are street children in large cities in Africa, SE Asia and Latin America and those who lost their parents (orphans) due to AIDS/TB pandemic. Another large group of marginalized population is chronically ill patients with no access to life saving drugs. Only 10% of HIV infected mothers have access to MTCTP antiviral and less from 30% of those who should receive HAART for AIDS does not receive appropriate therapy.

CONCLUSION

In the solution of marginalization not only economical instruments are needed (1-10). There are examples that even increased funding does not solve this problem when adapted without education, empathy and proper management. E.g. several millions USD from World Bank have been inappropriately used e.g. in campaign against malaria in India, because wrong medications with known resistance nonsuscebility to antimalarials have been purchased and maldistributed.

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SOCIAL WORK AND HEALTH CARE IN ROMA MINORITY IN SLOVAKIA, ROMANIA AND SERBIA

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ABSTRACT

Roma population in Europe is marginalized during last hundreds of years due to different lifestyle and nonintegrated to intramural nations. Highest number of migrating Roma population coming to Europe from Indian, Pakistan, Bangladesh and Sri Lanka was in Romania, Poland, Hungary formed Czechoslovakia, Yugoslavia and finally migrating to Italy, Spain and France. Negative socioeconomic features of Roma minority is high unemployment, lower income and partial cultural and social marginalization.

INTRODUCTION

Roma in Slovakia exceeds 6-7% of population and is characterized by higher birth rate, high unemployment resulting to lowest social and economic status (1). How this influences their status is not clear because statistic can not separate between nationalities and ethnic groups in Slovakia. We can only assure from small pilot studies in homogenous population of same villages and slums whit up to 100% Roma population, that lower socio-economic status and marginalization from domestic population can result to height incidence of cardiovascular and selected infections diseases (respiratory and gastrointestinal) and thus to lower median age, which is characterized by high birth rate (3,2 versus 1,1 to non-Roma population) (2).

PATIENTS AND METHODS

We have performed a chart review and questioned primary care physicians in village in East Slovakia in Michalovce region with up to 100% Roma population, focusing on spectrum of diagnosis, prognosis and adherence to treatment and compared the data to non-Roma population in selected village. Differences were assessed by EPI INFO statistical package.

RESULTS

Data and spectrum of clinical diseases, birth rate, life expectancy, neonatal and maternal mortality suggest that there is significant difference in Roma marginalized and overall population concerning mortality and between

life expectancy, which is significantly lower in Roma population. Also spectrum of respiratory and gastrointestinal infections, vaccination coverage and TB prevalence differs.

CONCLUSION

Selected health disorders e.g. diarrhea infections, pneumonia, otitis media and other upper respiratory infections are more frequently observed in Roma versus non-Roma population in region near Michalovce in Eastern Slovakia.

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SPECIFIC FACTORS OF HEALTH AND SOCIAL CARE ON HIV POSITIVE ORPHANS IN PHNOM PENH CAMBODIA

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ABSTRACT

Cambodia is human to face huge humanitarian crisis since 1970-1980, including genocide and civil war, orphans AIDS, unemployment are major socio-economic problems in Phnom Penh. Multiresistant malaria and TB including pediatric AIDS are medical emergencies mainly in large cities. According to the UNAIDS, there were 80 000 people living with HIV/AIDS in Cambodia in 2008. The first case of HIV infection in Cambodia was reported in 1991. Since then, many children became HIV infected through mother-to-child transmission, as well as many people died of HIV/AIDS leaving a lot of children orphaned. HIV positive orphans have been in an urgent need of residential care because there has been rarely someone in the family to take care of them.

INTRODUCTION

The kingdom of Cambodia is the major target country of international aid within last 30-40 years. Cambodia is human to face huge humanitarian crisis since 1970-1980, including genocide and civil war. Orphans AIDS, unemployment are major socio-economic problems in Phnom Penh (1). Multiresistant malaria and TB including pediatric AIDS are medical emergencies mainly outside of the large cities. The main aim of this communication is to overview humanitarian/health/social activities in Phnom Penh (2).

PATIENTS AND METHODS

St. Elizabeth University established an NGO called „House of family“ and opened two houses within St. Maximilian Kolbe project, founded in 2002 and 2003, House of Hope and House of Family. Starting with a few children, the orphanage has soon reached the capacity of 30 indoor clients, having a number of outdoor clients at the same time. The orphanages have been providing accommodation, health care, HIV treatment, clothing, schooling, free-time activities and other primary needs for indoor clients and HIV treatment for outdoor clients. These days 108 children are saved with full board and anti HIV – therapy (1st leave nevirapin, stavudin or efavirenz instead of nevirapin). Full medical affection, school and social assistance is provided by 1 doctor, 1 Slovak and 2 Cambodian social workers.

RESULTS

Nowadays, there are 70 indoor clients in Phnom Penh and 57 indoor and 2 outdoor clients in Sihanoukville. In Phnom Penh, 61 children are HIV positive. The age range is 3 to 20 years. 51 children are on HAART, out of them 7 are on the second line of ARVs. 65 clients attend schools. There are 27 girls and 43 boys. Only 10 children

have a single parent, 60 are orphaned. In Sihanoukville, 21 indoor and 2 outdoor children are HIV negative and 36 children are HIV positive. 26 children are on HAART. 53 children attend schools. There are 21 girls and 38 boys. 3 children have a complete family but the social background is not sufficient and the children cannot stay with their parents. 36 children are semi-orphaned and 20 children have no parents.

In Phnom Penh as well as in Sihanoukville, there is a Slovak medical doctor who is responsible for the medical part of the project. From 108 children within 7 years only 3 died and 105 still treated. Overview of most social work facilities is in Table 1.

Table. 1 Overviews of SEUC activities in Cambodia

VENUE DISEASES	NAME OF PROJECT	HEALTHCARE AND STAFF	TARGET GROUP	MOST FREQUENTED DISEASES
Phom Penh	House of Hope	1 doctor, 1 slovak and 2 cambodia soc. workers	orphans	HIV, TB
Phom Penh	J & T house	1 doctor, 1 slovak and 2 cambodia soc. workers	orphans	HIV, TB
Sihanoukville	Daniela's house of Hope	1 doctor, 1 slovak and 2 cambodia soc. workers	orphans	HIV, TB
Sihanoukville	House of Family	1 doctor, 1 slovak and 2 cambodia soc. workers	orphans	HIV, TB

CONCLUSION

Every child needs someone who cares for him/her., especially sick children. When parents die and the rest of the family is not able or willing to take care of the child, authorities or NGOs have to step in and overtake the responsibility. Special care is needed for sick children. There are 127 children, mainly orphans placed in orphanages of School of Public Health and Social Work of st. Elizabeth. In PHN and SIH. Most of the children are HIV positive and there is constantly a doctor who is in charge of the medical care.

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STREET CHILDREN OF NAIROBI SLUMS IN LUNGA-LUNGA AND KIBERA. HEALTH CARE AND SOCIAL SPECIFIC ISSUES OF VULNERABLE POPULATION

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ABSTRACT

Street children in large cities in developed countries are of major concern due to social instability, crime and spread of TB. AIDS and other communicable diseases. Cities like Johannesburg, Nairobi, Lagos, Luanda, Sao Paulo, Rio de Janeiro, Phnom Penh, Manila ect. have more then 100.000 street boys and about 50 000 street girls. Join effort of social workers, police, public health and educational institution in mandatory to reduce negative antropogenic and psychosocial consequences of street children.

INTRODUCTION

Strategy, “To bring children from street to school” (TBC-STs) has been introduced by sr. Mary Kileen from Irish Congregation Sisters of Mercy in the streets of Nairobi in 1995. Since that time thousands of street boys and street girls has been accepted various social work institutions. Since 1999, Trnava Universities and St. Elizabeth University College of Health and Social Sciences, Bratislava, Slovak Republic operate at least 5 houses for street boys and street girls in Nairobi et Eldoret. An overview of those activities in 2000 – 2010 is published.

PATIENTS AND METHODS

Table 1. The current situation in all three street children centers running by or supported (1) St. Elizabeth University.

Name of the street	St. Kizito Children children centre	St. Gianna Berretta Centre	Bl.Zdenka Schellingova Children Centre	Githuray Godwirus
Location	Mihang’o	Mihang’o	Rongai	Githuray
No. of children	19	18	21	15
No. of staff	3	3	3	2
Monthly expenses (euro)	1050	1300	1500	500
No. of children going to local daily school	0	18	15	10

RESULTS

Rehabilitation process

St. Kizito Children's Centre

It is a drop-in centre for street boys from ages 8 and 14 years where boys are taken from the street around Nairobi. The centre is situated in Nairobi's suburb Embakasi Division at Mihang'o. The former was started in 2007 and now serves as drop in centre for fresh boys from street. Boys undergo one-year-rehabilitation program where basic needs such as shelter, food and hygiene are provided for them. The program includes guidance and counseling, different duties as well as extra-curriculum activities, informal education and spiritual nourishment. Part of the process is networking with related organizations.

Re- integration process

St. Gianna Beretta Children's Centre

The centre is located 300 meters from St. Kizito Children centre, in Mihang'o. It is an exit centre where boys are prepared for re-union with their families if possible and re-integration into the society. They start official learning process in daily local schools. After leaving the centre boys get sponsors on basis of adoption program.

Part of re-integration is to empower parents with skills training. Project on knitting machines provides parents with knowledge and skills to knit and thus make their living. Seminars, parents meetings and home visits take place as well.

In both street boys centers (St. Kizito and St, Gianna) the extra curriculum activities are provided for boys such *sport activities* as football, basketball and taekwondo lessons; *art therapy* that consist of trying to teach them how to paint and in beadwork; *drama therapy and ergo therapy*.

The total number of all boys who were admitted in the centers is 73 from which 61 boys successfully went through rehabilitation programme. At the moment there are 29 boys in both rehabilitation centers and 32 are reintegrated back to their families and go to several boarding schools around Nairobi. The boarding schools are part of the adoption on distance programme and financed by Slovak and Kenyan sponsors.

Street girls

Despite the fact that boys are more often seen on the streets as girls, the number of street girls is rising up year by year. They are usually involved in scavenging and majority of them are coming from dumping side.

Bl. Zdenka Schellingova Children' Centre

This centre for street girls is both drop-in and exit centre and is situated in Rongai. It was opened in June 2009. The capacity of the centre is 22 girls and at the moment there is 21 girls living in the centre. Bl Zdenka started with 6 girls from the streets of Nairobi. The girls are from various slums including Sinai, Kwa Reuben, Soweto, Kayaba and Rongai. They were recruited from the bases (places where the street children collectively meet). Most of the girls do not stay permanently at the streets but they go to their homes in the evening and to the streets during the day.

Once identified by the social workers, thorough follow up is done to establish why they are in the streets. Their parents are visited and when the social worker is satisfied that the child should be admitted to the centre, the parents give their consent then the child is admitted.

The centre provides shelter, food, basic informal education and extra-curriculum activities as art and dances classes provided by professionals. Simple duties such as house keeping, cooking or gardening as well as personal responsibilities are taught. After one year rehabilitation girls are sent to the local daily school and after two years they are re-integrated with their families and constantly monitored. In special cases, where the reintegration is not

possible because of several causes, the girls as well as boys are sent to the boarding schools provided on the adoption on the distance base.

CONCLUSIONS

The main challenge all centres face is the maintaining of the discipline in the centres which is consider as the key of success rehabilitation and in the process of reintegration of the children the crucial is to find a sponsor willing to finance school fees in boarding and private daily schools around all areas.

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TRACK
HOSPITAL ADMINISTRATION I

HOSPITAL TURNAROUND PRACTICE IN THE UNITED STATES – VALUE AND ROLE OF CONSULTANTS

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ABSTRACT

A situation where the financial and/or operational states of the hospital are rejuvenated so that the entire functionality of the hospital is revamped is a hospital turnaround situation. Turnaround situations can be suggested by turnaround consultant or even internally by hospital administrative or clinical staff. Innumerable strategies have proved to be extremely useful to materialize a turnaround in a hospital or any healthcare entity for that matter. Turnaround strategies involve revision of physician and vendor contracts, focusing on specifically retaining productive employees, and even employing new upper managerial staff such as new Directors for divisions of the hospital. In this paper, the authors present, examples of various hospitals and healthcare entities that have undergone turnaround situations as well as experiences of turnaround consultants and their strategies and experiences have been elucidated.

INTRODUCTION

In the present times, some hospitals do well financially and some do not. The hospitals that are not successful face financial crisis, become bankrupt or even collapse due to the lack of efficient infrastructure. Healthcare entities that face financial or operational crisis for long duration generally cease to function in extreme cases for being bankrupt. To exist in the healthcare industry, healthcare entities mostly partner with other more successful healthcare entities and share profits to form a symbiotic relationship with each other.

Another option that healthcare entities have is to turn around or rejuvenate its presently deteriorating condition and revive itself to become more financially secure. In this way, hospitals that face financial and other kinds of operational hardships restore from a state of adversity to a state of efficiency. In other words, this restoration that the healthcare entity undergoes where in the entity revitalizes to an operationally successful and lucrative renewal is called turnaround (Langabeer, 2008).

