Introduction to Personalized Medicine

Readers may have noticed a new healthcare catchphrase gracing magazine covers and even the front page of the New York Times: “personalized medicine.” But what does it mean and how will it change healthcare? According to the President’s Council of Advisors on Science and Technology, ‘Personalized medicine refers to the tailoring of medical treatment to the individual characteristics of each patient.’

Personalized medicine is important because of several emerging clinical and financial trends in healthcare. As a result, there is a strong impetus for personalized medicine, which can succeed if we can find a way to break down the silos that have traditionally separated clinical and financial world views.

The clinical trends important to personalized medicine are evidence-based medicine, the genomic revolution, and big data. Evidence-based medicine is behind the push to reduce variation in care, making providers accountable for delivering treatments that are grounded in scientific evidence. The genomic revolution refers to our ability to quickly and cheaply sequence the human genome and to determine the biological basis of behavior and disease. Big data refers to our ability to create large data sets and implement automated systems, like IBM’s Watson, to sort through and make sense of all the information we collect.

Personalized medicine also capitalizes on emerging financial trends in healthcare—pay for performance, bundled payments, and expansion of affordable care. Pay for performance is where the rubber meets the road for evidence based healthcare—no outcome, no income. Bundled payments refers to the recognition that medical care, like a hospitalization for a heart attack, should be paid for in a lump sum rather than as separate line item bills for the hospital stay, EKGs, and aspirin. The need to deliver affordable care is at the heart of Affordable Care Act, which aims to expand health insurance coverage to the uninsured by finding savings in other parts of the healthcare system.

Personalized medicine ties together the clinical trends of evidence-based medicine, the genomic revolution, and big data with the financial trends of pay for performance, bundled payments, and expansion of affordable care. Evidence-based medicine gives payers reassurance that individuals are getting the most appropriate treatment based on published guidelines. Payment rates for the expected cost of an entire

Continued on page 2
course of care should be as personalized as the treatments they finance, to ensure that provider compensation is adequate and provides the correct incentives—that will require smart bundled payments. Providers will collect data on their patients, compare outcomes to those in the published literature to benchmark their performance, and researchers can use the same data to refine the published literature on outcomes and costs for this population, i.e. big data. Payers could use the same data to provide extra incentives for high-performance care as demonstrated through superior outcomes, which is the goal of pay for performance. This process will ultimately save costs for patients and allow us to sustainably cover the entire population with health insurance, the essence of affordable care.

So what’s the problem? In our current fragmented, fee-for-service medical system, the vision I outlined has yet to become a reality. Personalized medicine is a bundled product. However, payers often pay for each diagnostic, drug, and device separately. We all know that the informatics needed to connect a diagnostic to the therapy regimen and outcomes just doesn’t exist in most healthcare environments. Finally, payers are wary of the idea of paying more upfront for a new technology that promises savings in the future—they are more comfortable focusing on the cost savings in the here and now by denying reimbursement for a new test outright, requiring prior authorizations, or a high degree of patient cost sharing in order to contain costs.

So what’s the solution? Well, we could wait for the integrated, affordable healthcare system of our dreams. If we are talking about today, however, and not the year 2100, the answer is to take a more integrated perspective. What will get payers to agree to pay for a new technology when technology has been at the heart of our cost containment crisis? Data that shows that personalized medicine can save costs by avoiding treatments that will not work. What will get providers to order those tests, and then actually use the results? Properly designed incentives that compare the expected outcomes and costs of care with patients’ actual experience. Patients will also need to be convinced of the need to become involved in personalized treatment decisions. High-deductible cost sharing and opaque prices mean that patients are getting tired of being surprised with large bills for care that they consider necessary. The promise of personalized medicine rests on the ability of scientists and financial analysts to collaborate to deliver this critical information in an impactful way.

I have seen these issues play out on the ground level in my own research. In one recent study, funded by MDxHealth, I was part of a team that investigated the potential cost savings from a new technology for the problem of unnecessary prostate biopsies. MDxHealth’s product, ConfirmDx for prostate cancer, is designed and financial evidence in order to make the case for personalized medicine. We can then achieve our goals of treating patients as individuals, and doing so at a price we can afford.

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The Untold Story of Population Health

Health is a personal and intimate experience shared through conversations with our doctors, family and friends, not merely a collection of facts and figures. A discussion about shrinking health care costs or expanding coverage inevitably leads to a story about a great doctor, a bad outcome or a serious disease. We have a need to share our pain, our fears and our relief about illnesses treated and cured. People don’t tell stories about the times when nothing happens or goes wrong.

