There’s good news and bad news in the world of healthcare quality. First, the good news: educating future leaders in healthcare quality and safety (HQS) is now widely accepted and highly recommended. The not-so-good news is that there is no commonly accepted approach as to how this should be done.

Initial efforts in HQS education stressed knowledge transfer, a ‘read the book and take the test’ method best exemplified by The National Patient Safety Foundation, the American Board of Medical Quality and the National Association for Healthcare Quality. In this approach, the learner is awarded a certificate of completion or a “quality/safety certificate” upon successfully completing a multiple choice test. The goal is to provide the learner with basic knowledge in medical quality management or to “promote excellence and professionalism by documenting individual performance as measured against a predetermined level of knowledge about quality.”

While the knowledge transfer approach was the first to attempt to fill the large void in quality and safety education, it did so at a time when the field was still in its infancy; content areas and competencies continue to vary from test to test. There is also growing recognition that knowledge transfer is not sufficient to produce real change in the delivery of quality and safety; an experiential or applied component is also needed.

In time, knowledge transfer methods were supplemented by accredited continuing education (CME, CNE) and professional development programs such as seminars, workshops and weeklong learning environments. These efforts presented informational content and some, depending on the provider, also offered limited opportunities for application and practice in real-world settings. Finally, institutions such as Northwestern University (2007), Thomas Jefferson University’s School of Population Health (2009) and George Washington University (2013) moved beyond non-credit offerings and developed comprehensive academic programs that culminated in a post-baccalaureate certificate or master’s degree in healthcare quality and safety. The content of these academic programs, however, varies from school to school, as does the instructional balance between knowledge and application and the qualifications of the faculty or instructors who do the teaching.

Recognizing these differences, the AAMC (Association of American Medical Colleges) is convening a meeting of experts in quality and safety education to develop a comprehensive outline for an HQS curriculum.

At this point in the evolution of HQS education, three crucial questions need to be answered: What content should be included in the curriculum? How should the learning experience be structured? Who should comprise the faculty?

To answer these questions, the learner — the future healthcare leader — needs to be at the center of the discussion. Because experience in health care is essential for creating necessary culture change, future leaders must come from the healthcare system. This means that HQS students will be seasoned medical or health professionals (most JSPH HQS students, for example, are...
in their late 30s and early 40s) and that the learning environment must be grounded in adult education principles and based on active learning. The curriculum must provide a practical, "nuts and bolts" approach that includes all parts of the healthcare system that intersect quality and safety; and it must assure a strong understanding of the facets of these intersections. Finally, faculty must be practitioners. They must have experiential, hands-on knowledge of what they are teaching; knowledge without practice is not sufficient.

The JSPH MS–HQS curriculum builds on a solid foundation of health care knowledge. It provides healthcare professionals an in-depth understanding of the US healthcare system and its regulatory and accreditation components. It reinforces this knowledge with the study of health law and health economics as realized by all stakeholders. It introduces health informatics, not simply as a bookkeeping tool, but as an integral part of the quality and safety system. Principles of population health pervade the entire curriculum. Quality and safety competencies and skills build upon this foundation and include organizational behavior and change management, data collection and analysis, quality tools, methods and advanced applications culminating in a work-based capstone project. JSPH faculty are recruited from the professional "working" world of HQS and thus provide an organic and holistic understanding of the basic principles being taught.

The JSPH approach to adult learning is active and case based. This method places the student "in the role of the decision maker as they read through various situations and identify the problems they are faced with and examine the causes and consider alternative courses of actions to come to a set of recommendations."6 As adult learners become active participants in their educational experience, they obtain skills and competencies that allow them to analyze and design quality environments. More importantly, they are prepared to lead healthcare quality and safety initiatives across a healthcare spectrum that, because of its multiple clinical and non-clinical disciplines, is unyieldingly complex in its interactions.

REFERENCES

JSPH NEWS

JSPH MPH Students in the News

MPH graduate and SKMC student, Mariana Kuperman and current MPH student Nicole Matteucci, were selected to be a part of the Jefferson’s interdisciplinary student team that will participate in a Hot Spotting Mini-Grant project. They will work to identify high utilizers in the Jefferson hospital system and focus on the patient’s psycho-social and environmental needs, access to primary care, and other needed services for managing multiple chronic conditions. Jefferson is one of 10 student team recipients to participate in this 6th month program selected by Camden Coalition of Health Care Providers, Primary Care Progress, and Association of American Medical Colleges.

In responding to the growing need for education in healthcare quality and safety, the Jefferson School of Population Health has opted for a curriculum that stresses healthcare foundations, practical tools and methods, informatics and organizational change — all taught by experienced practitioners utilizing best practices of active learning for an adult population. Going forward, there is need for a uniform or consensus-driven curriculum in HQS that recognizes the adult learner, stresses core competencies, and includes both didactic and experiential components. The unanswered questions are how to achieve this consensus and who should lead it... to be continued.

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2014 JSPH Online Instructor Recognition Awards

Online Instructor of the Year
Harm Scherbier, MD, MS

Scholarship of Teaching and Learning
Rob Lieberthal, PhD

Innovation in Online Education
Marcia Wilkof, PhD, MS

2014 JSPH Online Instructor Recognition Awards
The Medical Reserve Corps: Volunteers Making a Difference

The Medical Reserve Corps (MRC) was formed in response to the September 11, 2001 attacks on the US World Trade Center and the Pentagon, and the anthrax bioterrorism events that followed in October. The events of 9/11 motivated a significant number of medical and public health professionals to spontaneously arrive at the scene and volunteer their time and services in the disaster response efforts. However, their presence became extremely problematic for the emergency management agencies because there were no mechanisms to: 1) ensure their identities, licensure, and qualifications; 2) address liability issues; 3) supervise and manage unaffiliated volunteers; and 4) handle logistics such as housing and meals. As a result, most of these highly skilled health professional volunteers were turned away. Just a few weeks later anthrax-laced letters were mailed to news media and Congressional offices, requiring a mass medication-dispensing response. These and subsequent events highlighted how human-caused and natural disasters create the need for communities to be able to rapidly mobilize public health services and underscored the necessity for a national coordinated system to utilize qualified volunteers.1,2