Turnarounds are not only restricted to major hospitals but are also applicable to physician practice setups, ambulatory surgery centers, clinics, managed care and long term acute care centers as well. Thus, turnarounds are not restricted to fragments of the healthcare industry but it broadly encompasses almost all settings of the entire healthcare industry (Langabeer, 2008).

Therefore, by definition, a turnaround is a reversal of historically low financial performance or a significant change in policy or practice that brings an organization back from near financial collapse (Langabeer, 2008). Turnarounds can also be attributed as particular kind of “strategic adaptation” from a state of financial distress to a state of improved financial advantage (Langabeer, 2008).

PURPOSE OF STUDY

The main purpose of this study is to understand all aspects of turnaround situations in the healthcare industry. This study identifies reasons for turnaround situations in the healthcare industry. The study also helps to determine the processes involved in bringing about a turnaround situation.

Another criterion for this study is to investigate if the healthcare entities where a turnaround situation is brought about can actually sustain changes made by the healthcare consultant over a short term period of a few months to many years in future.

OBJECTIVES OF THE STUDY

This study has the following objectives:

1. To elucidate hospital turnaround practice in the healthcare industry.
2. To determine the advantages of a hospital turnaround situation
3. To determine the disadvantages of a hospital turnaround situation
4. To describe strategies adopted by hospitals to bring about a successful turnaround situation
5. To differentiate between successful strategies from lesser successful hospital turnaround strategies.
6. To explain many healthcare institution's experiences and facts involved therein during turnaround situations.
7. To examine the popularity and prevalence of management strategies such as Lean and Six Sigma to healthcare industry
8. To ascertain the effectiveness of these management strategies – Lean and Six Sigma to improve healthcare industry's efficiency
9. To enumerate miscellaneous turnaround strategies adopted by many hospitals and healthcare entities
10. To interpret global prevalence of hospital turnaround situations
11. To perceive personnel involved in bringing about and responsible for a hospital turnaround situation other than hospital turnaround consultants
12. To contemplate upon successful turnaround consultant's careers
13. To list turnaround consulting firms in the healthcare industry
14. To remark on the experiences of a hospital turnaround consultants experiences during a turnaround situation in a hospital
15. To observe the obstacles faced by a turnaround expert when turning-around a hospital

BACKGROUND INFORMATION

In simple words, a hospital turnaround revives a hospital from financial crisis or bankruptcy and also restores an operational collapse with in the hospital. Sometimes, hospital turnaround consultants are involved in bringing about a turnaround situation in the hospital. Nevertheless, hospital employees, nurses and general practitioners are involved to bring about a turnaround situation to revive the hospital.

Medical and pharmaceutical industries continuously emerge with new developments due to research and innovation. This gives ample scope for new treatments and technologies. As a result, hospitals need to keep pace these treatments and technologies. In the process, it becomes a necessity for hospitals to be more involved in upgrading their infrastructure and workforce that requires financial support. Hospitals facing financial crisis are unable to keep up with the latest in trends in research and technology. This keeps the hospital facing financial difficulty from being in a competitive healthcare market thus giving other hospitals an edge over the former. Such hospitals experience reduced cash flow and small operating margins. Consequently, restricted budgets impede the hospital's progress. Thus, turnaround situations can improve the hospital's finances by increasing cash flow from renovating operations. Improvement in finances can aid the hospital to keep pace with the latest in treatment, technology, research and innovation. This makes the hospital survive in a competitive healthcare market boosting its chances of progress in the industry. Thereafter, as the hospital makes good profits, there is substantial cash flow and operating margins to sustain competition and survive in the healthcare industry.

Mostly, hospital turnarounds affect hospital personnel as they experience turnover and there is loss of employed hospital personnel. Moreover, due to revision of physician contracts, physicians may experience a reduction in benefits and bonuses. Additionally, reviewing vendor contracts to cut costs for the hospital will lead to lesser benefits for vendors resulting in decreased business between vendors and hospitals. Hospital turnaround consultants may reappoint or modify members belonging to the Board, the Chairman or the Executive office causing many executives to switch jobs or even consider turning to turnaround consultations themselves.

However, benefits the hospital experiences with a healthcare turnaround situation outweigh the disadvantages experienced by the hospital. Hence it is always advised to welcome a hospital turnaround situation brought about by the entrusted personnel.

Interesting cases/facts of the study (examples and experiences)

Many hospitals face turnaround situations such as Fort Washington Hospital, Loretto Hospital, Hospitals of Florida Hospital Association, University of Utah based Healthcare and Clinical Systems, and even in large healthcare corporations to name a few (Sandrick 2006, Thomas 1999, Magill 2009, Galloro 2009).

In years 2000 and 2001, Fort Washington Hospital was in a state of financial crisis. Since it was situated in metropolitan Washington D. C., it experienced growth in population. With population growth, came new opportunities for employment in the hospital. Moreover, college – educated professionals who visited the hospital were able to fund for their hospital treatment. With successful turnaround strategies leading to 2000 admissions and 30,000 emergency visits a year, the hospital's finances improved and there was growth in infrastructure. Fort Washington Hospital took advantage of government loans, grants and payments. Since the hospital was in a state of financial crisis, it had been bought by its bond-holders. Fort Washington Hospital's growth was hampered because it needed to upgrade its infrastructure, needed finances for equipment and expansion of the premises. For these very reasons, Fort Washington Hospital obtained a loan approved by U.S. Department of Housing and Urban Development. With this loan, Fort Washington Hospital took advantage of government approved loans and grants. Due to its small size, Fort Washington Hospital had to send many of its emergency patients to neighboring hospitals due to space constraints. This was the precise reason for an expansion plan. Therefore, to counteract this constraint, the hospital's CFO and CEO strategized an increase in patient volume even without adding additional beds by decreasing length of stay and thereby improving throughput. Statistics revealed that length of stay dropped from 4.5 days in year 2001 to 3.97 days in year 2002. A decrease in length of stay caused more patients to recover earlier leading to increased bed occupancy by newer patients for the hospital. After this strategy was adopted, there was a 22% increase in patient admissions each year. New patient admissions meant greater revenue and more profits for the entire hospital system. Moreover, the CEO and the CFO of Fort Washington Hospital used a leadership strategy by asking its middle managers to examine the hospital's shortcomings and in this way, used hospital workforce for its own improvement. Breakfast and Lunch meetings were organized to identify and resolve issues within the hospital (Sandrick 2006).

Loretto Hospital faced another successful turnaround situation. Being located in a medically underserved and economically compromised area, this hospital's management strategized on changing the image of the hospital in the community. The management imposed strict quality of care standards and prioritized patient care as the number one requirement. Further strategies used were employing highly trained personnel, increasing requirement for continuing education and monitoring reports of quality indicators (Sandrick 2006).

Florida Hospital Association reported a decrease in average length of stay (from 5.1 days in 1997 to 5.0 days in 1998) in most hospitals in Florida (Thomas 1999). This reduction is seen as turnaround in hospital use rates and is envisioned as a turnaround strategy to improve overall hospital processes.

Turnarounds are not restricted to commercialized hospitals but are also seen in University owned multi-disciplinary hospitals (example: University of Utah Hospitals and Clinics System). In 1998, this University Hospital was projected to show profits within the first few years of inauguration. However, this was not the case. The hospital suffered severe losses due to declining capitation. Thereafter, in 2001, to revive the scenario and bring about a turnaround, the management adopted a "fee-for-service" environment; simultaneously preserving it's the hospital's multi-disciplinary clinical and ancillary services. Many turnaround strategies worked to revive the system and make finances profitable. University of Utah Hospital Management reorganized the system by closing and relocating some of the present setups within the system. Managerial changes were elucidated by new Board Member appointments of Directors, Chairman, CEO and Senior Management. The exclusion of community systems from the overall University of Utah Hospital and Clinic Systems causes layoffs of 130 executive personnel, physician and staff. Second phase of turnaround strategies was directed towards Innovation and Performance Improvement. Operational and clinical quality improvements led to cost control and consequentially increased revenue for the hospital. Physician productivity reports were made to tailor to the needs of highly specific practices such as ambulatory care within the University Hospital system. To economize further, those practices were converted to provider based for Medicare billing purposes. Physicians were additionally compensated for efficiency and productivity. Furthermore, considerable emphasis was given on continuing education and leadership training for physicians, newly hired management and clinicians. The final strategy was to synchronize the hospital's mission and values with that of the University's Academic Mission (Magill et al 2006).

Turnaround situations are experienced by large healthcare corporations in addition to hospitals and smaller physician practice set-ups and clinics. Tenet Healthcare Corporation witnessed an enormous loss of up to 35% from \$345 million. To revive the situation, Tenet devised growth strategies dramatically improving revenue showing increased revenue to 2.6%, to 2.18 billion hence improving financial situations for Tenet Healthcare Corporation (Galloro 2007).

Turnaround situations in hospitals can get complicated as in the case of Greater Southeast Community Hospital in Washington. This complication arose as a result of more than 400 technical and non-professional workers joining the worker union. Union organizers of this hospital were concerned about the outcomes of those employees who would be unemployed as a result of interim managers' decisions of this hospital. Therefore, dealing with worker unions is a new aspect faced by turnaround managers or consultants making turnaround situations more difficult. Worker unions add to the trouble as turnaround managers need to negotiate with union organizers as a part of the turnaround process (Gardner 1999).

DISCUSSION

Hospital turnaround situations can be brought about by various approaches although the kind of approach differentiates whether the turnaround can successfully sustain long term within the hospital or have short term sustenance. Unsuccessful short term turnarounds mostly involve "streamlining specific programs, eliminating unprofitable service lines, and form alliances with neighboring healthcare entities to reduce expenses in specific areas" (Langabeer 2008).

Moreover, supply chain expense reductions, financial restructuring and house-wide operating efficiencies are turnaround strategies showing short term effects other characteristics of short term turnarounds are rapid focus on becoming efficient and cut back on all investments and expenses and uni-directionally improving efficiencies. These strategies not only have short lived effects but die down as soon as the consultant leaves. Further, more short term turnaround strategies demand changes made only by the leader of the organization – the Chief Executive Officer or the Chief Financial Officer (Langabeer 2008).

On the other hand, successful healthcare turnaround strategies that have long term effects concentrate on step-by-step operational transformation leading to overall financial renewal. Successful long term turnarounds improve service quality rather than focus only on efficiency. Improvements in service are focused in specific areas such as patient waiting time thus improving overall administrative efficiency. Long term turnarounds include inputs from most leaders in multiple key positions within the organization such as both CEO and CFO thus speaking of multi-dimensional turnaround strategy (Langabeer 2008).

Applications of Lean and Six Sigma strategies to hospital turnaround situations

The application of Lean principles to turnaround situations not only enhance revenue collection but also resolve ambiguity in an organization. "Lean calls for cultural change and commitment and what have been called the 4 Ps of philosophy of adding value to customers, society and associates, processes paying off over time, people and partners who are respected and developed, and problem solving to drive organizational learning" (Vest and Gamm 2009).

Lean principles applied to Henry Ford Hospital brought about to diminish operational deficits and correct operational defects. The application of Lean Principles to overcome this hospital's shortcomings was successful. Lean principles applied provided correct estimates of sample sizes and pointed the exact statistical test to be used for this hospital's surgical pathology laboratory samples. Consequentially, Lean Principles troubleshoot ambiguity and reduced time involved in obtaining results for the surgical pathology laboratory sample study (Vest and Gamm 2009).

Similarly, Six Sigma principles can be applied to enhance an organization's efficiency and effectiveness. "Six Sigma is an organized and systematic method for strategic process improvements and new product and service development that relies on statistical and scientific methods to make dramatic reductions in customer defined defect rates" (Vest and Gamm 2009).

Applications of Six Sigma Principles were executed to improve surgery turnaround times, clinic appointment access, hand hygiene and hand washing compliance, reduction of nosocomial infections, and operating room (OR) throughput. Each department of this resident hospital-based women's medicine center clinic reported effectiveness after application of Six Sigma Principles. There was a reduction of an average of 1 month on patient waiting times for the clinic. Moreover, patient time per visit reduced and there were more patients visiting the doctors in this clinic. Consequentially, with initial and return visits, gross revenues multiplied. The applications of Six Sigma Principles benefited this Women's Clinic by leaps and bounds (Vest and Gamm 2009).

Miscellaneous turnaround strategies

The concept of turnaround is gaining popularity among various healthcare organizations irrespective of its size. Speaking of size of a healthcare organization, if there are two hospital entities are managed by one management body, it is best to merge both entities. This merger will create a single operating license and will operate under one management body allowing an integrated corporate organization-wide outlook. Another advantage of hospital mergers is higher Medicare and insurer reimbursement receipt for the hospital. Closing of smaller hospital units, outsourcing samples and patients work as effective strategies to turnaround a hospital. Furthermore, elimination of redundant wards which only increase miscellaneous expenses can prove to be effective in turning around hospitals especially if the hospital does not receive better reimbursement rates. Staff turnover (laying off staff and reduction of employed personnel) and renegotiation of contracts are turnaround strategies to improve efficiency within an organization (Benko 2001).

