The Road to Safer Care: 
Still Under Construction

What changes should we be making in the medical education curriculum? Seems like a reasonable question, especially given the array of amazing advances in medical technology that appear in the clinical and mainstream media on a daily basis.

Ironically enough, the issue causing the most consternation among leaders in academic medicine is the same one we’ve been struggling with for over 100 years, when famed education reformer and pioneer Abraham Flexner issued his groundbreaking report on medical education in 1910. What can we do to change medical education in a way that will improve the quality and safety of medical care?

In the decade since the Institute of Medicine (IOM) first issued its landmark reports regarding these critical issues (To Err is Human in 2000 and Crossing the Quality Chasm in 2001), a number of initiatives have been instituted by health care professionals and organizations in an effort to bridge the significant gaps in healthcare quality and safety. Yet, according to recent data, medical error has become so prevalent that it ranks among the leading causes of death in the US (just behind cancer, heart disease and stroke), accounting for approximately 200,000 fatalities annually.1 This is a significant increase over the 2000 IOM report estimates of 44,000-98,000 deaths per year.2 The problems regarding patient safety are serious, undeniable and unacceptable. Worse yet, many of them are easily preventable.

Leaders in medical education have been viewing the situation with increasing alarm. Safe, high quality health care is paramount to the public interest. Professionals, patients, payers and policy makers have turned their full attention to the issue. Several provisions in the healthcare reform legislation are focused on providing incentives to improve quality and penalizing providers who don’t measure up.

We can no longer afford to relegate professional performance, transparency, and accountability to ad hoc efforts. This paradigm shift must serve as a call to action for leaders in medical education to take a strong and positive role in promoting safer medical care. If we are ever going to change the culture of medicine, we must require appropriate patient safety education early in the training of physicians,3 not only in medical school, but integrated throughout the continuum of undergraduate, graduate, and ongoing continuing professional education.4

It is essential to provide much more patient safety education to medical students and physicians, including interventions known...
Many professional organizations, such as the Association of American Medical Colleges (AAMC) and the Institute for Healthcare Improvement (IHI) are moving in this direction, and support the concept of beginning the training in quality and safety early in medical school, and continuing such training throughout physicians’ careers. The AAMC’s Integrating Quality Initiative, a performance improvement project, helps members manage their roles as educators while providing outstanding medical care. The IHI Open School is an ongoing initiative that provides outstanding educational resources and networking opportunities that emphasize interdisciplinary healthcare team skills with real-world applicability.

Unfortunately, at this point very few medical schools provide any formal training to medical students in how to provide safer care. A recent survey indicates that only 25% of medical schools offer explicit training in patient safety, although many more acknowledge its importance.

As a health sciences university, Thomas Jefferson University (TJU) strives to provide opportunities in patient safety training for every member of the health care team. Highlights of our programming include:

- A specialized clerkship in Patient Safety for 3rd year medical students. Now approaching its 8th year, Interclerkship Day features nationally recognized experts in patient safety and includes topics such as crew resource management; disclosure of and apology for medical error; use of simulation training to teach leadership and communication skills; and patient testimonials.
- A series of lectures for advanced medical students on Professionalism in Medicine. The purpose is to engage students in educational discussions on patient safety issues, and inspire them to continue to enhance their knowledge and become future leaders. Safe Patients, Smart Hospitals: How One Doctor’s Checklist Can Help Us Change Health Care from the Inside Out, the critically acclaimed book by Peter Pronovost, MD and Eric Vohr, is required reading. It generates lively discussion, is easy to relate to, and offers practical approaches to everyday encounters.
- JSPH conducted its first full-day regional Leadership Forum on Quality and Safety specifically designed for house staff.
- Through JSPH, TJU is collaborating with the American Medical Student Association (AMSA) to develop the curriculum for its 3rd Annual Leadership Institute on Patient Safety and Quality Improvement. This 3-day interactive and didactic program offers medical students the opportunity to examine and analyze ways in which they can actively participate in the safety and leadership initiatives. Students are encouraged to share project ideas with their colleagues and create a plan for implementation.