In 2002 President George W. Bush created the USA Freedom Corps to bring together existing volunteer service organizations, including AmeriCorps, SeniorCorps, the Peace Corps and the newly created Citizen Corps. Citizen Corps serves as a national network for volunteers dedicated to preparing their communities for terrorism, crime, and disasters of all kinds.1 The MRC, a specialized component of the Citizen Corps, was launched in July 2002 with the specific aim to supplement the existing community-based public health and emergency response by promoting the local identification, recruitment, training, and activation of medical and public health professionals.1 Each MRC unit is led by a Unit Director or Coordinator who matches community needs with volunteer capabilities. Local MRC leaders are also responsible for building partnerships, ensuring the sustainability of the local unit, and managing resources. Partnerships typically include local public health and emergency response agencies, community businesses, schools and neighboring MRCs.2 The Office of the Civilian Volunteer Medical Reserve Corps, headquartered in the office of the U.S. Surgeon General, provides support, technical assistance and supervision to MRC units.2 As of May 2014, there are 995 MRC units and more than 208,000 volunteers throughout the nation.3

MRC units vary in size and structure and are most often housed within local health departments, but can also be organized by universities, hospitals, and community or faith-based organizations.4 Medical volunteers include nurses, physicians, pharmacists, dentists and veterinarians. Nonclinical volunteers such as chaplains, interpreters, legal advisors, and others fill logistical and support roles.2 Volunteer requirements are determined by the local MRC unit and often include education to enhance their knowledge of public health preparedness and response. Depending on the community’s needs and on available skills and expertise, volunteers may be called upon to provide health services in emergency shelters, staff point-of-distribution clinics for mass vaccination or prophylactic medications, assist with surveillance or case investigation activities, staff emergency call centers, or provide community health education.1 During a federal disaster MRC volunteers may be “federalized” (deployed by the federal government and made temporary federal employees) to provide assistance nationwide, as was the case in 2005 during Hurricanes Katrina and Rita.2

The Philadelphia Medical Reserve Corps

The Philadelphia MRC, founded in 2005, is housed within the City’s Department of Public Health and has over 1800 registered volunteers. Volunteers must be over 18 years of age, pass a background and professional license check, and attend a New Volunteer Training. The core training for new volunteers centers on mass dispensing and mass vaccination – the provision of medical countermeasures to potentially hundreds of thousands of residents during a disease outbreak or bioterrorism incident. In such an emergency, thousands of medical and non-medically trained volunteers would be necessary to support Points-Of-Dispensing (PODs) operations at local gymnasiums and community centers. Annual POD exercises allow MRC volunteers to provide flu vaccinations to thousands of Philadelphia first responders.

Philadelphia MRC volunteers are also trained to run medical clinics located within City-run evacuation shelters. At these clinics, teams of volunteers provide medical care to residents displaced by hurricanes, power outages, and other disasters. In recent years MRC volunteers have worked at clinics during Hurricane Sandy and in Chester County during the winter storms of 2014.

Within the last year, Philadelphia MRC volunteers have assisted at high-profile special events such as the Made in America festival and the Philadelphia Marathon. Volunteers work alongside Philadelphia Fire Department paramedics to provide medical care to athletes and bystanders. The MRC also serves as surge capacity in the case of a mass casualty incident, such as the 2013 Boston Marathon. At the 2013 Philadelphia Marathon, the MRC deployed 35 volunteers to the finish line medical tent, assisting patients with complaints including lacerations, severe dehydration, sprains, and cardiac arrhythmias. At a recent half marathon in Philadelphia, five MRC volunteers were the first to respond to a patient in cardiac arrest, performing CPR and directing EMS resources to the scene. The patient survived after being transported to a hospital.

Other potential duties for MRC volunteers include assisting the Medical Examiner’s Office during a mass fatality incident, assisting emergency call centers, outbreak investigation, logistics and communications, behavioral health support, and performing medical screenings. Volunteers are often asked to act as “victims” for mass casualty drills. Exercises are conducted regularly in conjunction with partner response agencies such as the American Red Cross, MRCs from surrounding counties, the Philadelphia Office of Emergency Management, the Philadelphia Police Department, and the Philadelphia Fire Department.

Nurses are the most common type of Philadelphia MRC volunteers, followed closely by health professional students. Students are afforded many opportunities...
during drills, exercises, and real deployments for hands-on experience that can enrich their classroom learning. At a recent mass vaccination exercise, one medical student volunteer administered over 100 flu vaccinations in fewer than three hours, while under the supervision of a physician. Monthly educational seminars often include free continuing education credits and cover topics ranging from psychological first aid to radiological emergencies to working with children in disasters.

Because of their work in the community, MRC units need licensed medical professional volunteers and unlicensed administrative and support volunteers with a broad range of skills and expertise. These individuals may be students in training, those in active clinical practice or retired. A registered volunteer can be as involved in the program as they wish. No volunteer is obligated to deploy to any emergency. It is precisely for this reason that having a large MRC is crucial to the City, as many volunteers may have work and family responsibilities that render them unable to assist during a particular emergency.

The MRC is now recognized as one of the leading volunteer programs in the United States. For more information about The Medical Reserve Corps visit http://www.medicalreservecorps.gov/. To find the nearest MRC unit to a specific geographic location visit http://www.medicalreservecorps.gov/VolunteerFldr/.

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REFERENCES
Teaching US Healthcare Organization and Delivery: Two Models of Instruction

Jefferson is uniquely positioned to educate leaders who will help transform the U.S. healthcare system. For Jefferson School of Population Health (JSPH), the study of the current state of healthcare organization and delivery in the United States provides an indispensable framework for research, analysis, problem solving, and professional growth.

Jefferson School of Pharmacy (JSP), a sister school to JSPH, shares the goal of delivering transformational education. For students in both schools, a systems perspective is essential. The complexity and rapid pace of change in today’s healthcare market necessitates a deeper understanding of the system and the expanded role of pharmacists and other healthcare professionals in new team-based models of care.

This discussion describes two comparable healthcare delivery courses offered by JSPH (HPL 500) and JSP (PHRM 519) in response to the challenges facing today’s healthcare practitioners. While the larger goals of these courses are broadly equivalent, and both courses are requirements for students in their respective Schools, they differ in terms of content and learning techniques. This article illustrates two different approaches for delivering this material as options to readers who may be engaged or interested in healthcare systems training for today’s healthcare professionals.

Throughout this paper we’ll point to the success of discussion, formal debate, stakeholder analysis, and policy analysis as learning strategies particularly conducive to the shared goals of both courses.