Further, more miscellaneous strategies involve freezing wages and salaries, renegotiating contracts with physicians and vendors, prioritizing internal operations without focusing on expanding the organization, hiring a hospital turnaround consultant to improve situations are a few more strategies to effectively create hospital turnaround situation. Initiating a customer satisfaction survey to have more content patients is another potential strategy to bring about patient satisfaction and bring about hospital turnaround (Costello 2000).

Making new highly profitable deals for the organization, eliminating the unnecessary, benefiting from external assistance and help, and collaborating are additional strategies effective in creating hospital turnarounds (Becker and Galloro 2001).

Turnaround situations brought about internally by general practitioners and administrative services of the healthcare entity

Turnaround situations are not limited only to hospitals but pervade to most setups of the healthcare industry. In 2004, turnaround in Measles-Mumps and Rubella (MMR) vaccination uptake was brought in a General Practitioner (GP) based setup by creating awareness with the general public population (Wilkinson 2004).

Administrative service personnel in a behavioral healthcare entity completely revamped the healthcare setup. In this case, staff of the hospital was targeted. Staff at this institution had low employee morale. Therefore, a motto, "Go for the Gold" was developed to boost employee morale. This resulted into a drastic decrease in employee turnover. Simultaneously, administrative officers in charge of the turnaround increased staff ration and additionally appointed new Directors and licensed practitioners. This created a new atmosphere conducive to work at the behavioral healthcare entity (Johnson 2001).

Turnaround consultants – experiences of consultants and consulting firms

Innumerable hospitals experience financial troubles. It is not uncommon for hospitals not to face financial difficulties. In such a scenario, hospitals often hire the best turnaround consultants and refer to the turnaround consultant's advice. Therefore in an industry where turnaround situations are plenty due to financial shortcomings, turnaround consultants are stretched to their limits (Pallarito 1999).

The Hunter Group accepted numerous high ended assignments and assured to improve a few of the nation's most financially compromised healthcare institutions. The Hunter Group took up assignments of University of California San Francisco – Stanford Healthcare, a set of eight hospitals based at a medical Center at Detroit, Carondelet health Network – a three hospital system based in Tucson, Arizona, University of Pennsylvania Health

System in Philadelphia, Bay-Care Health System in Clearwater, Florida and Centura Health in Colorado to name a few. Mr. Hunter relies on a core group of around 60 highly trained professionals and even realizes the dangers of taking on too many assignments. Therefore, Mr. Hunter remarked, “We are very careful to not take an engagement if we can’t field a team” (Pallarito 1999).

Mr. David Hunter, a reputed hospital turnaround expert resigned from a Chicago based hospital turnaround consulting firm – Navigant Consulting for amicable reasons. It so happened that initially, David Hunter founded his own turnaround consulting firm – The Hunter Group extremely reputed in hospital turnaround expertise. Thereafter, Navigant Consulting, another turnaround consulting firm paid about \$25.4 million to acquire the Hunter Group. It is reported that The Hunter group faced serious financial hurdles estimated to about \$27 million the year before it was acquired by Navigant Consulting. As a part of the deal, Navigant wished that it should run under the Chairmanship of David Hunter. Processes functioned smoothly; Navigant Consulting gained reputation because of David Hunter’s leadership and turnaround strategies devised by him. Thereafter, David Hunter voluntarily resigned as the Chairman of Navigant Consulting after carving a niche for that consulting firm in the healthcare industry. He does have tentative plans to make a comeback in the industry after a brief gap of a few months (Romano 2004).

Moreover, Deloitte Consulting has found another opportunity in hospital turnaround management and consulting which has become “a significant piece of business” according to their healthcare sector’s Director, Larry Neiterman. Deloitte’s healthcare sector rarely accepts engagements requiring immediate action and drastic measures in an attempt to create long lasting client – company relationships as noted by Mr. Neiterman (Pallarito 1999).

Sphinx Consulting, a Houston based hospital turnaround consulting firm is led by Mr. Raymond Khoury. Mr. Khoury has extensive expertise in hospital turnaround situations as he has been the CEO of 2 very busy long term acute care hospitals. He led the whole work-force of St Joseph Hospital and was the very reason for inauguration of St. John’s Hospital. His turnaround strategies are greatly valued in the healthcare industry and have proved effective through much needed times and circumstances for many healthcare entities.

Universal Healthcare System

Hospital turnaround situations are rapidly gaining popularity all over the world especially in United Kingdom which has a Universal Healthcare system. Universal Healthcare is defined as “a system that will provide a basic level of healthcare to all people giving them access to family physician services, preventative services, specialist services, surgical services, hospitalization, rehabilitative services, long term care, and prescription medications” (Rashford 2007). In United States, Medicare, Medicaid and other federal programs are mostly the resort for those who are unable to pay for healthcare without personal health insurance. According to the U.S. Census Bureau (2004), between 2000 and 2003, the number of Americans without health insurance rose by 1.4 million to 45 million and continues to grow further. United States is by far the only industrialized and wealthy nation that has the finances to support a universal healthcare system for its citizens but does not prefer to render it (Rashford 2007).

This has believed to lead the sick to the Emergency Departments (ED) for healthcare in the process burdening the hospitals causing financial losses, and in turn stemming a healthcare turnaround situation due to financial deficits.

In a comparative study of Universal health Systems conducted by Brown (2003) comparing Germany, France, Canada, and Great Britain; United States has many healthcare lessons to observe and take notice of in areas of coverage, funding, costs, providers, integration, markets, analysis, supply, satisfaction, and leadership. These countries foresee the right to healthcare analogous to human dignity and believe that no human being should refrain from consuming healthcare for the fear of any perceived consequence or financial responsibilities. Germany, France, Canada and Great Britain provide health coverage for all medically necessary care to all its citizens. This speaks volumes about United States as a nation that lacks “moral and cultural foundation” because the growing presence and number of uninsured. Funding for Universal healthcare can come from general revenues or work based insurance contributions in cases of Great Britain and France, and Germany respectively. The primary reason why United States is finding it difficult to adopt a Universal Health system is due to its inability to decide upon a funding source (Rashford 2007).

On the other hand, if United States wishes to rein its healthcare costs, it will need to shift its focus to the value of healthcare received by the payor from consumers of healthcare. The levers mentioned below are instrumental in providing quality and at the same time lowering costs (Bang 2010):

- a. Pay for Results: Pay for results is a lever that compensates the physicians and hospitals on basis of medical diagnosis and performed procedures.
- b. Deploy EMRs carefully: Electronic Medical Records are being research upon and are to be implemented by year 2014 according the Healthcare Reform timeline.
- c. Focus on Preventive Care: Dealing with preventive conditions such as alcohol abuse, physical inactivity, tobacco smoking, and poor diet that lead to death becomes an equally important lever in lowering cost of healthcare. Obesity and cancer are the killer diseases that haunt the nation. If these could be prevented only by raising awareness, most of the expenses in future to treat these diseases can be avoided consequentially lowering costs of healthcare.
- d. Assess Public Expectations: It is the public who are recipients of healthcare. Keeping this underlying principle in mind, it is essential to believe that if the general population of the nation is satisfied with healthcare, the nation ranks higher in healthcare consequentially increasing general patient satisfaction.

General awareness of healthcare expenses has increased with the general population. It is believed that some of the nation's biggest HMOs including Blue Cross and Blue Shield, Well-point and Health Net charge heavy premiums and thereafter do not direct funds to healthcare where the funds should be actually directed towards. Citizens of many states are clamoring for a Universal Healthcare system which can be seen by rallies in which citizens, healthcare professionals and labor unions participate in (Everitt 2006).

The California Nurses Association made an appeal for Universal Healthcare system in United States. Nurses of this association remarked that private insurance plans weren't universal as it excluded people having pre-existing conditions from having health insurance. In contrast, a Universal Healthcare system can eliminate cost hiking incentives, take control of healthcare away from the hands of insurers and place it in the hands of doctors and nurses who are direct channels of providing healthcare to general masses (Jenkins 2009). Support for Universal Healthcare system was seen particularly in Sacramento, California (Everitt 2006).

Further, more physicians have began supporting Universal Healthcare system for United States of America. This concept is not increasing but also gaining popularity among many circles of physicians (Nash 2008).

Global prevalence of healthcare turnaround situations

Similar to the healthcare entity units in United States of America, United Kingdom has rural hospitals, medically underserved and financially compromised regions within its territories. It is general population tendency to move from rural to urban areas in search of brighter opportunities and better lifestyles. Consequentially, this leads to population out flux from rural to urban areas and explains mobility from rural to urban community. In the process, healthcare system in United Kingdom is underway to transform its standardized brick and mortar clinics to mobile clinics. This explains an all pervading shift of manpower from rural to urban areas.

FUTURE PREDICTIONS

Hospital turnaround consultants will not only need to bring about a revolution in management and operational processes but also will need to negotiate with worker unions. Hospital turnaround consultants will have to seek employee opinions before laying off a number of employees in the process of bringing about a turnaround in the healthcare entity (Gardner 1999).

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THE FREE-STANDING, TAX-EXEMPT COMMUNITY HOSPITAL: IS IT AN ENDANGERED SPECIES?

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ABSTRACT

Many non-profit, tax-exempt, community hospitals, both free-standing and configured in small systems, find themselves in need of capital investment and more in-depth management talent as they strive to remain competitive in local markets. International and domestic investors are showing keen interest in the hospital industry as more acquisitions and consolidations are announced. These trends portend a reduction in the number of free-standing, tax-exempt community hospitals.

RFID AND ITS IMPACTS TO THE HOSPITAL SUPPLY CHAIN

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ABSTRACT

A radio frequency identification device (RFID) is a type of information technology used to improve supply chain management through an enhanced visualization of products. The RFID market in the U.S healthcare industry has been projected to be approximately \$297 million and has been expected to grow at a rapid speed. RFID had a great impact on the hospital supply chain. It has been demonstrated that 30% of large healthcare organization that had IT budgets over \$100 million had already deployed RFID technology. RFID is the latest technology to reduce costs by tracking both equipment and employees. This technology can also reduce medical error, thus creating a safer environment for patients.

INTRODUCTION

According to the National Coalition on Health Care (NCHC) report in 2009, the total national healthcare expenditure is expected to increase seven percent per year over the next decade. It is projected to reach \$4.4 trillion in 2018, which equals 20% of the United State (U.S) gross domestic product (NCHC, 2009). Information Technology (IT) systems are considered a potential means to reduce hospital administrative costs and improve clinical performance such as patient safety and quality of care (Menachemi, 2006; Andre, 2008).

While the hospital supply chain lags behind in applying the latest technology to operation, its counterparts in the retail and manufacturing industries had come to automation (Chowdhury, Chowdhury, and D'Souza, 2008). The benefits of adopting the latest technology are difficult to ignore. Sixty-nine percent of hospital executives that responded to a recent survey stated that supply chain automation is an area of strategic importance for their organizations (Carpenter & Hoppszallern, 2007).

Radio Frequency Identification Devices (RFID) is the latest technology that enables tracking and monitoring of any activities that are carried out using invisible radio waves over distances that range from less than a centimeter to those that span hundreds of meters (Butters, 2006). RFID has been widely used in tracking items such as pallets or cartons within a supply chain or warehouse. With mandates from Wal-mart and the Department of Defense requiring suppliers to begin tagging items, and the push from the Food and Drug Administration (FDA) to tag pharmaceuticals to prevent counterfeiting, the use of RFID technology is slowly making its way into the healthcare market (Young, 2005). The FDA issued a recommendation that all pharmaceutical industries implement RFID tagging of all drugs by 2007 (Wicks, Visich, & Li, 2006).

Besides the tagging of pharmaceuticals, RFID has also been used in other areas: personnel and patient tracking (Swedberg, 2010), equipment tracking and patient charts (Janz, Pitts, & Otondo, 2005), as well as patient admission and registration (Banerjee & Gouthaman, 2005).

RFID has the potential to track physical items—products, equipment, and even humans-- in real time (Sade, 2007). For example, in the pallet stacked with cartons, a suitably placed antenna would be able to read the RFID tags on every carton in the stack almost instantly without requiring them to be visible.

In the RFID environment, the barcode technology is being replaced with an RFID tag, and the barcode scanner is swapped for an RFID reader. The tags are, essentially, smart labels and, in most cases, have a chip and an

antenna as their main components. The radio waves generated during the reading process are able to penetrate many materials and therefore can be employed where tags are not visible to the eye (Schraag, 2006).

There are two types of RFID. One type of RFID can transmit information. Another type of RFID, which is called a "passive" device, can be read by a nearby, powered machine. Both types are small and cheap enough to be utilized everyday in society. Everything from security and convenient cards such as ATM debit/credit cards, to anti-theft devices on goods in shops, and hospitals are starting to become aware of their potential (Tainton, 2008). At several hospitals worldwide, patients heading for the operating room wear an RFID wristband, so that even when under the influence of anesthesia, their full identity, including a picture, can be downloaded into a Personal Digital Assistant (PDA) held nearby (Berwick, 2008).