TJU’s commitment to patient safety and quality is embodied in its establishment of the Jefferson School of Population Health. Our mission is to develop leaders committed to improving the quality of health care. Our faculty is comprised of a team of dedicated educators and health care professionals who are passionate and united in the desire to make health care safer. Our academic and continuing professional education programs are designed to provide meaningful experiential learning opportunities for the spectrum of professionals in health care. We are working every day to answer the critical call to improve the quality and safety of health care.

**REFERENCES**

In 2009, the Delaware Health Sciences Alliance, a collaborative uniting Thomas Jefferson University and Hospitals, the University of Delaware, Christiana Care Health System and Nemours, was created. As part of that alliance, the University of Delaware (UD) and Thomas Jefferson University (TJU) entered into a joint initiative to teach a shared course on Health Communication and Social Marketing for graduate students in Health Promotion (UD) and Public Health (TJU). The in-person course was developed by Dr. Michael Peterson, and taught by Dr. Peterson (UD) and Dr. Rob Simmons (TJU) on five Saturdays at the Wilmington campus of the University of Delaware. Evaluations of the course from the initial class of 10 were very positive regarding course content, sequence, and student learning activities.

With student input, the course was revised for 2010 to provide an increased focus on social marketing principles and strategies. Dr. Peterson developed 10 online learning modules and assignments and the course was expanded to more fully cover topics in the areas of health literacy, mass media's impact on health, social marketing campaign development, implementation, and evaluation, use of new media in health promotion, ethics, market research techniques and strategies, message design approaches and tactics. The course delivery format was also modified to a hybrid, combining in-person and online sessions that encouraged students from both schools to participate. Students from TJU worked through the University of Delaware’s SAKAI system (online class portal) that allowed them to download course lectures, presentations, readings, homework assignments, and links to valuable websites, as well as participate in online discussions, forums, and blogs.

A total of 17 students enrolled in the revised course held in spring 2010. The course was extremely well received by students who had the opportunity to learn, share, and experience health communications through a combination of lecture, hands-on projects, blogging, and discussions.

This collaborative effort between TJU and UD is the first course to be cross-listed and jointly taught by both universities and serves as an example of how the two institutions can work together sharing resources, faculty, and educational technology to provide students at both campuses with state-of-the-art public health and health promotion graduate education.

Health Communication and Social Marketing was chosen as the first course because of Dr. Peterson’s expertise, and the desire for the TJU MPH program to add this knowledge and skill area to its curriculum due to the increasing need to tailor public health and health promotion communication to a variety of multi-cultural audiences. Health Communication and Social Marketing have also become important skill areas for business students, especially those with an interest in marketing. Currently there are four MBA students from UD enrolled in the course.

Both universities plan to continue to offer the course in future years and expect that with its value and track record additional health science students across both universities will enroll.

Michael Peterson, EdD
Professor, University of Delaware

Rob Simmons, DrPH, MPH, CHES, CPH
Associate Professor, Jefferson School of Population Health
Interprofessional approaches to practice have been suggested as a way to address the complexity and risks associated with chronic conditions related to the aging population in the United States. Interprofessional education (IPE) is fast becoming an accepted way to prepare future health professionals to successfully collaborate as members of health care teams. While there have been numerous definitions of IPE over the past decade, the one that is most globally accepted was developed by the Center for the Advancement of Interprofessional Education (CAIPE) in the United Kingdom. They define IPE as what “occurs when two or more professions learn with, from and about each other to improve collaboration and the quality of care.”

In response to this need for new models of care, in 2007 Thomas Jefferson University introduced the Jefferson InterProfessional Education Center (JCIPE) with the mission, “To promote excellence in health through interprofessional education and scholarship.” The Center has developed a comprehensive approach to IPE, consisting of interprofessional preclinical/actic education, clinical simulation and clinical education within team-care settings in a variety of venues, including Thomas Jefferson University Hospitals (TJUH). A major component of the Center’s activities is the Health Mentors Program. Students from medicine, nursing, occupational therapy, physical therapy, pharmacy and population health are organized into teams of 3-4 students across two or three disciplines. These teams are paired with a health mentor: a volunteer, living in the community, with one or more chronic conditions. Each team meets with their health mentor four times a year for two years to understand the patient’s perspective of care and to understand the roles of each discipline in delivering patient-centered care. The Center held a one-day conference in October 2008 to share information about its activities with the larger Thomas Jefferson University community.