I began my career as a podiatrist specializing in the care of the lower-extremity complications of diabetes and vascular disease. I treated infections and gangrene, and often had to cut away dead tissue in the hopes of avoiding limb loss. My patients suffered from the largely avoidable complications of preventable diseases. They were the flesh and blood evidence of the failure of a system that devotes little of its considerable resources to preventing disease—and provides more “sick care” than health care. In frustration, I looked upstream to find the causes and rediscovered public health and population health. I learned that many people are trying to rewrite the story of health in our nation so that it begins with “happily ever after.” More are joining us every day as the nation realizes there is not enough money in the US Treasury to treat every illness that could have been prevented.

Now I teach population health to graduate students, most of whom are full-time clinicians or other types of health care professionals. For many, it’s a hard concept to grasp because they are trained to see health through the lens of patient encounters. Population health is more about what’s not seen, what didn’t happen, and persons unknown. It’s about the diseases prevented and the complications averted. While population health doesn’t make for great drama, it is vital to reducing the nation’s health care costs and improving our sagging health outcomes.

Different -- and most times distinct -- from health care is public health, the community-based system of governmental and non-governmental organizational policies and services that protect us from disease by ensuring the water we drink, food we eat, the air we breathe, and places we live, work, and play are not hazardous to our health. Professionals in public health generally see the community as their patient because people living in healthy communities are themselves more likely to be healthy.

As “Obamacare” puts pressure on hospitals to improve outcomes, population health has become the new buzzword. Non-profit hospitals have to justify their charitable tax exemptions by documenting community benefit, not just financial solvency. All hospitals are now judged—and in part compensated—by outcomes, such as how often patients return with the same condition or a related preventable complication. Through a variety of carrots and sticks, local health care providers and insurers are encouraged to address broader community needs and to take a more patient-centered approach that emphasizes health outcomes rather than bottom lines.

Population health bridges the gap between health care and public health, encompassing key elements of both. Health care and public health are viewed as separate and distinct systems. The professionals in each have limited access to, contact with and awareness of each other. Opportunities for synergy are often missed. Population health is built on the premise that health care demand and quality is affected by the complementary activities of the public health system. Conversely, information gathered and knowledge gained through the delivery of health care services can inform and direct more effective public health interventions.

Population health promotes the ideas that:

• Our health care system is more likely to be efficient and effective when fully integrated with community-based programs

• Patients heal better and faster when discharged from the hospital into a comprehensive home care system

• Hospitals are safer when administrators implement systems designed to eliminate medical errors and improve outcomes

• Health care providers perform better when they have access to a patient’s complete medical history through a comprehensive electronic health record

• Health outcomes are improved and health care dollars are more wisely spent when clinicians base their decisions on evidence derived from objective research (evidence-based medicine)

• Our life expectancy and health status, and access to care shouldn’t be determined by race, ethnicity, gender, wealth or zip code

• All of us benefit when our elected representatives enact health policies based on sound science

Health, itself, is difficult to define. Many people see it as the mere absence of disease—another day without sickness. But what about the day before we get sick? Was there a moment, an opportunity to prevent illness in the first place? Could an ounce of prevention save our nation a ton of expensive cure? The World Health Organization takes this broad view of health by defining it as “… a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.” Population health is an effort to achieve this lofty goal.

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Preterm Birth and the Controversy Over Universal Cervical Length Screenings

Preterm birth (PTB), defined as birth before 37 weeks gestation, is a major population health problem. It is the number one cause of neonatal morbidity and mortality in developed countries—bearing significant societal healthcare costs due to short-term consequences and complications.1 It is a source of concern for policymakers that PTB accounts for 12% of all births in the United States, a higher rate than other developed nations.2 PTB preventative strategies include transvaginal ultrasound (TVU) screening and progesterone administration.3 Though the exact mechanism of action of progesterone is not clear, it is thought to provide an anti-inflammatory effect and counteract the local decrease in progesterone levels to decrease the likelihood of PTB.

In 2012, the Society for Maternal-Fetal Medicine (SMFM) published recommendations and the American College of Obstetricians and Gynecologists (ACOG) published an opinion statement relevant to progesterone to reduce PTB.4 Though a number of studies were cited, evidence is largely supported by two large trials that found vaginal progesterone reduced PTB compared to placebo. In 2007, Fonseca et al. found that a vaginal progesterone suppository (200mg each night) reduced spontaneous PTB by 44% (19% vs. 34% in the placebo group).5 The PREGNANT trial (The Effect of Vaginal Progesterone Administration in the Prevention of Preterm Birth in Women With a Short Cervix), a more recent randomized multi-center trial, demonstrated the efficacy and safety of a vaginal progesterone gel (90mg daily) in reducing PTB risk and associated neonatal complications. Results indicated that the vaginal progesterone gel was associated with a 45% reduction in PTB before 33 weeks (9% treatment vs. 16% control) and was associated with a 43% significant reduction in composite neonatal morbidity and mortality (8% treatment vs. 14% control).6