The use of these devices in health care represents another promising development in information technology. The use of these disposable wristbands can almost wipe out surgical errors such as performing a procedure in the wrong area of the patient (Williamson, 2006). Secondly, being able to keep track of products and equipment and utilizing them to their fullest potential is an asset of RFID (Korn, 2007). Finally, the use of these devices could thwart those trying to counterfeit products and drugs. This will make it extremely difficult and very costly for counterfeiters to reproduce hospital supplies and try to pass or sell them as genuine products because they can be easily detected via RFID environment. The World Health Organization estimates that five to eight percent of global pharmaceuticals are counterfeit. Particularly, the pharmaceutical industry reports that it loses \$2 billion per year due to counterfeit drugs (Sager and Socolar, 2005).

The use of these devices in healthcare represents another promising development in information technology, but also raises important ethical, legal, and social issues. Particularly, the use of RFID labeling in humans for medical purpose may improve patient safety, but may also pose physical risks, compromise patient privacy, or represent other social hazards.

The purpose of this research study was to describe the impacts and effects of RFID to the hospital supply chain.

METHODOLOGY

The methodology for this literature review followed the basic principles of a systematic search. The goal of the overall research was to identify the most prominent RFID studies published in the last 7 years (2003 to 2010). The research was limited to papers, books, peer-reviewed journals, and nationally and internationally recognized health-related institutional reports.

When completing the online research, the following terms were combined: "RFID," OR "RFID standards," AND "supply chain", OR "hospitals", OR "hospital inventory", OR "inventory management." The following electronic databases were used: ESBCO host, Google scholar, Academic Search Premier, Pub Med, and RFID Journal. There were 34 references listed from retrieved papers that were also examined and 28 published articles that were also used for the study. The literature review was conducted by DFL and HD and validated by AC.

RESULTS

The National Health Expenditure (NHE) is expected to reach \$2.5 trillion in 2009, which accounts for 17.6% of the Gross Domestic Product (GDP) including the \$185 billion of high administrative costs. By 2019, NHE is expected to reach \$4.5 trillion and will account for 19.3% of GDP. Since the average public spending growth rate is 7%, and private spending is 5.2% for 2009 through 2019, the public share of total NHE is expected to rise from 47% in 2008 to 50% in 2012, and then reach about 52% by 2019 (Kaiser Family Foundation, 2009), (Table 1). Consequently, hospitals are looking for ways to reduce expenses. It has been estimated that a 200-bed hospital could save \$600,000 each year from less shrinkage, fewer rentals, deferral of new purchases, improved staff productivity, and enhanced quality improvement. In addition, Advocate Good Shepherd Hospital in Illinois applied RFID in 2003 to help manage inventory and the annual inventory losses were decreased by about 10% (Glabman, 2004), (Table 1).

Wireless and electronic radio frequency communications are important for RFID to identify objects and people equipped with small integrated circuit "tags" that state whether they are active or passive when passing by a network of RFID readers (Gearon, 2005), (Table 1). This was an advancement in the tracking technology, and RFID

produced clear script that was easy to read and hard to misinterpret. A chip that can store up to 256 characters is scanned with an RFID reader, and the patient confirms the programmed information. A second chip can be used if more information is needed (Gawel, 2004), (Table 1). Since RFID can help reduce costs for the hospitals, sales of RFID technology for supply chain applications are expected to grow about 38%, going from \$89 million in sales in 2002 to \$448.4 million by 2007 (Hickey, 2003), (Table 1). On the Information Week 500 survey, 20% of healthcare respondents stated that they have tested and deployed RFID technology (McGee 2004), (Table 1). Also, in 2006, research firm IDTechEx forecasted that applying RFID tags and services in healthcare facilities would grow from the \$90 million to \$2.1 billion by 2016 (Raths, 2008), (Table 1).

Technology vendors claim that by adding RFID components to existing wireless networks with little interference, hospitals could reduce the cost of building an instantaneous tracking system. For about \$100,000, a hospital could track its most critical assets by adding RFID to its wireless system (Scott, 2006). The technology also makes medical care safer and more efficient. For example, the staff at the 30-bed general surgery unit at the Jacobi Medical Center in New York, NY outfitted patients with RFID wristbands that recorded their names, genders, dates of birth, and codes for electronic medical records. Doctors and nurses used tablet PCs equipped with RFID readers to upload this data from a patient's wristband, and the computers then retrieved the patient's record wirelessly from the hospital database (Lok, 2004), (Table 1).

In 2007, the RFID market in the U.S healthcare industry was projected to be approximately \$297 million, and it was expected to grow at a rapid speed. A report showed that 30% of large healthcare organization who had IT budgets of over \$100 million had already deployed some RFID technology, whereas 74% of respondents anticipated investing in RFID in 2007 (Revere, Black, and Zaula, 2010), (Table 1). A Leadership Survey in 2006 taken by Healthcare Information Management and Systems Society (HIMSS) stated that 28.9% of healthcare executive indicated implementing RFID technology for patient and asset tracking was among their top five priorities. This rate rose to 41.6% in the 2007 survey (Healthcare Purchasing News, 2006), (Table 1).

The Heart Center at Columbus Children's Hospital successfully implemented RFID to enable inventory management system to store, track, and manage the utilization of its high cost devices and supplies supporting congenital heart care (MRTmag, 2007), (Table 1). The system used was called iRISupply, developed by Mobile Aspects, Inc., and used an RFID tracking architecture to automate charge capture, inventory management, device expiration management, and other key operational processes within the patient care setting. By implementing the RFID-based technology, the organization attempted to efficiently and accurately automate devices and supply utilization processes without using manual approaches such as paper documentation, stickers, bar coding, or button pushing. This technological solution was expected to create an atmosphere of cost efficiency that would directly benefit patients, as well as the hospitals.

Kaiser Permanente San Jose Medical Center was also known as a successful case that implemented RFID solution to enhance their supply chain management of a 242-bed facility handling 35,000 outpatient visits and delivering 2,225 babies annually (Swedberg, 2010), (Table 1). Kaiser selected Awarepoint's ZigBee-based system with access point that plugged directly into power outlets to locate assets and nurses in an area of 660,000 square feet with 35 floors of coverage. This \$500,000-value project was considered to be a holistic approach to healthcare that would benefit its patients, healthcare professionals and management by providing both managers and caregivers with better data concerning equipment availability, location, and usage. The new system was expected to save the organization \$257,000 annually by reducing theft and increasing utilization of existing equipments (Swedberg, 2010).

Not only did RFID technology assist in tracking inventory, patients, and nurses, but was also utilized in the garment and laundry operations of hospitals.. St. Olav University Hospital in Trondheim, Norway, saved several million of dollars by replacing its existing labor intensive system with an advanced RFID garment logistics system to track its 130,000 staff garments such as operating robes, gowns, and trousers, (Texas Instruments, 2007), (Table 1). The hospital management authority expects savings of over \$6 million in costs of space alone. It is projected that further savings of several million dollar in operational costs will be realized due to more efficient data collection for improved logistics management, automated ordering, and time-saving for staff because garments are much easier and quicker to find.

Table 1: Results of studies related to the implications of RFID in hospital supply chain

Author(s)	Year	Type of Study	Keywords	Key Findings
Lok	2004	Literature Review	Efficient Inventory management	RFID tags were put into wristbands to keep track of patrons, patients, and student.
Gawel	2004	Literature Review	Accuracy	An advancement in the tracking technology, RFID produced clear script that is easy to read and hard to misinterpret.
Glabman	2004	Literature Review	Inventory management	Inventory and the annual inventory losses were decreased by about 10% after applying RFID in 2003.
McGee	2004	Literature Review	RFID Information Technology	On the Information Week 500 survey, 20% of healthcare respondents stated that they have tested and deployed RFID technology.
Gearon	2005	Literature Review	Liability	RFID help reduced liability related problems.
Scott	2006	Literature Review	Lower costs Active Tracking Technology	For about \$ 100,000, a hospital could track its most critical assets by adding RFID to its wireless system.
Healthcare Purchasing News	2006	Quantitative Survey Qualitative Literature Review	RFID, Supply chain, patient safety, asset tracking	28.9% of healthcare executives indicated implementing RFID technology for patients and asset tracking is among their top priorities.
Hickey	2003	Quantitative Literature Review	Hospital Supply Chain Costs	RFID can help reduce costs for the hospitals, and sales of RFID technology for supply chain applications would be from sale of \$89 million in 2002 to \$448.4 million by 2007.
MRTmag	2007	Literature Review	RFID deployment, Children hospital	The system uses an RFID-tracking architecture to automate inventory management, device-expiration management and other operational processes.

Texas Instruments	2007	Qualitative Case Study Literature Review	Hospital garment and laundry	Further on-going savings of several million dollars in operational costs will be realized due to more efficient data collection for improved logistics management, automated ordering, and time-savings for staff.
Raths	2008	Literature Review	Hidden costs Safety	RFID technology is used to manage assets and optimize operations.
Kaiser Family Foundation	2009	Quantitative Literature Review	National Health Expenditures Administrative costs	National Health Expenditures (NHE) are expected to reach \$2.5 trillion in 2009, which is accounted for 17.6% of the Gross Domestic Product (GDP) including the \$185 billion of high administrative costs.
Revere, L., Black, K., Zalila, F.	2010	Qualitative Literature Review	RFID, Supply chain, Efficiency, Quality, Healthcare, Clinical paths	RFID in the hospitals can make operational improvements throughout their supply chain. RFID can be integrated into areas of internal patient supply chain, serving as clearinghouses of information.
Swedberg	2010	Qualitative Literature Review	Real-time locating system, clinical equipment	The system was expected to save the organization \$257,000 annual savings by reducing theft and increased utilization of existing equipment.
Revere, Black, and Zaula	2010	Quantitative Survey Qualitative Literature Review	RFID, healthcare technology	30% of large healthcare organizations had already deployed some RFID technology, whereas 74% of respondent anticipated investing in RFID in 2007.

In a report by on the use of RFID, it was reported that hospitals incur more than \$11 billion in unnecessary costs as a result of inefficient in the supply management. It has been suggested in this report that the use RFID technology would reduce these expenditures by improving patient safety and supply chain management by increasing the ability to track and locate equipment, as well as improving theft prevention, distribution management, and patient billing (FDA, 2006).

Companies, such as Wal-Mart, CVS, and Target, have also demonstrated the importance of RFID technology in the supply chain management resulting in easier tracking of inventory and an increase in sales due to accessibility to their stock using RFID's (Nagy, George, Bernstein, Caban, Klein, & Mezrich, 2006).

There is concern that RFIDs can interfere with electrical devices, such as pacemakers, EKG monitors, Cardiac Defibrillators and other electronic devices usually used in hospitals. Additionally, when the RFID chip is accessed by the RFID reader, this information can be accessed by other users with similar devices. For this reason, there are privacy concerns which arise from the use of the RFID and the storage of medical information (Fuhrer & Guinard, 2006).

DISCUSSION

Utilization of RFID in the hospital supply chain is beneficial for hospitals that want to lower costs and provide quality services. According to Revere, Black, and Zaula (2010) 74% of respondents anticipated investing in RFID in 2007. The application of RFID tags on medical equipment and supplies results in using time more efficiently. With RFID technology, hospital staff can find the equipment they need whenever they need it. Thus, they will not waste time looking for equipment.

RFID can also create a safer hospital environment for patients and enhance overall patient satisfaction. The safety of operating room procedures can be improved with RFID by making the need to count the items on the surgical tray more reliable. McGee (2004) described that the leading supplier of products and services supporting the healthcare industry, Cardinal Health Inc., is attaching RFID tags on surgical medical products to guarantee nothing would be left inside the patient during surgery. Patient scheduling will be more precise with the deployment of RFID because hospital employees know where the patient is and what the wait time is for needed services. Communication throughout the organization will be more efficient and will result in fewer medical errors. Health care managers expect that this technology solution will help their organizations create an atmosphere of cost efficiency that will directly benefit both patients and the hospitals.

Hospitals are looking for ways to reduce expenses due to higher healthcare costs. Consequently, applying RFID is the best option because it can lower the direct and indirect costs in patient care. Agility Healthcare Solutions CEO Fran Dirksmeier stated that a 500 bed hospital could save \$1 million annually after the utilization of RFID. In addition, Glabman (2004) also pointed out that after the application of RFID, annual inventory losses could be cut by about 10%.

As a result of impact in the pharmaceutical counterfeiting, Congress introduced HR 5939 “*Safeguarding America’s Pharmaceutical Act of 2008*.” However this bill failed to pass due to inactivity in the subcommittee and regulatory cost and privacy concerns (Coustasse, Arvidson, & Rutsohn, 2010). There is still optimism that it might be reintroduced in the near future as the application of RFID in the pharmaceuticals chain is estimated to save approximately \$400 million for the distributors and \$1 billion for the manufacturers (Healthcare Distribution Management Association, 2006).