JCIPE held its second conference, “Interprofessional Care for the 21st Century: Redefining Education and Practice,” on March 12th and 13th, 2010. Initially envisioned as a local and regional meeting, the conference soon grew into an international event. This came about, in part, as a result of papers delivered by many of the JCIPE leaders at national and international conferences and through their work with the fledgling American Interprofessional Health Collaborative (AIHC). There were 135 participants at this conference from across the US and Canada, including many from the Jefferson community. Five papers were presented on the Health Mentors Program, and another thirteen presentations and posters were given by individuals from both TJU and TJUH.

Dr. Joan Weiss, Director of the Division of Diversity and Interdisciplinary Education at the Health Resources and Services Administration (HRSA) of the US Department of Health and Human Services (DHHS), delivered the keynote address regarding federal initiatives to expand interprofessional education in the United States. Dr. Weiss focused on programs at various universities that she considered exemplary, including the Jefferson Health Mentors program. She also discussed efforts that were underway to include a recommendation on interprofessional education in the forthcoming Healthy People 2020 report and highlighted recent Institute of Medicine reports related to IPE.

Dr. Madeline Schmitt, a recognized leader in IPE, gave the opening address on Saturday morning. Dr. Schmitt is Professor Emeritus and Professor of Nursing at the University of Rochester, and is a Fellow in the American Academy of Nursing and National Academy of Practice. Her experience in IPE spans three decades, and she writes and consults internationally on the topic. Dr. Schmitt provided a historical perspective of IPE, explained the constraining factors that have impeded its implementation, and described recent changes that have led to a shift in thinking regarding its importance. Lastly, she discussed the pedagogy of IPE, including curricular strategies, learning methods, basic elements of IPE and the competencies required.

Prior to the main conference spotlighting Jefferson’s contribution to the interprofessional health education movement, The Center for Collaborative Research hosted the inaugural meeting of the American Interprofessional Health Collaborative. Modeled after a similar organization in Canada, AIHC is attempting to partner with other large health organizations to lobby for the advancement of IPE in the US. This pre-conference meeting attracted over 85 attendees from across the United States and Canada, who came to share information about their programs through panel discussions and networking sessions.

In order to encourage interactive dialog among participants, the format for this meeting allowed for more personal sharing of IPE experiences instead of relying on a series of submitted papers. Participants reported that this format exposed them to more ideas that they could use for their own programs and was more effective than the more formal meetings.

The level of excitement and commitment to IPE at both meetings was extremely high. The success of this conference highlights the importance of the transformation of the health care system to be more collaborative and more responsive to patient values. It suggests that the current movement toward increased interprofessionalization of health care is not a short-term trend, but has the potential to make lasting change in the way health care is delivered. It also highlights Jefferson’s leadership role in facilitating this transformation, because of the comprehensive nature of the Health Mentors Program and the other activities conducted by JCIPE. Broader in scope than at many similar university programs across the country, Jefferson’s programming has resulted in continuing requests for further information and advice from the leaders of JCIPE.

For more information on the Jefferson Interprofessional Education Center visit: http://jeffline.jefferson.edu/jcipe/

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REFERENCES
A Revised Rehabilitation Medicine Curriculum at Jefferson Medical College

Disability in the form of limited activities and restricted participation in social life is not an unavoidable result of injury and chronic disease. ¹

Regardless of specialty, physicians today are likely to see patients with disabilities. The prevalence of disability in the United States is increasing, in part due to the aging of the large generation of baby boomers and the impact of modern medical advancements that keep more individuals with disability alive. ¹ To help their patients, physicians will need to recognize that a problem exists and become familiar with the spectrum of interventions available to improve quality of life for their patients with limited function. It is important for healthcare providers who are not directly trained in the care of the disabled to be aware of other professionals with whom they can collaborate to care for their patients. A longitudinal curriculum (across all four years of the medical student program), that combines components of chronic care and geriatric medicine with the neuromusculoskeletal and functional examination skills required in rehabilitation medicine, can be very helpful. This article describes the efforts of Jefferson Medical College (JMC) to increase the readiness of its graduates to manage care for their patients at risk for disability.