JSPH Course: HPL 500 “US Healthcare Organization and Delivery”

HPL 500 is the first course students take upon entering JSPH, and it is the only course required across all of our degree and certificate programs. Various healthcare professionals (including a physician, a health services researcher, a health economist, a pharmacist, a physician executive, and a strategic consultant) serve as instructors for HPL 500. As a group they reflect much of the spectrum of the healthcare industry. In order to reach an equally diverse group of students (ranging from healthcare professionals working around the country, to graduate students residing locally, and corporate clients), HPL 500 is offered online, on campus, and off campus. Our instructors have also taught versions of HPL 500 in Italy.

HPL 500 aims to provide students with a shared understanding of the contemporary healthcare landscape in the U.S. including the Patient Protection and Affordable Care Act (PPACA), providing an overview of how health care is organized, delivered, and financed. It helps participants explain current issues related to healthcare access, cost and quality while taking into account diverse stakeholder interests. In this way the course serves the overarching mission of the School, our “population health mandate” to improve care coordination, promote healthy lifestyles, reduce waste and medical error, eradicate disparities in health outcomes between populations, and improve transparency and accountability throughout the healthcare system.

Interviews conducted in 2013 with HPL 500 instructors reflect a common commitment to this mandate, and an awareness of a central challenge: students often have a narrow exposure to the healthcare system. To expand upon their perspectives, students need guidance in developing a systems view—one through which they can interpret the structure and behavior of the working component parts of the system and the forces that influence the relationships between those components.

In the online version of HPL 500, students construct a profile of the U.S. healthcare system in order to begin outlining these components and relationships for themselves. The profiling assignment calls for students to represent the system in both narrative and graphic forms. The profile is expected to encompass such aspects of the system as its size, infrastructure, and human resources—both in public and private settings. On-site versions of the course also draw out the systems perspective through presentations made by faculty and students.

A review of student feedback on this assignment over the past 3 years indicates that students recognize the gap in their prior preparation, and that they come away with a framework for relating components of the system to each other and to the daily life of healthcare providers (Figure 1).

Policy debates in the HPL 500 classroom are the second most commonly used instructional technique. Whether conducted in live classrooms or in asynchronous discussions online, the debates help students craft positions that account for complexities of the existing system and the stakeholder perspectives influencing the system. Debate topics can include Supreme Court rulings, the healthcare market and social justice, alternative payment systems, integrated...
delivery systems, long-term care, and healthcare quality improvement initiatives. Historical and international perspectives are deliberately introduced by faculty in order to facilitate a broad understanding.

The combination of a systems framework and expanded understanding of diverse stakeholder perspectives that comes from

Figure 3. Student feedback on HPL 500 – personal, professional, real-world impact

“This course has changed the way I view my role as the director of a community radiology department within a large university department. Whereas I had blindly followed the party line that this small hospital has to provide everything to everybody, straining resources on fabulously expensive procedures performed maybe annually, I have completely changed my attitude—hopefully more responsibly—and try to argue for consolidation with our parent university. Also, the intellectual stimulation provided by this course has given me a couple of research ideas having to do with utilization and physician behavior and performance and productivity.”

the discussions and debates with faculty and peers enhance each participant’s intellectual grasp of healthcare issues, and it empowers them to envision action paths for themselves (Figures 2 & 3).

JSP Course: PHRM 519 “Healthcare Delivery Systems”

The JSP course in Healthcare Delivery Systems is delivered in a traditional classroom setting during the first semester of the PharmD curriculum. The course provides pharmacy students with a critical foundation in the U.S. healthcare delivery system by addressing the social, political, and economic contexts. Like HPL 500, PHRM 551 begins with developing students’ knowledge of the system’s working components and the stakeholders which influence these components. Health reform is introduced approximately midway through the semester, once students have a sense of the history and context of healthcare delivery. Material is specifically designed to address the issues relevant to pharmacists, emphasizing the development and delivery of pharmaceuticals, sources of public and private pharmaceutical coverage, evolution and trends in pharmacy benefit management, and the role of the pharmaceutical industry pre- and post-drug approval.

PHRM 519 is driven by applied learning which is operationalized through two major team assignments: 1) health policy team debates and 2) health policy analysis. For the team debates, assigned groups of 3-5 students orally present and prepare arguments on either the supporting or opposing side of the assigned controversial policy issue. Examples of topics include insurers’ restriction of access to costly pharmaceuticals, FDA limiting opioid dispensing to REMS-certified pharmacies, and CMS implementing bundled Medicare payments for end-stage renal disease. The debates are organized as follows: 1) two groups participate in a debate on a pre-assigned topic related to material covered in the previous week’s lecture, with each team assigned to argue either the “pro” or the “con” side of the issue; 2) the debates take place in the final 30 minutes of designated lectures and adhere to a structured format: opening statements (7 minutes), Q&A (12 minutes) and closing statements (2 minutes). Grading is done using a rubric encompassing the following domains: time, organization, questions asked and responses given, knowledge base, closing statement, presentation skills, and teamwork.

Student feedback indicates that they enjoy the lively format of debates. The assignment not only requires an in-depth analysis of topics introduced in class lectures, but also enables students to developed informed opinions on pharmacy-related issues and fosters their ability to develop evidence-based solutions. One lesson learned from the technique is that questions should be solicited from each team and distributed to the other 1-2 days prior to the scheduled debate to allow teams to formulate more thorough and informed responses to questions.

The second applied assignment is a formal healthcare policy analysis, in the form of a formal paper along with in-class team presentation. This serves as the culminating event, with students expected to integrate concepts covered during the semester. Students work in teams of 3-5 continuously throughout the semester. Together, they examine their assigned issue from the perspective of all relevant healthcare stakeholders, applying knowledge obtained from class to inform the presentation of their recommendations for addressing it.

The paper is graded using a rubric which includes the following domains: mechanics and vocabulary, conceptualization, organization of content, recommended solution, and quality of references; the oral presentation is not formally included in the grade but serves as practice in presenting a team project. As with the debate assignment, topics are geared towards issues relevant to future pharmacists. Recent topics have included HPV vaccine as a mandatory childhood immunization, propofol drug shortages, off-label use of antipsychotics, the significant time and cost of bringing a new drug to market, ensuring manufacturing quality of imported drugs, and growth of the pharmacist workforce. The project necessitates team communication and productive brainstorming to formulate potential policy solutions. Students are urged to consider policy solutions which are new, creative, and represent their own best thinking. This approach enables students to develop a deep understanding of their topic while fostering team skills and cultivating students’ oral and written communication abilities. Teams completing exceptional papers have been invited to re-format their analysis for submission to a healthcare journal.