CONCLUSION

RFID has great impacts on the hospital supply chain. It will be a widely-used technology to help hospitals reduce costs by tracking equipments and increasing patient safety. Although there is some concern with this technology particularly the issue of privacy, there is a general conviction that hospitals, by deploying RFID in its supply chain, can minimize medical error, improve quality of care, increase patient satisfaction, and create a safer environment for patients and healthcare personnel alike.

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TRACK
HOSPITAL ADMINISTRATION II

RETURN ON INVESTMENT FROM QUALITY INITIATIVES: ISSUES IN HEALTH CARE SETTINGS

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ABSTRACT

In industries outside of healthcare, quality improvement interventions have reportedly increased throughput by 60-90% and these numbers are cited when consultants and other advocates of quality improvement interventions are working with health services organizations as potential clients. But, in comparison with these manufacturing improvements, the post intervention results in healthcare are often disappointingly lower. The purpose of this paper is to explain why such a relative reduction of the return on investment in the quality interventions in healthcare settings is both expected and logical.

INTRODUCTION

Outside of healthcare, Lean, Six Sigma and other quality interventions demonstrate a remarkable ability to increase throughput, often by factors of 60 to 90 percent (Harbert, 2006; Minter, 2010; Teresko, 2007). Applications within certain hospital departments also produce similar (36-82% across factors) results (IHI, 2005). However, other departments, such as the emergency department (ED), the reported improvements in throughput (measured by decreases in the total length of stay (LOS)), range only from eight to 22 percent (Eller, 2009; Brown, 2010).

The purpose of this paper is to explain why such a relative reduction of the return on investment in the quality interventions in the healthcare settings is both expected and logical. Quality will be defined and comparisons made between the more ideal quality intervention settings such as manufacturing and the more challenging settings found in the healthcare settings.

WHAT IS QUALITY?

What is quality? One way to tackle quality is to look at the concept from the customer's perspective. For the customer, the exchange value of a product, service or experience is associated with two major dimensions. First, value is found in the acquisition's ability to meet the customer's wants and/or needs about an implicit or explicit target level that is inclusive of a timeframe. Second, the customer evaluates the asset exchange rate demanded by the producer to meet the customer's wants and/or needs. The concept of quality must be inclusive of both dimensions.

Consider a product that would meet the customer's needs but is priced at a level that the customer is unwilling or unable to pay. In this situation the ultimate "quality" of the product for this customer is zero. Another producer sells a similar product at an affordable price and the product does meet the customer's expectations during the agreed upon timeframe. This is considered a quality product. High quality (delighting the customer) occurs when the product exceeds the consumer's expectations; for example, a car that produces 50 miles per gallon when only 30 was expected. A low (it may be more accurate to say negative) quality product is simply one that does not meet customer expectations (the car producing 10 miles per gallon instead of 30).

Clearly, by nature, quality is a relative concept. The ultimate quality of a product depends upon both the customer's expectations and their ability to pay. Producers must monitor and perhaps manage both if the producer is to thrive. More importantly, producers must respond with different products in response to changing customer expectations.

From the producer's standpoint, one definition of quality (Taguchi's) is the outcome of a production system that produces products that are "on target with minimum variation" (Wheeler, 2004). The target is the customer's product expectation target. More specifically, it must be the target of enough customers that can and will purchase the product to keep the producer in business. The variation component of the definition refers to a concept from systems theory that a system producing a repetitive outcome will always generate variation in those outcomes. In other words, neither in nature or human production will there ever be two identical snowflakes. Fortunately, close enough (minimum variation) is often sufficient to for producer survival.

WHY QUALITY IMPROVEMENT PROGRAMS WORK

Deming (1994) said that if he had to define the job of management that it would be to reduce variation. By reducing the variation in inputs needed by the organization, the processes that produce the subcomponents produce less variation and, ultimately, less variation in the final product. If this product is on target (the customer's target) with minimum variation, then the producer is expected to survive and thrive.

Quality improvement programs strive to reduce variation in products about a consumer target. Numerous programs exist that focus on various aspects of this theme including Lean and Six Sigma. However, given a target, they all focus on the reduction of variation in machines, materials, methods, measurement, environment, and people and change combinations of the listed to achieve a target level of performance (Melton, 1993).

Manufacturing has achieved particular success in the utilization of quality improvement methodologies for obvious reasons. First, the current production target is rather stable and, as long as it is aligned with the customer target, the producer can expect to stay in business. Once a production line is in place for a specific model of car then measures of key quality indicators for each car provide feedback to the system managers of how close to target is the system's aim. Reduction in variation in all the inputs reduces the variation the system must compensate for to achieve the aim. On-the-job learning leads to new combinations of inputs to reduce further output variation from the target.

A useful tool in addressing poor outcomes is the Pareto diagram based on the principle that 80% of the outcomes are the result of only 20% of the sources. If one has 50 damaged car windows a day in the assembly line then the Pareto process is to see if there are different types of damages (nominal measure) and count the number of damaged windows in each category. Vertical bar graphs of the count of each type of damage are arranged with the highest counts to the left.

With the car window damage illustration, it may be that 39 windows were damaged in the painting process, six in the installation process, and five in general assembly line mishaps. The process investigated first for improvement is located in the paint department. Analysis of paint department processes may lead to a call to change the system and or reductions in variation in machines, materials, methods, measurements, people and environment flowing into the current painting system.

On target with minimum variation...quality in manufacturing is derived from a well aimed stable system that can minimize the variation in its inputs. Often the primary inputs are machines, materials and methods and the latter can often be automated to further reduce variation. Methodologies such as Lean and Six Sigma focus on reducing variation via standardization and elimination of unnecessary steps leading to remarkable increases in throughput (output per unit time) (Harbert, 2006; Minter, 2010; Teresko, 2007). With a clear target and a high potential of control over the quality of inputs and the production system, manufacturing is an ideal setting for high returns on the investment in quality. Quality improvement often leads to a reduction of input resources necessary to meet the target, including personnel, as the system capacity to produce increases with the reduction of waste and unnecessary work and rework.

THE EMERGENCE OF QUALITY IMPROVEMENT METHODOLOGIES

Quality improvement, as a methodology, developed in simpler settings than today's complex healthcare organizations. In manufacturing, especially during the early 20th century and the introduction of the assembly line, the consumer target was relatively stable. Improvement activities could focus on acquisition of quality inputs and the

standardization of internal processes. Within this simple crucible of organizational development emerged tools that aligned science with the practice of management.

Bureaucratic theory and scientific management (with its time and motion studies) dominated this early period as the interventions for organizational improvement. However, concepts such as operational definitions, Plan-Do-Study-Act (PDSA) and control charts were also developed (Deming, 1994). An operational definition provides the agreed upon standardized steps to measure a concept such that two individuals following those steps closely approximate the same answer when measuring the same concept on the same entity. PDSA is simply the scientific inductive-deductive cycle simplified so that everyone in the organization becomes a junior scientist. (Inductive is the zero stage where one thinks about the subject and creates or frames the subject with a theory of change. Plan refers to the design of the experiment to test the theory, do is to conduct the experiment while study is to compare the experiment results to predicted results. All three, Plan-Do-Study, are components of the deductive part of the scientific cycle. Act, to respond to the experimental results, moves one back up the inductive side of the process. All-in-all, PDSA, with the zero stage, is a very good approximation of solid scientific methods.

The really unusual tool mentioned above is the control chart. Control charts are a group of statistical methods utilized in the inductive phase of the scientific cycle (Wheeler, 2000 and 2004) whereas most inferential statistics (means, averages, t-tests, ANOVAs etc.) are primarily used for conducting experiments with fixed or stable populations of subjects and therefore part of the deductive phase.

Control charts answer the question of whether the variation in a measurement outcome of a process or system outcome is due to special or common variation. Common variation is defined as random variation in both the value of an output and random in the amount it varies from previous outputs. If a process is producing a product that randomly varies about a specific level in a predictable amount of spread over time, then the process is considered “stable” or “in control”. However, if the process produces outcomes that do not vary about a certain level in a random manner and/or within the same spread over time, then the process producing the product is considered “unstable” or “out of control”.

Control charts are used to classify the process producing the outputs as either stable or not stable (in control or out of control). As tools of classifications, control charts are statistical tools for the inductive theory building side of the scientific process and for monitoring for change. If a process is out of control, then experiments are conducted to determine the input sources of this non-random variation. If a process is in control, then changes to the process itself are conducted to move the output level to the target value and reduce variation about that level. Control charts serve an important role for those that view quality as being on target with minimum variation.

QUALITY IMPROVEMENT: MANUFACTURING VS. HEALTHCARE SETTINGS

Of all organizational forms, organizations providing healthcare are considered among the most complex and challenging to manage (Drucker, 2002). Within the complexity of healthcare, the application of the concept of quality being on target with minimum variation faces challenges that work to diminish, but not eliminate, its effectiveness.

First, consider again a manufacturing application of quality improvement. Imagine a successful firm that produces tables for college classrooms that sit four adult students. The target design (size, shape and general design features) is relatively fixed because of a relatively stable environment. Stable, that is, after recovering from the redesign demanded because of the environmental change associated with “laptop” computers.

The firm’s product is considered the best but there are still customer complaints about scratches, dents and mismatched locations for connecting legs to the table top. Customer data are collected that leads to specific in-house inspections conducted on finished tables. These inspections focus attention on the packaging process because tables going into the department are without dings and those coming out have them. Changes in this department significantly reduce the number of dents and scratches bringing the final product closer to the customer’s target expectation.

But the mismatched connectors are still a problem. This firm actually outsources the initial table top construction that includes the placement of the connectors. (Investigations revealed that the legs were within

specification (on target) but the placement of the table top attachments varied from target and, at times would not align closely enough with the legs to allow attachment.) The firm's complaint to its supplier leads the supplier to conduct its own quality improvement investigation that discovers the machine placing the table connector has a worn part that allows it to wobble. When the part is replaced the issue disappears as the slight variation left in the placement of the connector is well within the compensation capacity of the leg connector. In changing the packaging processes and reducing the variation of the tabletop inputs the firm is producing a final product that is closer to the customer's target expectations. In other words, the table quality has improved.

In healthcare, the ability to standardize inputs is limited, but not impossible, because the primary input is the patient. Children's, rehabilitative and psychiatric hospitals are examples of standardization of inputs as well as the burn units, medical/surgical units and intensive care units within those hospitals. But even within those specialized units there is extensive variation in the primary input. A car accident that leads to the person being admitted to the intensive care unit does not produce a standard set of cuts and broken bones. The three month old child in the burn unit faces challenges that differ from the ninety-five year old burn patient with diabetes.

What is the target output for these units? For the patient in room one, it may well be a "complete" three day recovery. However, for the patients located in the adjacent rooms, the targets could range from reduction of pain and a quick death to one beginning a six year process of reconstructive surgery.

Quality improvement focuses on the reduction of variation in inputs (people, machines, methods, materials, measurement and environment) to reduce variation of the output about a consumer specified target. If a manufacturer reduces the number of non-valued added steps in the process, variation is reduced because each step may either be successful or not. If not, then there is either waste of input due to the total destruction of the input or waste in rework to make the output of the step usable for the next step. If 80% of output variation is susceptible to reduction via the quality improvement program's intervention, then the improved outcomes of the intervention should be higher quality. Standardizing the inputs and processes to achieve less and less variation about a fixed output target is the prime environment for the success of quality improvement interventions.

However, consider the case, as in some areas of healthcare, where the majority of the variation is not susceptible to quality improvement interventions. For example, in the emergency department there is limited control in the inputs. The first patient through the door suffers from multiple gun shot wounds and thirty seconds later there is a frantic mother with a child with a minor cold. Such wild swings in the inputs, not to mention the variance in the final targets for these two processes, suggests that quality improvement interventions would not provide the same level of return in healthcare as they do in manufacturing.

IMPROVING QUALITY IN HEALTHCARE

The current internal "technique" focus of many practitioners of quality improvement methodologies is reminiscent of the closed system view of world common in the 1950s where little understanding of "why" something worked was need to be "successful." Deming (1994), Goldratt (2004) and others share little with this technique focus (they demand "understanding" before action) and neither can healthcare managers. Healthcare quality must be improved (IOM, 2001) and if one set of techniques is insufficient then others must be considered.

There are other methods for reducing variation. First, one may use the process of synthesis rather than analysis to address the issue (Ackoff, 1999). Analysis takes an entity and breaks it down to work on the problem while synthesis looks outside the entity for solutions. For example, a synthesis solution for overcrowding in an emergency department overwhelmed by patients without healthcare but not emergency needs may be the creation of a low cost urgent care center. If the problem is real emergency patients, then a potential solution is to create an in transit diversion system to other emergency departments in the immediate area such that the variation in flow is reduced to any one particular ED.

Variation in the output can also be reduced by INCREASED capacity to compensate for input variation. This, of course, means that the increased reduction in variation (quality) has a direct cost. If the intent is to reduce the length of stay in the emergency room by two hours and only 20% of the reduction is possible through standard quality improvement methods, then the other 80% of the reduction will require either a decreased demand in the ED or an increase in the ED capacity.