Historically, JMC has provided a rehabilitation medicine curriculum for medical students; in recent years, this consisted of a 6-day mandatory clerkship in the senior year. However, this framework has not proved adequate to provide the knowledge and skills required to care for individuals with disability. By senior year, medical students have decided on their career paths, and often fail to see the relevance of the field (inferred on the basis of the student comments about the rotation). Also, it is difficult to show the continuum of rehabilitative care during such a short rotation, as the timelines for rehabilitative care are often measured in years, rather than days.

Using the successful model of the longitudinal curriculum in professionalism as a guide, the Department of Rehabilitation Medicine was asked to create a four-year curriculum to replace the current required course, and to begin implementation in July 2010. We reviewed each year of the medical school curriculum to identify target areas where the unique skill set of physiatrists could enhance existing clinical experiences.

In the first year, we provide a manual muscle testing workshop, with 2-4 students per attending or resident teacher, with significant individualized attention to teach concepts of finding subtle weakness. During the second year, we will be working within the existing physical diagnosis course to provide more preceptors during their hands-on sessions. The additional preceptors will serve to enhance the individualized feedback students get regarding their performance of the musculoskeletal physical examination.

In the third year, we designed a three-week-long rehabilitation elective. Our plan is to provide interested students with opportunities to meet patients with similar diagnoses at different points along their rehabilitation pathway. In doing so, we hope that students begin to see the scope of rehabilitative care at different points along the life trajectory. For those who do not take the elective, we are finding ways to act in concert with existing clerkships to provide rehabilitation medicine curriculum, including lectures and physical diagnosis workshops within the Internal Medicine and Family Medicine clerkships. We continue to be active in providing the third year students a day-long interclerkship session on pain management, which is integral in caring for people with disability. We will also continue to offer a four-week elective experience in rehabilitation medicine for those fourth year students who would like to gain a more intensive understanding of the field.

Department of Rehabilitation Medicine physicians are also active participants in the Health Mentors program (a chronic care curriculum where students are placed in interdisciplinary health care teams and work with a person living in the community with a chronic condition serving as the mentor).² We are currently helping to shape the Health Mentors curriculum to more overtly illustrate for students the impact of context (social, environmental, personal) on health conditions. The same health condition can lead to vastly different health and functional outcomes via the International Classification of Functioning, Disease and Health from the World Health Organization.³

The goal of the four-year rehabilitation curriculum is to teach medical students how to identify a functional problem and increase their awareness of the options available for their patients with restricted function. It will be difficult to measure the effectiveness of this curriculum, as there is minimal baseline survey data. We do know that the senior students were interested in the didactic portion of the old curriculum. Since their written comments indicated that many disliked the rotation and did not understand the role of the rehabilitation medicine physician, we do not know how effective the didactic segment was in increasing awareness and knowledge. With this new four year curriculum, we hope to introduce rehabilitation concepts to students earlier in their schooling, and provide meaningful clinical experiences for interested students while still providing useful curricular elements for the rest of the class. If the new curricular elements are well received by the students, we hope that this signifies a shift in interest and understanding.

Nethra Ankam, MD
Instructor, Department of Rehabilitation Medicine
Jefferson Medical College

REFERENCES

Harkness Fellow from the UK Reflects on Jefferson Experiences

Louisa Baxter, (UK), MB, ChB is a 2009-2010 Commonwealth Fund Harkness Fellow in Health Care Policy and Practice who was placed at JSPH. This fellowship is designed for mid-career professionals, academic researchers, clinicians, managers, government policymakers, and journalists from over seven countries who spend up to 12 months working in the US with leading experts on health policy.

What motivated you to apply for the Harkness Fellowship? How did you hear about the Fellowship? What were your expectations of the Fellowship, before you arrived to the US?