Student feedback from evaluations (Figure 4) indicates that the debates and policy paper are valued:

Figure 4. Student feedback on PHRM 519 Debates and Policy Paper Assignments

“The debate and the policy analysis paper did a tremendous job in teaching us current news of the topics that we were learning in class.”

“This course did an excellent job at presenting various issues and current concerns with the healthcare system. The debates and final presentations were helpful because we could learn from our fellow classmates.”

“The debates and policy analysis presentations were really helpful because I got to learn about a lot of the issues in health care.”

“The debate and the policy paper are great ways to allow other students to see some issues in the healthcare system and creatively sparks students’ interest.”
Montessori realized that the best way to understand of teaching and learning – not just with children, but also with adults. As an educator and mother of three daughters, I’ve always been very fond of Maria Montessori, the early 20th century Italian researcher who revolutionized the teaching and learning of 3-5-year olds. Montessori believed that each child has its own way of learning. Some were visual learners like my first daughter; some were kinesthetic learners, like my second daughter; and others were aural learners, like my third daughter. Today we refer to this as having different “learning styles.” (I thought of it as parenting chaos!) Montessori also realized that children who are not emotionally engaged in what they are doing cannot concentrate and soon lose interest in what they are doing. As a pioneer ahead of her time in the understanding of teaching and learning – not just with children, but also with adults. Montessori realized that the best way to assure deep, long-lasting learning was to teach in a way that included recognition of all learning styles (so they could reinforce one another) and to provide an atmosphere that is emotionally safe and open. Learning, she said, should be fun. Children at play are really working at learning. Deprive the child of fun or play and learning ceases.

I was thinking of all of this when preparing these remarks about Amy Leader, this year’s recipient of the JSPH Award for Teaching Excellence. **Amy Leader, DrPH, MPH**, currently Assistant Research Professor in Jefferson’s Division of Population Science in the Department of Medical Oncology, has taught the Introduction to Public Health course, and the Capstone Seminar, but is most famous for her rendition of Behavioral and Social Theories in Public Health. In reading her student course evaluations, I was struck by the fact that certain words and themes constantly appeared. There was the usually expected “extremely knowledgeable and passionate about the topic.” But the one word that came up time and time again was **fun**. “This course was fun and productive,” said one student. “The assignments were innovative, creative and fun,” said another. And so it went: “The assignments were fun and interactive and made me think about and understand course material through application ....”

Summary and Next Steps

Both the JSPH and JSP healthcare delivery courses provide students with an overview of the U.S. healthcare system and rely upon active learning techniques, though the courses differ in that content is tailored to suit the focus of each curriculum. Fostering a systems view through debate and discussion has emerged as critically important to class engagement and to achieving the desired learning outcomes. Equally important, in-depth analysis of policy issues has allowed students to consider the perspectives of different healthcare stakeholders and evaluate evidence relevant to national policy.

The rapid pace of change in our healthcare system and the availability of new information at our fingertips, it is increasingly important for healthcare students to be adaptable and to develop critical thinking skills. This can only be accomplished with a thorough understanding of the system. We posit that the material delivered in these courses is not only important to Jefferson students, but also to its employees—particularly those on the front lines of patient care. In the future, a primer on these topics can be implemented to meet the growing need for basic training on campus. As for JSPH and JSP, we plan to continue offering this critical foundational coursework, while continuously updating content and testing new learning approaches. In addition, we are furthering our commitment towards health systems training by offering a dual PharmD, MPH degree. If you have experience or ideas to share, we welcome your comments and suggestions.

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JSPH CLASS NIGHT

JSPH Award for Teaching Excellence

As an educator and mother of three daughters, I’ve always been very fond of Maria Montessori, the early 20th century Italian researcher who revolutionized the teaching and learning of 3-5-year olds. Montessori believed that each child has its own way of learning. Some were visual learners like my first daughter; some were kinesthetic learners, like my second daughter; and others were aural learners, like my third daughter. Today we refer to this as having different “learning styles.” (I thought of it as parenting chaos!) Montessori also realized that children who are not emotionally engaged in what they are doing cannot concentrate and soon lose interest in what they are doing.

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Dr. Leader holds a BA in Biology from the University of Pennsylvania and an MPH and DrPH from George Washington University. She did an interesting Post-Doc at the National Cancer Institute’s (NCI) Center for Excellence in Cancer Communication Research at the Annenberg School of Communication at the University of Pennsylvania, not the usual place you would think of when you think of public health. She also attended the National Institute of Health Advanced Training Institute on Health Behavior. Her current research investigates how patients with early stage prostate cancer make informed decisions about their treatment options (funded by the Pennsylvania Department of Health) and best ways to increase informed decision making about participation in breast cancer clinical trials (funded by the American Cancer Society.) Previous funded research includes development of a decision aid for Hepatitis C Testing in High Risk Populations (PA Department of Health); promotion of HPV or human papillomavirus vaccination through African-American beauty parlors (Merck); evaluation of an informational aid to increase HPV vaccination among adolescent males; and factors influencing decision making about HPV vaccination among African American adolescents and their caregivers (American Cancer Society). She has published on all these topics, and more, in various venues, including the Journal of Health Disparities, Research, and Practice; Hispanic Health Care International; Health Promotion Practice; American Journal of Men’s Health; the American Journal of Health Studies; and the Health Marketing Quarterly, among others.

When not coming up with new and innovative ways to have fun with her students, Dr. Leader serves on the Radnor Township Board of Health in Montgomery County, enjoys participating in Boy Scout service projects with her son Eli, vacations with her husband and son on the beaches of St. Thomas, works in her local community garden at Skunk Hollow, walks her dogs, Millie and Marley, and indulges in eating frozen yogurt.

Amy, we can’t thank you enough for all that you do for our students and for the Jefferson School of Population Health. As your students said so perfectly, your classes are fun, and you are a joy!