REALISTIC EXPECTATIONS

To complain that quality interventions return less in healthcare than in manufacturing is not dealing with reality. Too often organizational leaders sound like amateur farmers...those that one week after planting the corn expect a harvest for Sunday dinner. If one needs a 60% improvement in six weeks then the leader is required to use the intervention that can provide it...if one exists. Just wanting to cure the disease, and paying dearly for the snake oil, does not guarantee the intervention will work in the advertized timeframe.

Fortunately, the issue with quality improvement is not that it does not work (quality improvement is not snake oil); the issue is that the expected return on investment that is being oversold. Benchmarking, as practiced, is very harmful because, in practice, the systems being compared are often like comparing apples with oranges. Therefore, the increases in throughput achieved by a particular quality improvement intervention designed for a manufacturing environment can not be expected to lead to the same increases in throughput in every healthcare setting.

The return on investment associated with a successful intervention in one setting may not translate to another, dissimilar setting. The interventionist needs not only the knowledge of how to do something but an understanding of why the intervention works. In science, the guiding theories are known to work within boundaries and one regards suspiciously the scientist that insists a particular intervention works in all circumstances. At its core, quality improvement is the application of scientific methods to management. Management should stay clear of any consultant that can not describe the situation in which their particular intervention will not work.

The bottom line is that quality improvement interventions should be expected to work in healthcare settings but the returns will be less because of the lack of control of variation in inputs and because the target is constantly changing. A ten percent decrease in variation may well be a dismal failure of the intervention in manufacturing but a spectacular success in an emergency department, but this success will not be recognized, celebrated and institutionalized if expectations do not match reality.

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THE ROLE OF TECHNOLOGY IN SALES SUPPORT STRUCTURE

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ABSTRACT

The purpose of this paper is to develop a framework explaining when and how salespeople should be provided support for non-selling activities. We identify two structural dimensions of non-selling transaction activities, workload and complexity, and propose how they impact sales outcomes. Finally, we examine how technology influences sales support structure.

INTRODUCTION

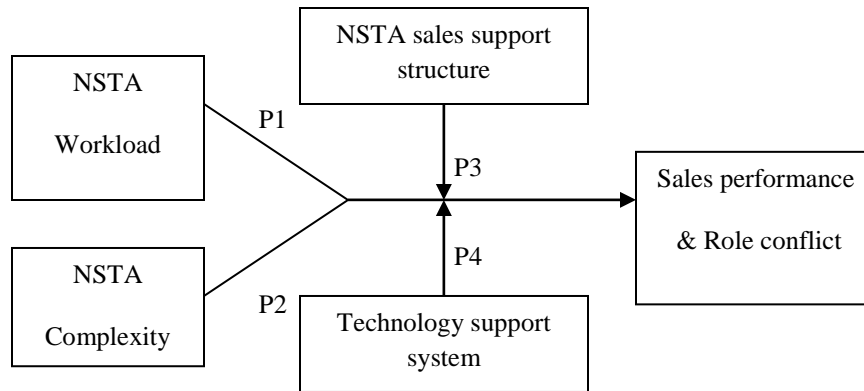
Technology has become a key tool in sales support, defined as the assistance that salespeople receive on non-selling activities during a sales transaction, from prospecting to finalizing the sale (Ledingham, Kovac, and Simon 2006). For example, sales support may help with manual labor, delivery, installation, technical consultation, data entry / reporting, coordination or financial qualification (Barber and Tietje 2008; Moncrief, Marshall, and Lassk 2006; Sumrall 1992). Some researchers have even predicted that salesforce technology would automate sales support to the extent that very little time would need to be spent on support activities (e.g., Widmier, Jackson and McCabe 2002; Colletti and Chonko 1997; Anderson 1996). However, Moncrief, Marshall, and Lassk (2006) reviewed Moncrief's (1986) original typology of sales jobs and identified 8.6% of sales positions as 'sales support'—representing more positions than key account managers (8.3%). Although sales support personnel were not included in the original taxonomy, "it is very possible that Moncrief's (1986) residual category was actually sales support," (Moncrief et al. 2006, p. 63). Larsson and Bowen (1989) explain that a high degree of service customization requires input from both the 'front office' and the 'back office.' Likewise, McMurray (1961) noted that each salesperson requires two 'executives'—one to manage and motivate the salesperson and another to handle the "detail of the work" as a record keeper. Hence, there is evidence that sales support employees have been, and continue to be, an important part of the salesforce.

The extent to which sales support can and should be fully automated is not clear from the extant literature. Therefore, the purpose of this study is to develop a framework explaining the conditions in which it is appropriate to provide sales support and how sales support should be structured. The order of the paper is as follows: after a brief review of the relevant research, a set of propositions about the relationship between factors of the transaction, sales support structure, and transaction performance are developed. Then, a normative typology is presented with recommendations about sales support structure. Finally, the paper will conclude with a set of future research goals.

LITERATURE REVIEW

To date, sales taxonomies have offered the most insight about the nature of sales support. McMurray (1961) and Newton (1973) both worked to conceptually identify types of salespeople that exist in organizations. Building on these efforts, Moncrief (1986) investigated sales activities within organizations to create the first empirical taxonomy of people within the salesforce. While these taxonomies, as well as more recent work by Sumrall (1992) and Moncrief et al. (2006), have focused on the types of salespeople that exist within different types of organization, they have found that sales departments have roles and/or positions dedicated to sales support. In addition to the conclusion of Moncrief et al. (2006) wherein sales support is explicitly identified, Sumrall (1992) identified "sales assistant" and "sales administrator" categories in his typology as employees that play supportive roles in selling transactions. Sales support and sales management have traditionally been two separate positions with separate roles (McMurray 1961), and there is evidence that they continue to be separate positions (e.g. Sumrall 1992; Moncrief et al. 2006), however, the structure of sales support during selling has received considerably less attention.

Figure 1. Conceptual Model



Sales teams often consist of sale and non-sales employees who must coordinate during sales transactions (Moon and Armstrong 1994). Rapp (1989, p. 7) explains that servicing some customers requires “dozens of people, both inside and outside” of the organization “in order to sell and then install a project.” The employees that are directly responsible for selling—e.g., prospecting, addressing customer concerns, and closing the sale—are salespeople. However, there are other activities that are also required in a sales transaction that extend beyond selling. Non-selling transaction activities (NSTA) are tasks which are required to complete a sales transaction that are not directly related to personal selling or relationship management. The members of the team that are directly responsible for NSTA are ‘sales support.’

Moon and Armstrong (1994) provide a list of possible roles played during the sales transaction including the initiator (the individual who first identifies a sales opportunity), a coordinator (the individual who ensure that all selling center members work together effectively), a resource (the individuals who provide information or expertise), the approver (the individual who reviews and monitors the work done by others), and the implementer (the individuals who provide services to implement the sales transaction). We contend that the coordinator, resource, approver, and implementer roles could all be classified as sales support positions. In some cases, even the initiator could be a sales support position, if the initiator identifies, but does not sell to, the customer.

Barber and Tietfe (2008) list a number of NSTA that occur during a sales transaction, including phone diagnostic with technical support, scheduling appoints, internal meetings, processing orders, submitting order confirmations, and preparing / submitting financing applications. All of these activities are critical to completing the selling process, yet would not be considered selling activities. In theory, all of these activities could be sourced to employees other than the salesperson. Indeed, we argue that not all of these activities need to, or should be, handled within the sales department.

PROPOSITIONS

NSTA workload

One possible factor influencing sales support is the workload, or time demand, required to complete a sales transaction. Workload can be measured in the number of hours required to complete a task. In some cases, activities required a high number of labor hours. For instance, new equipment installations of capital equipment may require several trained technicians working for multiple hours in order to ready the equipment for use. Alternately, some transactions required minimal services, such as physically delivering and quickly installing a household appliance (e.g., refrigerators).

The greater the workload of a NSTA, the less time salespeople can spend selling. By providing sales support, salespeople are able utilize their time to pursue their core job responsibility of selling to customers and

customer service (Ahearne et al. 2004), which has the effect of increasing sales performance. Additionally, salespeople will be less likely to feel role-conflict as they can focus on their core selling responsibilities. Accordingly, for each NSTA we propose:

P1: The more hours required to complete a non-selling transaction activity, the more that assigning the activity to sales support will lead to better sales outcomes (higher sales revenue and lower role-conflict).

NSTA complexity

We contend that each NSTA can be either; 1) complex activities which require specialized training—e.g. inventory planning and financial qualification, and 2) simple activities which require little or no specialized training—e.g. physical delivery and data entry. A NSTA that requires skill in one industry may not necessarily require the same level of skill in another industry. For example, financial qualification in some industries can be standardized and routine, for example using only a customer's credit score. Conversely, in other industries financial qualification may entail multiple measures requiring an expert judgment. Providing salespeople with adequate training so that they can handle their own sales support takes time away from selling and incurs cost; particularly if the skill, expertise, and knowledge requirements of the sales support activity are high. Not only would this likely distract from selling time, it also may distract from sales training which could enhance sales skills.

P2: The more that a non-selling transaction activity is complex, the more that assigning the activity to sales support will lead to better sales outcomes (higher sales revenue and lower role-conflict).

Centralization

Centralization is the degree to which decisions and activities are consolidated together into a single division that serves multiple sales units, and decentralization is the degree to which individuals within each sales unit make decisions and act upon those decisions autonomously (Pertusa-Ortega, et al. 2010). A centralized structure can provide firms a cost advantage through leveraging economies of scale (Ghoshal 1987). Up to a point, centralized structures can even leverage economies of scale in a service context (Katrishaen and Scordis 1998). Therefore, when the workload is high enough to justify using a centralized structure, there are cost advantages that should lead to financial performance.

When there is a high workload for a particular NSTA, a centralized structure will benefit from economies of scale. For example, a centralized logistics department for ordering and processing deliver orders increases efficiently through combining orders and shipping from centralized warehouses. However, centralized structures are not always beneficial. Centralized structures can create inflexibility and difficult responding to change (Ghoshal 1987). When situations are frequently novel or complex, a decentralized structure may be more advantageous because it gives expert employees the flexibility to make decisions and act upon them. Therefore, when the workload of an NSTA is high and the transactions are routine and simple, centralization should be more cost effective.

P3: When the workload of a sales support function is high and the complexity of sales support is low, centralizing the sales support function will lead to better financial performance; otherwise centralizing the sales support function will decrease financial performance.

Automation versus technology-enabled support

Technology can enable centralization by fully automating processes or enable decentralization by facilitating efficient information exchange (Collins et al. 1999). When customer transactions are routine and easy to predict, it is possible to codify knowledge and create processes for handling the situation *a priori* (Ko and Dennis 2004), thus eliminating the need for an expert *during* the transaction. Therefore, it is possible to set up standardized processes for NSTA enabling it to be automated. In contrast, when customer situations are nuanced and complex, employees require tacit knowledge to make expert judgments (Grant 1996). Tacit knowledge is a deep understanding that is difficult to articulate and is typically gained through experience, expertise, and skill (Insch et al. 2008). Increasing the scale of tacit knowledge to the degree that it can be centralized is very complicated (Coff et

al. 2006). Since tacit knowledge cannot be easily codified, it is not practical to automate NSTA requiring complex judgments.

To illustrate this, before retail mortgage lending transactions are finalized, underwriters must approve the loan based upon an expert analysis of customer risk comprised of past credit, capacity to pay and collateral value of the home. These variables can be difficult to estimate and require expert judgment. The collateral value of a house depends on market conditions, house condition, and title claims. Sellers engage a number of specialized agents—e.g., appraisers to examine collateral value of the home and title agencies to make sure that no other party has claim to the collateral value of the home. When mortgage companies attempted to standardize or eliminate the standard risk assessment report (e.g., when some lenders allowed underwriters to approve loans without verifying customer income), it led to the poor risk assessments which many experts claimed were responsible for the 2007 financial meltdowns (Schmudde 2009). For example, the now defunct Countrywide Mortgage Bank, responsible for a large percentage of poor quality subprime loans, had automated their underwriting guidelines (e.g., Cocheo 1995). Based upon the interviews, it does *not* appear to be possible to successfully automate *complex* services.

P4a: When the complexity of a NTSA is low, automation will enhance financial performance of using centralized sales support.

On the other hand, facilitative technology can enable integration between specialized functions together when the technology is easy to use and helps employees perform their job duties (Rouzies et al. 2005). Enhanced connectivity increases information exchange and facilitates effective coordination between functions (Mollenkopf et al 2000). Therefore, facilitative technology can enhance the connectivity of a centralized department working with the sales team. This connectivity can help the two groups coordinate and work together on more complex NSTA than would otherwise be possible. For example, if a customer required a rush delivery and the firm used a centralized logistics department, technology-enabled support would allow the sales department to warn the logistics department about the issue and coordinate details.

P4b: When the complexity of a NTSA is high, facilitative technology decreases the negative impact of using a centralized sales support structure on financial performance.

Facilitative technology helps decentralized employees make informed decisions and respond quickly to customers (Collins et al. 1999). These types of technologies help the sales team collect, analyze, and distribute information (Widmier et al. 2002). Furthermore, technology can help the sales team work more efficiently and effectively (Widmier et al. 2002). Therefore, technology enables the more effective and efficient use of a decentralized sales support structure.