LB: In the UK, I am a hospital-based general medic and gastroenterologist. I have always been interested in health policy and its intersection with the provision of health care and so have undertaken a masters’ degree in health policy to explore this further. After becoming involved in a research project examining medical leadership and hospital outcomes for the National Health Service (NHS) Confederation (a leading policy body in the UK), I was encouraged to apply for a Harkness Fellowship. The Commonwealth Fund is very well known in both the UK and the US and the opportunity to work with them was an incredible one. I had expected that I would be mainly office-based but, in fact, I have travelled all over the country meeting with and talking to people so that has been a real bonus of the fellowship.

Describe your medical education/training in the UK.

LB: In the UK you enter medical school straight after high school at the age of 18. Medical school is five years long, after which you become a house officer for two years before moving on to specialist training (which can take anywhere from 5 to 10 years, depending on your speciality). As I enjoyed telling my colleagues in the US, medical school tuition is very low (around $5000 US a year) for UK med students. This makes it a far more affordable option for potential doctors.

How did your placement at the Jefferson School of Population Health affect your work and your goals?

LB: My placement at Jeff was instrumental to the success of the research project that Dr. Nash and I undertook. We were looking at the Patient-Centered Medical Home model of care and its implications for ambulatory care, and Pennsylvania is one of the vanguard states in adopting the model. In addition, Jefferson University Physicians are leading the pack in the integration of the model into their daily practice so it was fascinating to be in this environment. We also worked with investigators from Weill Cornell in NY and Berkeley in California, so we had a real body of expertise with us. Having Dean Nash as a mentor was hugely important. He is a real force of expertise with us. Having Dean Nash as a mentor was hugely important. He is a real force in US health policy and with the new school alongside, I was able to meet a wide range of people and work with a number of different groups during the course of the project.

What was your impression of the Jefferson community at large?

LB: I loved my time at Jeff. The whole School of Population Health rallied around me. It was great to work with so many bright people who were so generous with their time. The University itself seems like a really vibrant institution that really works as an integrated system; I had the opportunity to see this myself as I took a few class courses during my time here. My only disappointment was that I didn’t make the dodge ball team, but I am thinking of introducing the sport to the UK and seeing how they find it back at home.

What was your primary project during the fellowship?

LB: My primary project was a study of how small primary care medical groups in the US can implement the patient-centered medical home model of care that has been introduced in the Health Care Reform bill. This research was both qualitative and quantitative, involving site visits, interviews and use of survey data. It was a great project, allowing me to travel the length of the country (I visited 12 different states) and engage health care providers in discussions about how they envision primary care transforming over the next few years.

As a Harkness Fellow you were privy to a wealth of experiences and opportunities. What were some of the highlights? Was there anything in particular that surprised you?

LB: Being a Harkness Fellow opens up a whole new world for you. I was very fortunate to have been able to meet so many people as I moved around the country. I have had some really great moments: sitting in Congress the night the bill was passed; being able to interview Senator Tom Daschle and the Surgeon General Regina Benjamin about their thoughts on health care reform; and an evening with former President Bill Clinton and Dr. Nash (two great speakers) on the subject of globalisation. There were also some tough times; being lost in NY on a rainy evening in November with no cab fare and watching the Phillies (my new favourite team) getting beaten in the 2009 World Series spring to mind.

Now that you are home and you reflect back on your time in the US, are there any insights that can be applied to your work in the UK?

LB: The UK and US health care systems are very different, but what is interesting is that there seems to be the introduction of core elements of each into the other. For example, in the UK we have started to introduce independent providers and contractors into the system to take over work that has been for years considered to be the domain of the National Health Service alone. In the US, the new aim to cover everyone, getting as
many people as possible under the umbrella of health insurance, is similar to one of our central tenets in the UK, which is universal access to health care, free at the point of delivery. I have been most struck by how much innovation takes place at a local level in the US; there is a real sense of vibrancy that I hope we can match in the UK.

What are you doing now? What would you like to do in the future?

LB: At the moment, I have returned to my job as a hospital gastroenterologist. I had been away from it for a year so it is really nice to be back. I have become more interested in population health during my time over here and plan to start a PhD in public health next year. I might try to come back to the US at some point for further study.

What do you miss about Philadelphia?