**JSPH Special Recognition Award**

In this post-industrial age of information and e-security, it is not possible to provide productive and meaningful educational experiences for our students without the help of others – many others – who often work behind the scenes, unnoticed and unrecognized, to make this learning possible. While a strong and dedicated faculty remains crucial to our mission, we also rely on the expertise and support of others throughout the University to make what we do possible and successful. Accordingly, the Jefferson School of Population Health Special Recognition Award is intended to show our appreciation to someone outside of our School who, quietly, earnestly, and pro-actively, has made considerable contributions – above and beyond the call of duty – to the learning of our students and to the success of our School and its programs.

**Kyle Conner, MA, CIP**, this year’s recipient, is the Associate Director of Jefferson’s Division of Human Subjects Protection, the administrative support center of the IRB (Institutional Review Board), a position he has held since January 2005. A voting member of three Jefferson IRBs, he is a Certified IRB Professional (CIP), one of the first in the country to receive this certification. As such, he is highly respected in the world of human subjects protection, both locally and nationally. He is very active as a teacher of human subjects research and its regulations and finds this “classroom” role one of the most satisfying aspects of his work. Indeed, it is in this capacity that we find him constantly helping our students throughout the year as they hone their skills as future public health researchers and practitioners. If truth be told, there is no Capstone Project alive that has not benefited from Kyle’s kind instruction and helpful advice. Dealing with “human subjects” is not always easy!

Kyle holds a Bachelor of Arts in English from Temple University and came to Jefferson in 1996 after finishing his Master of Arts in Creative Writing, also from Temple. His master’s concentration was in poetry. His published works include Songs for South St. Bridge (1996), The Pulverized Thing of Doubt (2002), Toward Belief (2005) and breaths for flesh (2008). He ascribes to the theory of “Oughtism” (because you Ought to know), which holds that art is never more or less than an extension of the way one chooses to live one’s life. (Speaking of Maria Montessori, she once said: “We especially need imagination in science. It is not all mathematics, nor all logic, but it is somewhat beauty and poetry.”)

When not reading or writing poetry, Kyle is an enthusiastic bicycle rider and an active member and supporter of the Pennsylvania Environmental Council (PEC). He combines these activities by doing the annual PEC Environment Ride to support the Council’s work in developing land and water trails in southeastern Pennsylvania. As he says on his blog, “I have been inspired by the gorgeous countryside of southeastern Pennsylvania and its diversity of geography and people. I always learn something new.”

In keeping with the spirit of this occasion, I’ve composed a little poem, a limerick, in Kyle’s honor:

| There once was a fellow named Kyle Who had his very own unique style.  |
| He tamed the IRB With a dash of po-e-try And caused all human subjects to smile! |
| Ah! Poetry and the IRB: Perfect together! |

Kyle – we thank you for all that you do for the students and success of the Jefferson School of Population Health.

Presentation of the Award for Service Excellence in Teaching and the Special Recognition Award was written by Caroline Golab, PhD, Associate Dean for Academic and Student Affairs, Jefferson School of Population Health.
According to the Bureau of Labor Statistics, developing and maintaining the healthcare talent stream to supply the growing need for laboratory technicians and technologists is a critical human resource concern.1 Last year, Jefferson School of Health Professions joined several local non-profits - the Philadelphia Youth Network, Philadelphia Academies, and District 1199C Training & Upgrading Fund - in creating and implementing Quest, an innovative pilot program designed to take 25 low-income inner-city high school students away from textbook science and into the dynamic world of a working laboratory. The goal is to provide exposure to and raise interest in bioscience as a career, a vast occupational field often unknown to these students.

In Pennsylvania, the bioscience industry employs more than 79,000 people directly and generates annual wages of $7.2 billion.2 According to the University City Science Center, the economic impact to the region is substantial: about 15,000 people are employed regionally at an average wage of $89,000; they contribute $22 million in wage taxes to the City of Philadelphia and $42.5 million in income taxes to the state.3 However, there is a lack of racial diversity in the bioscience field, even at its entry level. For example, hospitals hire half of the 350,000 people that are employed in the country as technologists (BA level) or technicians (AA level) but less than one-third of that force is comprised of minorities.4 This is more significant when one considers that the country’s population is growing ever more diverse. The challenge to increase and diversify tomorrow’s STEM (Science, Technology, Education and Math) workforce is difficult given the generally low levels of math and reading proficiency of America’s students. According to the U.S. Department of Education, only 26% of 12th graders in the U.S. demonstrated proficiency in math and 38% in reading, with African-Americans and Hispanics scoring well below the average in both categories.5

“The goal was to introduce them to laboratory-based profession and the career pathways. To make them aware,” explained Esther E. Biswas-Fiss, PhD, associate professor, and director of Jefferson’s Biotechnology programs. Dr. Biswas-Fiss was charged with writing the curriculum and coordinating the graduate student mentors. The logistics included two graduate students traveling weekly to the two participating high schools—Roxborough and Lincoln—to provide additional science lessons, and for the high school students to travel to Center City on a monthly basis to try their hand at such things as DNA fingerprinting. “The kids got the most enjoyment from being in the lab,” recalled Ronit Caplan, Philadelphia Academies Inc.’s manager for Internships and Industry Pipelines and the project manager for Quest. “It made them feel as if they were academically ready to do college-level work.”

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- **October 15, 2014**
  - 12:00 pm – 1:00 pm

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- **Thursday March 12, 2015**
  - 12:00 pm – 1:00 pm

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- **October 8, 2014**
  - 1:00 pm – 2:00 pm

For more information visit: Jefferson.edu/PopulationHealth or call 215-503-6125.

**Quest: Creating a Biotechnology Workforce Pipeline**
The most important aspect of the Quest program, according to Dr. Biswass-Fiss, was the mentorship relationships developed between the high school students, many of whom will be first-generation college students, and the graduate students in Jefferson’s biotechnology programs. Dr. Biswass-Fiss strongly believes that the key to diversifying the biotechnology pipeline is developing high quality coordinated mentorships that are integrated into the academic setting and that occur throughout the academic life of a student, from kindergarten through graduate school. These relationships, she argues, helps to demystify the process. “When I compare what my daughter knows with what I knew when I started college, it is just amazing,” said Dr. Biswas-Fiss, herself a first-generation college student whose academic career started in community college.