P4c: When the complexity of a NTSA is high, facilitative technology will enhance the positive benefits of using a decentralized sales support structure on financial performance.

DIRECTIONS FOR FUTURE RESEARCH

In this section, we discuss two extensions of our framework that should be explored and empirically tested, 1) sales support goal focus, and 2) the effect of sales support on customer satisfaction. First, it has been noted that goals must be aligned between departments and teams (Deeter-Schmelz and Kennedy 2003; Fisher, Maltz and Jaworski 1997) in order to maximize performance. However, this is not always the case for sales support. When the cost of processing the transaction is high, firms are often faced with the contradictory goals of increasing sales volume while adhering to quality control (Marinova, Ye, and Singh 2008). Accordingly, NSTA either relate to completing a sale or relate to ensuring customer quality. Therefore, future research should examine when sales support should have the same goals as salespeople or complementary goals and how that impacts sales support structure.

Second, customers judge sales transactions based upon their total experience. In many sales contexts, sales support personnel have face-to-face interactions with customers and the quality of their work is directly observable by customers. Future research should examine the impact of using an automated system on customer satisfaction and relationships. Based upon our framework, automated systems should be acceptable for providing simple information and processing basic requests but would not be adequate to provide more complex assistance;

automation used for that purpose could negatively impact customer satisfaction. Furthermore, even when sales support takes place “behind the scenes,” sales support quality can still indirectly impact customer satisfaction through the quality of the salesperson’s work. Therefore, future research should examine the impact of sales support on customer satisfaction and salesperson performance.

Finally, it is important to examine how dividing sales support tasks between different employees will impact cross-functional relationships. By delegating the responsibilities of sales support to different employees, the potential exists for conflict between the employees. In order to fully understand the benefits and drawbacks of using specialized functions to provide support for NSTA, future research should examine how this could impact inter-functional conflict and, ultimately, customer relationships.

CONCLUSION

Our framework rectifies the discrepancy in the existing literature between the assertion that sales force technology should eliminate the need for sales support personnel, and the findings of Moncrief et al. (2006) that sales support still represents approximately 8% of sales positions. Our framework explains how both automation and sales support professionals can co-exist, even within the same firm, depending upon the characteristics of a non-selling transaction activity. We argue that sales support has an important impact on performance and deserves further investigation.

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THE EVOLVING ROLE OF THE PATIENT ACCESS SERVICE EMPLOYEE IN THE HEALTHCARE REVENUE CYCLE

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ABSTRACT

Increasing cost and inefficient operations are two important concerns of the revenue cycle management for health care in U.S. Health care providers, to maximize reimbursements and improve total quality of the revenue cycle management, have shifted their emphasis to the front-end 'Patient Access' activities from back-end processes. Employees, who provide the patient access services, have emerged as the 'face' of the provider with a completely new set of tasks and responsibilities and an advanced skill requirements. In this manuscript, we provide a brief description of the current revenue cycle management process; what factors contributed to the recent shift; and finally, what steps leading health care institutions are undertaking to be in the forefront of the patient access function. The manuscript identifies clear patient access objectives, robust employee recruitment mechanism, focused training and performance based incentives as the key factors for attracting the most efficient and effective front-line patient access employees.

INTRODUCTION

The U.S. healthcare system is currently faced with the challenge of evolving in an environment that is increasingly competitive and uncertain. Rising costs and the relatively new transparency that allows patients to shop and compare clinical outcomes are but two of the current pressures faced by providers. The passage of a healthcare reform bill in 2010, known as the Patient Protection and Affordable Care Act, has added another layer of uncertainty for healthcare providers, insurers and patients in terms of services allowed and the reimbursement structure under which payment will be made.

In order to maximize reimbursements and decrease the duration of time accounts receivable are on the books, revenue cycle management practices are attracting greater attention and scrutiny. Costs of resources continue to rise while pressures associated with reimbursement grow in an industry where margins are traditionally reported at just three to four percent. In a yearly survey conducted of hospital CEO's by the American College of Healthcare Executives, "Financial Challenges" has been the number one ranked challenge for the past five years of results, 2005 through 2009 (ACHE, 2010). Various reimbursement issues and revenue cycle management are specifically mentioned under the challenges.

This paper describes generally the shift in emphasis to revenue cycle front-end processes from back-end processes. The change in focus is rooted at least in part in the realization that getting it right on the front end increases revenue recovery and decreases denial management and rework on the back end. More specifically, this paper explores the changing role of employees who perform the front-end processes of scheduling, pre-registration, registration, verification of insurance and collection of co-pays, all of which is also known as patient access services.

OVERVIEW OF THE HEALTHCARE REVENUE CYCLE

In describing the issues that make patient access such an important part of the healthcare revenue cycle, it is helpful to first define the complete revenue cycle. In a Whitepaper published in 2008 by the Healthcare Information and Management Systems Society (HIMSS), the revenue cycle is described as "a cycle that contains the steps a patient takes when scheduling a visit to an institution (hospital) as an elective admission, clinic or outpatient visit or

using the emergency room, until the account is billed and any patient obligation is paid or written off.” Specifically, the HIMSS outlines those steps as follows:

1. Scheduling. The admission, outpatient or clinic visit is scheduled.
2. Pre-Registration, Pre-Admission. Collection of financial and demographic information on the guarantor and the patient.
3. Benefits Confirmation/Authorization. Patient’s eligibility is checked and insurance verification recorded. Authorization is received from the payer.
4. Financial Counseling. If patient indicates they are unable to meet the financial requirements, alternative payment arrangements are explored.
5. Registration, Check-in, Bed Control. Patient responsibility for services can be collected at time of check-in, if not collected before registration. At times, estimated co-pays are collected up front and then reconciled after services are rendered.
6. Charge Entry, Revenue Protection. Automated entry from clinical departmental systems provide input of charges for services/procedures a patient receives. Utilization review staff validates the stay based on payer’s criteria for reimbursement.
7. Care Documentation, Encoding. Clinical systems capture nursing notes and test results that can be used as supporting documentation that may be needed to get a claim paid on a timely basis. All procedures and diagnoses are coded.
8. Billing, Claims Submission. Once all claim information is complete, the business office submits a clean claim to their third party clearinghouse or submits a claim directly. Best practices call for this process to be completed within three days of discharge.
9. Health Plan Payments. Payments may be received by paper check or by electronic funds transfer.
10. Denial Management. Follow-up may be made with the payer and/or with the patient. Institutions with denial rates at 3% or less are considered well run.
11. Health Plan Follow-up. Some payers will send an unsolicited response or a response to a direct status inquiry. Reasons a claim will be paid, held pending or denied are posted to the system.
12. Secondary Billing. Many patients have secondary coverage and a secondary claim may be sent for additional payment.
13. Patient and Guarantor Billing and Collections. If there are unpaid or additional patient payment obligations due, the provider must send out a patient statement.
14. Account Collections, Write-offs. Before writing off an account as bad debt, institutions may work with a collection agency to see if they can collect the money from the patient (HIMSS, 2008).

A variation on describing the complete healthcare revenue cycle breaks down the process as follows:

Front-end Tasks. Patient scheduling and registration, precertification and insurance verification.

Core Tasks. Provision of services and medical documentation, charge entry coding.

Back-end Tasks. Billing, claims preparation and claims editing, follow-up and denials management, cash collection and coding (Rauscher & Wheeler, 2008).

ENVIRONMENTAL ELEMENTS AFFECTING THE IMPORTANCE OF PATIENT ACCESS

A number of environmental factors have contributed to the changes being seen in patient access. Among them are (1) the shift in focus from the back-end of the patient revenue cycle to the front-end; (2) a change in the complexity of the tasks patient access employees must perform; (3) a change in the amount consumers are now required to self-pay increasing the importance of collection of fees up front; (4) the emerging trend of the patient-centric treatment model and an enhanced interest in providing each patient with a positive experience (customer satisfaction).

Shift in focus from back-end processes to front-end processes

Historically, health care providers have focused on the back end of the revenue cycle process—denial management, collections and write-offs—in their pursuit of payment for services. No doubt a part of the increasing application of lean manufacturing principles to the health care services industry, health care providers have come to see the advantages in time and cost savings of focusing their efforts on the front end. The revenue cycle begins with scheduling and an increased quality of registrations results in cleaner claims up front and less rework on the back end. Providers are experiencing decreased accounts receivable time, a cleaner claim rate and higher collections (Bolster, 2005).

Patient access employees are a key part of the process flow in the healthcare revenue cycle. Each staff member can affect hundreds of thousands of dollars each week considering the many patients with whom each has contact for scheduling and collection of demographic and insurance information. The industry is realizing it is critical that each staff member have the necessary qualities, knowledge base and skills to perform their job duties (Schnelle, 2006).

A 2002 Medical Group Management Association cost survey led to the conclusion that conducting patient registration right the first time and securing accurate information were two critical steps at the front end of the revenue cycle. Every other function in the practice was tied into how well those processes are performed. Looking at back-end processes required to fix front-end errors will often allow healthcare providers to see that the rework time exceeds the time required to accomplish the patient registration correctly (Weymier, 2003).

Seventy percent of a claim form is generated during the registration process (Murphy & Shorosh, 2008). That statistic speaks to the importance of scheduling and registration in the revenue cycle. Unfortunately, many providers regard their employees as low skill level workers. Turnover in registration has traditionally been high causing institutions to be in constant training mode. Employees who may have been poorly trained may be training new employees under short-staff conditions leading to managing the same problems over and over again (Murphy & Shorosh, 2008). The adverse effects of having untrained, unengaged staff then perpetuate through the entire revenue cycle.

In a redesign of the healthcare revenue cycle conducted at Evanston Northwestern Health Care, the researchers pronounced patient registration as “the lynchpin in the entire process.” They found registration errors to account for one-half of the claims denials. They also found registration to be one of the most complex processes performed at the medical group. In applying lean principles to the redesign of the revenue cycle process flow, the researchers sought to build quality at the source by reducing job defects and wasted work. Building quality at the source would help to insure that every defect was caught as soon as it was introduced so that it would not proceed to the next stage. As an example, the patient access employees were trained to double check patient information including insurance information at the time of registration. In this situation, errors identified further down the line were sent back to the employee who originally registered the patient for correction. The single point of entry for patient registration and consultation resulted in a reduction in errors (Chopra, et al., 2006).

Change in complexity of the tasks performed by patient access employees

As mentioned above, Chopra, et al. found registration at Evanston Northwestern to be the most complex part of the revenue cycle process. Indeed, many authors writing on the topic of revenue cycle management cite the increasing level of complexity requiring higher level skills for those on the front line. While revenue cycle staff positions used to be considered entry-level clerical, the requirements for the job have been dramatically evolving

over the past two decades. A current employee involved in scheduling and registration may need to be knowledgeable about relevant regulations, medical necessity criteria, managed care authorization requirements, coordination of benefit assignment rules, payer billing requirements and collection techniques. They also must possess exceptional communication skills, a customer service personality, mastery of conflict management techniques, critical thinking ability, high analytic prowess, math and computer skills (Schnelle, 2006).

Best performing hospitals are understanding that patient access has become much more sophisticated. In those institutions, hospital leadership is realizing and appreciating the importance of the employees working in that function. Scheduling and registration employees must be able to identify and understand the requirements underlying the many insurance products they encounter such as indemnity insurance plans, health maintenance organizations, preferred provider organizations, point of service plans and health savings plans. These products all have different billing and notification requirements. The employee's analysis and choices at registration affect how claims are processed and sent and those choices lead to prompt payment versus claim denial. Other decisions made at this juncture of a patient's healthcare services include whether pre-authorizations and/or referrals are required (Friedberg, 2007).

Increasing patient financial responsibility requires patient access employees to have greater involvement in revenue collection

A third factor influencing the increased importance of the patient access processes of the healthcare revenue cycle is the increasing amounts of out-of-pocket expenses that must be paid by patients. Financial counseling is now included in the job duties of many patient access employees. Providers shifting focus to the front-end of the revenue cycle are also trying to ensure that patients have full understanding of what their financial responsibilities are and, if necessary, that payment mechanisms are well explained (Health Data Management, 2008).

As healthcare costs have increased, an ever larger portion of the financial burden has shifted to the patient. With each new plan year, many employees find their deductibles increasing along with their share of the premium coverage. Average out-of-pocket expenses for an insured have increased four times in the last eight years. The median preferred provider organization carried a \$1,000 deductible in 2008 with 81% of all such plans requiring deductibles (Hooper, 2010). It is easy to understand the impact that increased patient financial responsibility has on healthcare providers. The collection of deductibles and any other patient contributions for services represents an ever larger portion of an organization's receivables.

Registrars are increasingly being held responsible for collecting up front those fees in addition to the deductibles that are not covered by a patient's insurance carrier. For instance, a patient's coverage may only extend to 80% of the total charges with the patient personally responsible for the remaining 20%. Some institutions are having their registration staff estimate and collect the non-covered fees up front. In some instances, the estimate is done manually. In others, the registrar must learn to use a web-based up-front payment estimator to determine the deposit to be requested (Bolster, 2005). Whether done manually or by use of a computer based estimator, this payment analysis and estimation of a patient's responsibility is yet another shift in process flow that has increased the importance of the role of patient access employees.