LB: There is a lot to miss about Philly. What I was first struck by was the friendliness and approachability of Philadelphians and then how clean and understandable Center City was. I will also miss all my colleagues at the JSPH (but then again there is always Facebook) and the people who were gracious enough around the US to patiently teach me about the US health care system. On a purely selfish note, the weather will be hard to beat now as it is 60 degrees and raining in the UK at the moment.

For more information on the Commonwealth Fund Harkness Fellowship visit: http://www.commonwealthfund.org/Fellowships/Harkness-Fellowships.aspx

Health Reform: What’s Next? How Pennsylvania is Preparing for Reform

JSPH Summer Seminar

July 22, 2010

Jefferson School of Population Health held its annual Summer Seminar entitled Health Reform: What’s Next? How Pennsylvania is Preparing for Reform. After an introduction from Dean Dr. David B. Nash, the first guest, William Copeland, Jr., a Health Reform Practice Leader at Deloitte LLP, gave an overview examination of the impact of health reform.

Copeland emphasized that health reform is now a reality and that the “status quo for health care delivery and financing in the United States is clearly over….” He delved into whether or not this was going to be positive or negative for our current system and concluded that it is necessary as long as certain steps are taken such as engaging consumers in personal wellness and fostering healthy competition in the marketplace.

Dr. William Warning II, Program Director of a Family Medicine Residency Program and Clinical Assistant Professor at Temple University School of Medicine, spoke on the topic of the Patient-Centered Medical Home (PCMH). He defined this as a “model for care provided by physician practices that seeks to strengthen the physician-patient relationship…with coordinated care and a long-term health relationship.” After expounding on various aspects of the medical home such as Electronic Medical Records (EMRs), he stressed how PCMH is integral to health care reform.

Dr. George Valko, Gustave and Valla Amsterdam Professor from the Department of Family and Community Medicine and Vice-Chair for Clinical Programs at Jefferson Medical College, highlighted features of the Southeastern PA Chronic Care Initiative demonstration project which includes a cohort of practices that are incorporating many of the PCMH principles.

Two other key elements of healthcare reform are payment reform and using technology in ways that benefit our practices. Dr. Kenneth Goldblum, CMO of Renaissance Medical Management Company, provided key points about the Quality Incentive Payment System while Anthony Gold, CEO of Healthy Humans, offered explanations of the various technology elements that exist and could be utilized to a greater extent.

After a panel discussion with the guest speakers, the seminar was concluded with a presentation by Dr. Louisa Baxter, Commonwealth Fund Harkness Fellow in Health Care Policy and Practice. She summarized what she has learned during the course of a year as a fellow about the US Health System from an international perspective.

To listen to presentations and view slides visit Jefferson Digital Commons at: http://jdc.jefferson.edu/pa_preparing_for_health_reform/

Lisa Chosed, MA

Online Programs Administrative Liaison (OPAL) Jefferson School of Population Health
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Population Health
Creating a Culture of Wellness

David B. Nash, MD, MBA, Dean, Jefferson School of Population Health, Thomas Jefferson University
JoAnne Reifsnyder, PhD, ACHPN, Senior Vice President, Care Transitions CareKinesis, Inc.
Raymond J. Fabius, MD, CPE, FACPE, Chief Medical Officer, Thomson Reuters, Healthcare and Science
Valerie P. Pracilio, MPH, Project Manager for Quality Improvement, Jefferson School of Population Health, Thomas Jefferson University

With over 45.7 million uninsured in the United States and health reform a national priority, the need for population health management has never been more eminent. Sixty percent of American deaths are attributable to behavioral factors, social circumstances and environmental exposures. Employment of population health management techniques advocating use of preventive services and quality clinical care are imperative.

Population Health: Creating a Culture of Wellness offers an educational foundation for professionals and students on the genesis and growth of this important topic. The book is a concise overview of the topic from the perspectives of providers and businesses. It offers a population-based approach to understanding disease management, chronic care management, and health policy making it ideal for students in programs of public health, health policy, quality and patient safety, health care administration, medicine, nursing, pharmacy, social work and other related clinical professions.