District 1199C Training & Upgrading Fund, a healthcare labor-management collaborative, asked Jefferson University’s Biotechnology Program to join the partnership. Said Executive Director Cheryl Feldman, “They have an incredible amount of experience in the field of bioscience at the highest levels of excellence. Dr. Biswas-Fiss and Shirley E. Greening, MS, JD, CT (ASCP), CFIAC (Chairman and Director for the Biosciences Technology Graduate and Cytotechnology programs), are so committed to exposing youth to lab careers and it was after having worked with Dr. Greening on other projects that I knew I wanted their expertise on this program.”

With a poverty rate in the city of 28.4%, biotechnology careers offer one of the few occupational opportunities for low-income minority students to earn the type of wages necessary to lift a family into the middle class. “The jobs of tomorrow will rely even more on the skills derived from STEM education,” said Mary Linda Andrews, Director, Community Partnerships at GlaxoSmithKline (GSK). GSK partnered with the Philadelphia Foundation to provide the initial round of funding for the pilot program with the hope that it would “inspire high school students and lay the groundwork for science careers.” Indeed, Quest successfully met its lofty goals to build 21st century skills, provide work experience and connect students to college mentors through laboratory-based educational programs focused on biotechnology science applications and clinical molecular diagnostics. “Quest opens up new worlds for me and my fellow classmates such as new subjects, new career possibilities in the biotechnology industry, the chance to be on a college campus like Thomas Jefferson University, and the chance to meet amazing people, including our Thomas Jefferson University mentors,” said Kayla Hadley, a former Quest participant from Roxborough High School.

Unfortunately, once the pilot program ended, there has been no funding for another Quest project. With biotechnology as one of Philadelphia’s prime economic drivers and healthcare institutions the city’s major employers, there is an urgency to continue to find a way to connect minority and poor students to science and engineering fields. Roxborough High School is currently attempting to replicate the program by developing a Bioscience Academy to implement the lesson learned from the Quest project, but it is still in its infancy. “We must continue to find ways to partner with investors like GlaxoSmithKline and The Philadelphia Foundation so we can diversify resources to help us strengthen career preparation opportunities for Philadelphia’s youth,” said Stephanie Gambone, Vice President of External Relations, Philadelphia Youth Network.

Lynette Hazelton, MPH
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REFERENCES

JSPH Fellows Day 2014
Top row, left to right: Tom Karagiannis, PharmD; Slaven Sikirica, MSc; Matthew Alcusky, PharmD, MS; Ashok Vegesna, PharmD; Vittorio Maio, PharmD, MSPH
Bottom, row, left to right: Jessica Lopatto, PharmD; Carine Hsiao, BScPharm, MHS; Dominique Corner, PharmD, MS; David B. Nash, MD, MBA; Tony Amos, PharmD
The Patient-Centered Medical Home (PCMH) model has reinvigorated primary care with a vision and standards for practice, coupled with expanded payment to support the new model. This new model focuses on providing efficient, evidence-based care through a coordinated interdisciplinary team using clinical information technology, and comprehensive care coordination by keeping patients at the center of the care delivery model. Several recent publications have identified the benefits of implementing medical homes with a collection of evidence about the impact on the patient experience, and outcomes of quality and cost. Two large scale PCMH demonstration projects, Wellpoint and Colorado, have shown success in achieving the Triple Aim of healthcare reform as defined by the Institute for Healthcare Improvement (IHI): improving the patient experience of care (including quality and satisfaction), improving the health of populations, and reducing the per capita cost of healthcare. The Commonwealth Fund vested a collaborative of 75 researchers in 2009 to outline standardized key outcome measures to evaluate the efficiency of the medical home model. The five key evaluation dimensions include patient experience, clinical quality, cost and utilization, clinician and staff experience and process/implementation.

Patient experience and patient engagement are sometimes used interchangeably, but are actually distinguishable terms. Patient experience is the overall care experience of the consumers during any interface within the healthcare systems (hospital/ambulatory office setting), currently measured with the HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems). Patient engagement is a holistic concept focused on the personal skill/motivation acquired by the patients for their own health, and ability for better informed, shared decision making leading ultimately to improved health outcomes. The goal is to keep patients healthier and engaged between their office visits. The process of engagement runs along a continuum of services including patient-specific education, direct access and collaboration to achieve optimal health.

The National Quality Forum has ranked patient engagement as one of the top six priorities that are needed to improve quality and safety in the health care delivery system. Patient Engagement exerts a maximum effect on population health management and is a key missing element of evaluation of medical home.

Carman et al. have developed a strategy to engage patients at distinct levels as consultants or partners. This multidimensional framework has articulated the concept of shared leadership of patients in the healthcare redesign process; to have direct consumers help to construct the building blocks of healthcare. There are 3 critical elements emphasized: 1) the activities in which patients can be engaged range along a continuum, with increasing opportunities and responsibilities; 2) patients can be engaged throughout the healthcare system, including direct level of care, organizational design and governance, and health policy; and 3) there are several factors which may influence a patients’ ability and determination to be actively involved in these endeavors.

To date there are very few tools in the literature to quantify the level of engagement and measure meaningful patient engagement at the distinct levels mentioned above. One of the only validated tools available is Patient Activation Measure (PAM), an instrument to compute an individual’s level of engagement based on a developmental model of activation categorizing responders into four stages. High PAM scores correlate positively with higher rates of adherence to medication regimens, self-management behaviors and enhanced quality and safety. The second option is measuring Patient Reported Outcomes (PROs) as surrogate markers of patient engagement. The Dartmouth Institute for Health Policy and Clinical Practice has shown that integration of patient reported outcomes measurement into the day to day operations of a clinical environment has strong potential to support better health outcomes as it helps the provider know the preferences, knowledge and values of patients. In addition, Patient Reported Outcomes Measurement Information System (PROMIS) is a web-based program developed by the National Institutes of Health (NIH), and has several validated instruments to assess PROs in different areas including quality of life and symptoms of disease. These instruments could be integrated with PCMH to inform policy and related payment reimbursement.

Meaningful patient engagement should be bi-directional between patients and providers. The OPTION scale (Observing Patient Involvement in Shared Decision Making) could be used as an additional tool. This instrument was designed to measure the level to which physicians can involve patients in decision making in a clinical setting. It is a validated instrument robustly designed with strong psychometric properties and utilized in many different clinical scenarios. This tool can estimate patient engagement in shared decision making, and has a potential to serve as a quality indicator for the medical home transformation. It also quantifies the extent to which a clinician has engaged his patients in decision making and identifying his/her preferences, knowledge during their regular office visits.