Consumer driven healthcare in the form of insurance instruments such as health savings accounts shifts greater coverage decision making and financial responsibility to the patient. An employer makes a tax free defined contribution into an employee's account and the employee has considerable latitude to make their own health coverage decisions. Health savings accounts (HSA) have been gaining in popularity among employees as a cost savings tool. With an HSA, once the account is depleted the employee is responsible for a substantial deductible before the employer-provided catastrophic coverage is activated (Gustafson, 2003). This increased use of consumer driven healthcare is also forcing providers to rethink their revenue cycle management.

It is predicted that consumers will rely more on patient access employees to help them understand the services allowed under their plans and the amount of their financial responsibility. Under the managed care model, which has been the more predominant model over the past twenty years, patients had little if any financial obligation relating to their health care. Consumer driven healthcare returns significant financial responsibility to the patient and represents a major economic shift for healthcare providers and patients. This new emerging model includes

catastrophic deductibles, co-insurance and co-payment amounts, and gaps in coverage. This model is completely new for a generation of healthcare consumers who have had to bear little financial responsibility for their healthcare (Fischer, 2008). Consumer driven healthcare is just one more environmental change for providers that is adding to the importance of determining self-pay amounts and collecting those fees up front at the beginning of the revenue cycle.

The concepts of positive patient experience and level of customer service are becoming increasingly important in the healthcare industry

One result of having patients more involved in their care and responsible for a greater proportion of their costs is that awareness and expectations related to customer service is also increasing. In other words, patients are becoming more involved as consumers in their provider choices. The new level of involvement in healthcare choices makes customer service, experience impressions and long-term loyalty closer and closer to other consumer purchases. A patient's first contact with any healthcare provider is with the scheduling/registration personnel. It is with those experiences that a patient gains his first impression of an organization. The idea of patient access staff as the "face" of an organization is yet another element of the responsibilities of those employees that elevates their importance to their company (Friedberg, 2007).

INSTITUTIONAL BEST PRACTICES

Best performing facilities are recognizing, redesigning and acting upon elements within patient access services that can increase the efficiency and effectiveness of the whole revenue cycle. Advances are being made in understanding the full nature and complexity of the front-end processes, the ideal attributes in employees and the importance of both initial and ongoing training, development and motivation of patient access employees.

Work complexity: The main reason behind the changing role of the patient access employee is that best performing organizations realize the benefits associated with making registration and other revenue cycle process steps such as self-pay collections a part of scheduling. Patient access starts the entire process and those employees are the front door of the organization. They are expected to be goodwill ambassadors to ensure patients have a pleasant experience but, also, to get all the necessary information and to get it right the first time (Bolster, 2005).

A more sophisticated professional is needed to perform those tasks and hospitals are moving toward reevaluating the qualifications, responsibilities and education/training needs for patient access staff. No college in US offers a degree in patient registration, yet those employees are responsible for hundreds of thousands of dollars in revenue. Tenet Healthcare in Dallas, Texas identified the root cause of their high patient access employee turnover as frustration due to the complexity of the job tasks and insufficient education to support success. They completely re-designed their training program to address the insufficiencies which substantially reduced employee turnover in that department (Schnelle, 2006).

Ideal attributes in an employee: Obviously, different organizations have their slight variations on what constitutes an ideal employee for patient access services. However, the business literature points to some shared perspectives on that. Due to the evolving complexity of the job requirements, best performing organizations recognize that even a new hire in patient access services is no longer a low skill level position. The manager of patient access services at Trinity Health in Michigan believes it is a challenge to find and retain competent individuals. The ideal candidate would walk in with experience and knowledge in compliance insurance and medical technology, but that is not the situation. Instead, that organization seeks people who have the capability and ambition to succeed. Interview questions are framed to determine an individual's problem solving and critical thinking skills (Schnelle, 2006). In other words, the expectation is that an individual possessing the ideal level of experience and knowledge would be a rare find. Rather, a prospective employee who exhibits good potential for problem solving and analysis will be deemed appropriate for specific job training by the organization.

Following the redesign of their practices related to hiring and training their patient access staff, Tenet Healthcare of Dallas, referenced above, now asks probing questions in their interview process that determine an individual's ability to learn. They regard patient access as a learning-focused department and seek above all else that key quality in prospective hires (Schnelle, 2006).

Formal screening processes should be used to identify and bring potential top performers onto a patient access services team (Walters, 2002). In addition, “soft skills” are quite important—skills such as excellent communication ability, customer service orientation, a good attitude, enthusiasm and a pleasant personality. A prospective employee must show the potential to succeed in complex training and to perform analytical and decision making tasks while also giving a positive impression of the organization through excellent customer service.

Training, development and motivation: Some suggest that an overall cultural change is the starting point for optimal performance by patient access staff. Staff needs to be educated and convinced that a positive patient experience and financial outcome are interrelated (Hooper, 2010).

Under the umbrella of an engaged and positive organizational culture, it is critical for patient representatives to be adequately trained as a team. The Cleveland Clinic has determined that for their organization, 35 – 65% of revenue losses can be directly correlated to inadequate training (Mihalik, 2010). Best performing hospitals have tools and processes in place for formal and consistent training and quality assurance measures for their staff. They track and compare productivity of access staff with each other and against national standards.

Additionally, in best performing hospitals, patient access management have formal employee screening programs, including a typing test, as well as formal training programs for newly hired employees. Testing is administered at the end of the training and those who do not pass are not allowed to register patients. Quality assurance metrics are used to provide targeted retraining to the staff as needed (Friedberg, 2007).

Some organizations are using e-learning for staff education. Intranet-based training makes training and retraining more accessible for front line staff. It is difficult to get all patient access staff in a classroom at the same time for training. Completion of web-based self training modules are also being tied to performance evaluations as a means to ensure that staff stays current on process changes and participates in educational opportunities. The computer-based training also allows for standardization of education which directly impacts quality performance (Bolster, 2005).

Training staff with scripting is another practice followed by high performing organizations that allows more efficient dialogue with patients to capture all required data including correct procedure codes, demographic data and all financial and payer data. Training staff on clinical procedures scheduled is also recommended as a way of assuring their knowledge of protocols and scheduling intervals for treatment regimes (Health Care Biller, 2006).

Training sessions in high performing organizations may also be used as a reward for outstanding performance. For example, attendance at a conference may be awarded for meeting certain goals or for other on-the-job excellence. Top performing hospitals have competitive salary structures. Salaries are fair but not exorbitant. Neither are they so low as to be in line with the wages of an average fast food worker, as was the case historically. Many healthcare organizations also distribute small cash bonuses of \$50 to \$100 or tickets to concerts or events when certain goals are met or exceptional results achieved. Excellent performing companies make their people feel valued and in turn they deliver exceptional results (Walters, 2002).

Martha Jefferson Hospital in Charlottesville, Virginia has a “shared excellence” program where registration staff receives bonuses if a 90% accuracy rate is achieved. The program, which is a win for both the staff and the organization, has led to improvement in eligibility verification across the organization as well as cash collection of co-pays (HFM, 2008).

Leading organizations like Martha Jefferson Hospital are using career ladders as another motivational tool for patient access employees. There, all new hires come in as a Level 1 regardless of experience. Once they function independently, they can rotate into four areas and demonstrate their competency by testing up to the next level. Martha Jefferson tracks and shares with their employees their personal quality assurance statistics. Additionally, patient wait times, registration times, error rates, cash collections, insurance eligibility and verification statistics are all posted publicly, which encourages teamwork and accountability (HFM, 2008).

Formal screening and hiring practices, standardized training and testing, opportunities for continued education and training or re-training, built in career ladders, equitable salaries, personal recognition and modest

rewards are all important elements in a successful approach to training, development and motivation of patient access staff.

CONCLUSION

The role of patient access as a part of the healthcare revenue cycle has become increasingly important to both revenue capture and patient satisfaction. Leading organizations have recognized that proper screening, selection and training of patient access staff has a significant impact on the rest of the revenue cycle.

As the first contact and “face” of an organization for patients, getting it right at the start—that is, capturing all the necessary information accurately and setting the tone for a positive patient experience—impacts many critical components of the revenue cycle downstream as well as the patient’s customer satisfaction.

Best practicing organizations are redesigning their revenue cycle practices to prepare their patient access employees to succeed and continually adjust to the demands of a changing healthcare environment.

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AUTHOR INDEX

Adam, Gejza	261	Greene, Margaret J.	187
Ahmed, Mohamed	221, 234	Gritzmacher, Deborah	40
Alamri, Majed	153, 172, 221, 234	Gross, Ladislav	261
Alkorashy, Hanan A. Ezzat	160	Gupta, Deepak	58
Allen, Alexis	253	Harkins, Jason	293
Alpeissova, Alma	58	Heischmidt, Kenneth	176
Arndt, Aaron D.	293	Hickman, Jill	96
Auer, Danielle Marcette	176	Hickman, Tracie	96
Badanicova, Katarina	205	Holeckova, Katarina	205
Bailey, Garry R.	72	Holeckova, Katka	257
Bailey, Suzanne L.	72	Horvath, Julius	259
Balazi, Ivan	205	Horvathova, Daria	231
Balazi, Ivo	257	Hosseini, Hengameh	196
Bansal, Gunjan	22, 174	Jancovic, Juraj	265
Bartkovjak, Marian	205, 241, 259	Johs-Artisensi, Jennifer	103
Bashatah, Adel S.	160	Jones, Anna	96, 278
Beldjebel, Irad	259	Kalavaska, Andrea	205, 257
Benca, Gorge	205, 231, 241, 257, 259, 265	Kalyanaram, Gurumurthy	58
Benca, Juraj	263	Kay, Mark J.	64
Benson, Timon	265	Khoury, Raymond J.	269
Berger, Andrew	132	Kovac, Robert	228
Braun, Charles	173	Kralinsky, Karol	205, 257
Brown, Kathy	139, 287	Kralova, Jana	205
Bucko, Ladislav	263	Kralova, Janka	257
Campbell, Lisa A.	14	Krcmery, Vladimir	205, 257, 259, 261, 263
Chandra, Ashish	188, 222, 269	Lamba, Parminder Singh	188
Ciganova, Barbora	205, 257	Lee, Dolores R.	300
Condrey, Tyler J.	128	Lee, Kyungwon	206
Costello, Michael M.	277	Limbu, Yam	64
Coustasse, Alberto	96, 278	Lu, Dan Feng	278
Croke, Aileen	150	Luzica, Rene	261
Culka, Juraj	205	Madsen, Mary K.	27
Curtis, Robert S.	50	Martin, Clode	257
DeVito, Josephine M.	239	Martin, Cloude	205
Dey, Asoke	300	Matel, Andrej	228, 261
Do, Hai	278	McIlwain, Thomas	139, 155, 287
Dudasova, Terezia	228	McMillan, Heather	176
Duley, Susan	168	Meciakova, Michaela	257
Eide, Dean	103	Minor, Allen	121
Emmett, Dennis	222	Mishra, Bharat	198
Fabianova, Lenka	265	Mishra, Jitendra	198
Fang, Qiu	40	Mukherjee, Avinandan	75, 208
Fitzpatrick, Peter	139, 168, 287	Oborilova, Eva	265
Forgacova, Maria	241	Olnick, Tomas	205
Frechete, Ronald	205	Olson, Douglas	103
Gimranova, Dilbar	58	Patro, Pavol	241
		Paul, III, David P.	84, 114

Pechacova, Daria	265	Stegall, Scott	139, 155, 287
Philippe, Max	257	Stegbauer, Cheryl C.	14
Puleo, Larry	132	Stempelova, Judite	228
Rabarova, Lenka	231, 261, 263, 265	Stroube, William B.	14, 128
Roach, William	73	Svabova, Veronika	205
Rutsohn, Phil	41	Szydlowski, Steven J.	18, 259, 261
Sabova, Ana	261	Taziarova, Marta	257
Saccomano, Scott J.	38	Temistockle, Mirdrede	205
Seckova, Silvia	257	Utešená, Martina	228, 257, 259, 263, 265
Shahum, Anadrea	263	Vujcikova, Julia	263
Shahum, Andrea	257	Weinberg, Sandy	155
Shenoy, Amrita	269	West, Jr., Daniel J.	174, 204, 259, 261, 277
Skiba, Michaeline	114	Wiggins, Carla	27
Sladeckova, Veronika	263	Willis, Kent	40
Smyckova, Jana	205, 257	Willis, William	155
Sokolova, Jaroslava	205, 257, 259, 261	Wu, Wenxia	50
Spinelli, Robert J.	22, 150, 253	Wunder, Gene C.	73
Sramka, Marian	261	Zakari, Nazik M.A.	244
Srivastava, Prashant	300	Zhao, Ronald	84
Stanova, Alexandra	257, 259	Zuraikat, Nashat	240
Stegall, MeriBeth H.	287		