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The Population Health Mandate

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Electronically Connecting with your Medical Staff to Improve Health Care in the Community

The recently passed Patient Protection and Affordable Care Act (ACA) and the year-old American Recovery and Reinvestment Act (ARRA) include clear incentives for health care providers to connect electronically. Both laws reflect the Federal Government’s efforts to encourage providers to deliver care in a safer, more efficient and effective manner. As part of the ARRA, medical practices are offered an incentive up to $44,000 per physician to install electronic medical records (EMRs) in the next two years if they are a meaningful user of a certified EMR. Having this opportunity supports the Institute of Medicine’s recommendations regarding safe, effective, equitable, timely, patient-centered, and efficient care, and Don Berwick’s ideas of “Knowledge is shared freely…Decision making is evidence-based…Waste is continually decreased…cooperation among physicians is a priority.” However, the present day reality of computerized systems using different platforms and software can create considerable challenges regarding connectivity and interfere with the potential of reaching these ideals. At Main Line Health, we embarked on a strategy to electronically connect all providers in our community.

Main Line Health is a five-hospital system, including an acute rehabilitation hospital and various subsidiaries such as Home Care and Lab services, located in suburban Philadelphia. In our community, we serve over 1,000,000 people, with more than 2000 physicians on our medical staff. Since most of our physicians are in private practice, they will be deciding individually or in small groups on the EMR for their practice. With the existence of multiple vendors, we could end up with the challenge of connecting and integrating the information from as many different physician office EMR systems as exist in the marketplace. While individual choice is always a positive action, it adds a tremendous level of complexity when it comes to connecting EMRs. A Regional Health Information Organization (RHIO) will probably be available in our community in the future, but this does not appear to be a solution in the near term. Therefore, MLH initiated an “Enterprise Health Information Exchange” (HIE) project – a RHIO centered around and sponsored by MLH. This program creates a mechanism for connecting all these disparate systems through an electronic medical highway developed for our community, physicians, and other providers, supported by MLH.

To connect a wide variety of EMRs to the health system and to each other is a complex undertaking – not something the hospital’s information technology staff would be able to accomplish using their current interface engine. We chose MobileMD to be our connectivity partner. The connectivity engine is capable of performing three functions to make the electronic exchange possible:

**Formatting transactions**

While all healthcare transactions follow the Health Level 7 International standard, this model is currently not “tight” enough to enable plug-and-play interfaces. Some mappings between fields are required to ensure accurate data transfer.

**Terminology mapping**

Very few systems today adhere to the available terminology standards. For example, to make sure that a Hemoglobin A1C from Main Line Health is stored in the appropriate HbA1C field in the various EMRs, terminology maps are required.

**Routing the right data to the right provider:**

A patient’s data is only sent to the ordering physician, the primary care physician, and any physicians who were requested to get a copy.

MLH hopes to enable its physicians to achieve the goals broadly outlined by the Institute of Medicine and other quality experts, and supported by the recent Federal Government initiatives. Working with our medical staff on our connectivity journey will improve the health status of our community over the next decade.

---

**REFERENCES**

Upcoming Health Policy Forums - Fall 2010

Get Healthy Philly: Policy and Systems Change to Promote Healthy Eating, Active Living, and Tobacco Control
October 13, 2010
Giridhar Mallya, MD, MSHP
Director of Policy and Planning
Philadelphia Department of Public Health

Breaking the Language Barrier: Health Care Quality, Efficiency and Savings through Professional Medical Interpretation
November 10, 2010
Louis Provenzano
President and COO
Language Line Services

Transformative Technology Application in Healthcare*
December 8, 2010
Peter Raymond
President and Chief Innovator
Human Condition

*PLEASE NOTE: This Health Policy Forum will take place in the Curtis Building, 1015 Walnut Street, Room 218

Location for Health Policy Forums:
Bluemle Life Science Building, Room 101
233 South 10th Street (10th and Locust Street)
Philadelphia, PA 19107

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JSPH Publications


**Crawford AG, Cote C, Daskiran M, et al.** Comparison of national ambulatory medical care survey and GE centricity database findings on the prevalence of major conditions in the US. *Popul Health Manage.* 2010; 13(3):139-150.


**JSPH Presentations**


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