Measurement of a well-defined quality metric allows identification of baseline values and quantifies any success or failure of quality improvement interventions. Considering patient engagement as a quality metric for medical home evaluation will help define categories of patients (informing specific interventions for each of them), evaluate patient-centered interventions, and evaluate providers based on their patient panel scores. Having a robust measurement tool for patient engagement may inform the payment model in the future.

Patient engagement in healthcare is fundamental to decreasing healthcare expenditure and medical errors while promoting quality, safety, and overall better health outcomes. Investment in tools and interventions to enhance and measure patient-centric approach with high quality affordable care has gained attention in recent times and will hopefully be disseminated widely. Several non-profit organizations like PCORI (Patient Centered Outcomes Research Institute) are investing in patient-centered outcomes research to
improve methods and infrastructure for engaging patients at different levels. An indispensable part of healthcare delivery reform must be to achieve E4 patients (Empowered, Engaged, Educated, and Enabled) ** who can serve as a powerful strategic locus for population health management to achieve better health outcomes.


definitions: Populations with strong engagement, education, and empowerment can be more cost effective and efficient.

**The term “E4 patients” is coined by the author.

REFERENCES


Philadelphia Healthier Generation Summit

On Tuesday, May 6, 2014 over 70 teachers, principals, Out-of-School Time (OST) staff, executive directors, and stakeholders gathered for the Philadelphia Healthier Generation Summit, hosted by the Alliance for a Healthier Generation. The Summit was organized by Sara Couppas, Healthy School Program Manager, and Lauren Puzen, Healthy Out-of-School Time Manager.

Participants were on the edge of their seats at the Lenfest Center in North Philadelphia, as Mickey Kommins, Principal and Alliance National Ambassador, shared the challenges and successes of Anne Frank School to create a healthier environment for its students. He was followed by 16-year-old Kaseir Archie, an Alliance Youth Ambassador, who shared his story of engaging youth in healthy living. These personal stories motivated participants to get on their feet and kick-off the day with the Fit for a Healthier Generation Zumba video.

Once energized, participants were fully ready for the 3 educational workshops. The first, “Staff Wellness: in Schools and OST,” educated participants on how to engage staff to build healthier environments at their schools and sites. They were able to identify the importance of staff role modeling, gain methods on how to get staff involved in their mission, and learn how to improve staff health. The second, “Youth and Family Engagement,” invited participants to reflect on what they are currently doing to engage youth and families at their sites. Additionally, they identified ways to build awareness among youth and families and gained tips, resources, and best practices on how to engage and garner their support. The third, “Let’s Celebrate,” allowed participants to learn what others are doing successfully at their sites to encourage healthy eating and physical activity. The workshop increased knowledge of how celebrating success can help enhance and sustain momentum in making healthy changes.

At the Healthy Resource Café, a breakout session focused on resource sharing, some great community partners brought resources to share with schools and out-of-school time sites. Participants were able to connect with the following organizations:

- **Playworks:** Marjorie Nightingale, mnightingale@playworks.org.
- **Boys & Girls Clubs of Philadelphia:** Libby Lescalleet, llescalleet@bgcpha.org.
- **Health Promotion Council:** Robin Rifkin, rrifkin@phmc.org; Lauren Williams, lwilliams@phmc.org.
- **Eat Right Now:** Muffin Friedman; jfriedman@philasd.org.
- **PHILADELPHIA HEALTH INITIATIVE:** Weigh In Guide; Alexis Skoufalog, alexis.skoufalog@jefferson.edu.
- **Urban Nutrition Initiative:** Julie Lenard juliel@urbannutrition.org.


Acknowledgements: Victor J. Navarro, MD, Chair, Division of Hepatology, Einstein Health Network and Professor of Medicine, Sydney Kimmel Medical College at Thomas Jefferson University. Mona Sarfaty, MD, MPH, Director, Program on Climate and Health, Center for Climate Change Communication, George Mason University and Associate Professor, Department of Family and Community Medicine, Thomas Jefferson University.
The Summit received glowing reviews. Participants loved the physical activities, saying they are “a great resource and something easy to bring back to our sites.” Participants also said they liked the networking and were able to connect with others, share ideas, and find some great resource partners to work with.

Dr. Lauren Puzen said it best, “hearing what others are doing and how it worked helped to build confidence in what we are doing.” All participants left with new ideas to implement and a renewed sense of motivation to increase their involvement with the Healthy Schools Program and Healthy Out-of-School Time Initiative.

Since the Summit, the Alliance staff has been invited to be a part of the steering committee for the Philadelphia Health Initiative, and participants have also reached out to Alliance National Ambassador Mickey Kommins. Alliance staff have also received requests for additional trainings, access to online resources, and Fit for a Healthier Generation videos.

Most importantly, Summit participants were motivated to empower their staff to implement more healthy changes at their sites. Some great examples of success include: a Healthy Out-Of-School Time site purchased over 500 water bottles to increase water intake among their youth, a school principal started using the Fit for Healthier Generation videos with staff and students, and multiple schools are designing a plan to achieve the Alliance’s national recognition standards.

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Innovation, Big Data, and Collaboration: Improving Population Health

Somesh Nigam, PhD
Senior Vice President and Chief Informatics Officer
Independence Blue Cross
April 9, 2014

Somesh Nigam, PhD leads the Informatics Division at Independence Blue Cross (IBC) which plays an important role in the IBC Family of Companies through the delivery of actionable information to associates and stakeholders including members, physicians, customers, consultants, and brokers. Dr. Nigam has led IBC efforts to partner with top institutions to leverage big data and analytics to improve quality of care. Prior to IBC, Nigam was vice president of health care informatics, scientific and clinical affairs, for the medical device and diagnostics division of Johnson & Johnson.

Dr. Nigam began the Forum presentation with the question, “How can we collaborate across the spectrum?” Philadelphia is a “medical capital” and with an environment that has the capacity to nurture a culture of collaboration.

Nigam first shared the big picture context of how the U.S. is situated in terms of health care spending. It is projected that national health spending is going to approach nearly 20% of GDP. He explained that people in the U.S. don’t seek primary care as frequently as they do in other countries such as Japan, Germany, and Canada. In offering a regional context, Nigam discussed healthcare utilization and quality data.

Inpatient admissions and readmissions tend to be very high in the greater Philadelphia area, and are higher than the national average. He described the plethora of quality improvement and cost-containment strategies that have met with varying degrees of success.

Nigam does feel very positive about the model of The Medical Neighborhood part of the Patient-Centered Medical Home (PCMH). “We have really felt that this medical neighborhood concept is what will propel us to improve health care, bring cost down, and improve the quality in a patient-centered way,” states Nigam. Approximately 40% of all primary care practices contracted with IBC in PA are PCMHs. He indicated that Jefferson Family Medicine, an early adopter of this model is a part of this ‘revolution in making.’

Nigam points out that NCQA Recognition Guidelines are critical to the PCMH transformation and promote the practice of good medicine. IBC and NCQA work together to identify which features and practices of the PCMH are most effective. Preliminary results show that care for members with chronic conditions has improved.

IBC data has been able to distinguish differences in care gaps between PCMH and non-PCMH practices. For example, PCMHs show increase in the percentage of members with diabetes who did have required testing as well as increase in the percentage of patients who had cancer screenings. Nigam and his colleagues at IBC have recently published several studies noting the positive impact of the PCMH model in peer reviewed journals. Some of the key findings are:

• Diabetic members affiliated with a PCMH had 21% lower total costs, related to inpatient costs. J Pub Health Manage & Practice. March 31, 2014.


IBC will continue to explore PCMH adoption, patient experiences, and quality of care. There may be a trend toward adaption of PCMH in specialty areas and therefore, IBC is working with NCQA to pilot a study that will examine the feasibility of establishing PCMH recognition program for Oncology practices.

Nigam went on to describe IBC’s expertise in big data and predictive modeling. Predictive modeling helps to identify patients who are at the highest risk of being re-hospitalized for care management outreach. It can also enhance the efficacy of chronic disease management and help...
to detect undiagnosed and undertreated chronic diseases.

IBC is very involved with many initiatives, including a program focused on the use of machine learning algorithms for early detection of diabetes. Using a number of data sources (i.e. eligibility, pharmacy, medical, lab records), the model produces the probability of being diagnosed with diabetes within 24 months for every member and can zoom in on a particular population. The next steps will include implementation (outreach) and expansion of models (additional research and capacities) to include Likelihood-of-Engagement.

The Forum was followed by the Grandon Workshop. This is a special additional session of the Forum for Grandon Society members. The Grandon Workshop included a lively panel discussion with Dr. Nigam, and his colleagues, Ravi Chawla, MS, MBA, Director, Client Solutions, Informatics Division, and Aaron Smith-McLallen, PhD, Senior Research Scientist at IBC. They went on to engage the audience in a discussion about data, population health and ways that data can be used and shared across the region to improve heathcare delivery. They discussed the integration of EMR data with claims data and the importance of data collaboration.

The Road Ahead – Genomic Advances Raise Challenging Questions

Jennifer Dreyfus, MBA, MBE
Principal, Dreyfus Consulting, LLC
May 14, 2014

Jennifer Dreyfus, MBA, MBE provides consulting focused on the intersection of new technology, health care, and managing risk. As a Fellow at the Presidential Commission for the Study of Bioethical Issues, she worked on the PRIVACY and PROGRESS in Whole Genome Sequencing Report. She is very interested in examining how society will incorporate the growing field of genetics. Her academic background in business administration and bioethics offers a unique perspective on this issue.

Ms. Dreyfus opened her presentation by emphasizing the idea that next-generation genome sequencing is a disruptive technology. Although next-generation sequencing plays a significant role in cancer care, genomic testing is also used in preconception, prenatal, childhood and adult diagnostics, and treatment monitoring. Dreyfus cites one study that predicts over $15-25 billion in national expenditures will be spent on genomics by 2021.

Dreyfus explained that this is a time of transition; genomics is a moving target that changes the way we think about genetics. For example, we are no longer looking at one gene and one disorder; we are looking at a spectrum of mutations that can be identified. There are numerous pathogenic descriptions that require sorting out and interpretation. Gene panels are used to identify a variety of conditions and will have many ramifications in the future.

The benefits of identifying disease and appropriate, personalized treatment through genomic medicine raise a number of public policy concerns. Dreyfus identifies actionability, coding, payment, provider education, and re-interpretations as significant policy challenges that warrant discussion and analysis. For example, Dreyfus states that coding is very important, but code development cannot keep pace with scientific advances. Related to this, payers want to pay for something that is known and evidence-based. What are the appropriate evidentiary requirements? What is a fair method for rate setting? These are some of the questions that Dreyfus poses.

Dreyfus summarized her presentation with an overview of ethical concerns. She raised the issue of whether or not there is truly such a thing as anonymous DNA anymore and whether or not privacy is guaranteed. She stressed that genetics is about more than an individual, and that it is also about a family and a community. Are we treating the individual or family and how does this relate to privacy? She also discussed ACMG’s latest guidance on incidental findings and implications for reporting and paying.

Prenatal and newborn concerns related to genetic testing often bring ethical concerns to the forefront. In prenatal care there is often tension between a technology that gives health care information and a restrictive environment that does not view reproductive options as part of health care. Though screening for adult-onset disorders is not typical, there can be value for screening newborns when an early intervention is possible.

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JSPH PUBLICATIONS


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September 10, 2014
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Joseph A. Ladapo, MD, PhD
Assistant Professor of Medicine
Section on Value and Effectiveness
Department of Population Health
New York University School of Medicine

October 8, 2014*
Learning From Each Other: The Roles of States in Transforming Their Health Systems
Karen M. Murphy, PhD, RN
Director, State Innovations Group
Center for Medicare and Medicaid Innovation

November 12, 2014
The Future of Population Based-Reimbursement
David Chin, MD, MBA
Distinguished Scholar, Director of Executive Education
Senior Advisor to the Center for Population Health IT
Johns Hopkins Bloomberg School of Public Health

December 10, 2014
Transforming Healthcare in PA: Preparing for the Future
Michael J. Consuelos, MD, MBA, FAAP
Senior Vice President
The Hospital & Healthsystem Association of Pennsylvania (HAP)

*Special Grandon Society members-only workshop immediately following from 9:45 am – 10:45 am.
All Forums take place from 8:30 am – 9:30 am. For more information call: 215-955-6969.

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