The evolving evidence regarding progesterone has stimulated controversy as to whether all pregnant women should receive a TVU screening to detect short cervix (i.e., universal screening), as opposed to screening only women determined by their physician to be at high risk for PTB. Since high risk is typically defined based on history of prior PTB, screening only these women would leave out two major cohorts of the pregnant population: 1) those who are pregnant for the first time and have a short cervix, and 2) those who have a short cervix despite history of full-term pregnancies. Proponents of universal screening argue that it makes sense to support this strategy since evidence supports the benefit of progesterone in women found to have short cervix.4 On the other hand, opponents of universal screening contend that: 1) there is a lack of efficacy data specifically on the strategy of universal TVU screening followed by vaginal progesterone; 2) the implementation of proper TVU screening technique is required in order to ensure accurate results; 3) certain geographic areas lack sufficient availability of TVU screening; 4) in certain women, short cervix can be identified without TVU; and 5) there is the possibility of differing results when TVU screening is completed in practice versus within a clinical trial.4 SMFM recommendations state that, though there is currently insufficient evidence to support universal screening, it is a reasonable practice for individual physicians to choose.

In summary, while many clinicians currently support a strategy of universal TVU screening followed by progesterone in women detected to have short cervix, this remains an acceptable but controversial practice. Until more evidence is available, the issue will persist as a topic of clinical debate.

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New Jersey Vaccine Mandates: The Confluence of Regulations, Rights, and Religion

Vaccines rank among the top ten public health achievements of the past century, along with food safety, control of infectious diseases, healthier mothers and babies, automobile safety, fluoridation of drinking water, family planning and others. The sad irony is that our success in eradicating scourges like smallpox, polio and diphtheria is threatened by unfounded fears regarding vaccine complications. Across the nation, the public health community is confronting a backlash against state vaccination requirements spearheaded by small but vocal groups of anti-vaccine activists concerned about vaccine safety and issues of personal choice. In New Jersey’s case, legislation to tighten religious exemption regulations is the current focal point for their lobbying efforts.

Mandatory childhood vaccination was a key element in our success in the war against deadly infectious diseases. Voluntary efforts do not ensure enough children are vaccinated to prevent efficient person-to-person transmission of vaccine-preventable disease—often called “herd immunity.” Without susceptible people to infect, infectious agents hit a dead end and the disease outbreak ultimately dies out. Children are at higher risk for these diseases and are more likely to spread it to vulnerable populations such as infants, immunocompromised people and the elderly.

Every state in the nation has a law requiring school children to be vaccinated against serious illness such as measles, mumps, rubella, polio and others. All states exempt individuals with medical conditions that put them at risk for complications from the vaccine, and all but two states provide for religious exemptions. Nineteen states allow parents to opt their children out of the vaccines over philosophic or moral concerns. States that only require a simple statement of objection, rather than a more rigorous exemption process, are seeing a significant increase in outbreaks of vaccine-preventable disease.

This controversy is not new. In 1902, Henning Jacobson refused an order of the Cambridge, Massachusetts Board of Health requiring him to take a smallpox vaccination, claiming that the requirement violated his personal liberty. He was fined $5 as a result. He appealed his case to the US Supreme Court, which sided with the Board saying that the “…community has the right to protect itself against an epidemic of disease.” Jacobson v. Massachusetts became the seminal case codifying the principle that community wellbeing can trump individual liberty and that public health agencies have the authority to impose these requirements.

In its decision, the Supreme Court allowed for medical exemptions, but denied exemptions for religious or philosophic beliefs. The courts have generally held in other cases that the religious freedoms guaranteed by the First Amendment can be curtailed, when necessary, to protect public health.

States are not constitutionally required to grant religious exemptions, but when they do the procedure by which exemptions are granted must comport with the Constitution. For example, the government cannot require proof of membership or regular attendance at services of an “established” religion before granting an exemption. To do so would run afoul of the First Amendment prohibition against the government establishing a religion. However, it can require proof of the sincerity of one’s religious belief; applying the principles used to assess the veracity of the conscientious objectors to required military service. No conversions are allowed on the way to the draft board.

It is this issue of the nature of the religious objection against the vaccination mandate that is in question in New Jersey. State law mandates that parents provide proof of a child’s appropriate immunization against a variety of diseases prior to attendance at daycare, school or college. The law leaves enforcement to local public health and school officials. Standards for granting exemptions have varied across jurisdictions and some officials may have been requiring proof of church membership rather than examining the sincerity of the beliefs.

In response to a request for guidance from local officials, the New Jersey Department of Health and Office of Attorney General issued interim policies and ultimately regulations that said no inquiry into the nature of a family’s religious belief could be made before granting an exemption. All that could be required was a written statement from the parents that included the word “religion” or “religious.” Officials could not inquire how long the belief was held; whether the child received some but not all vaccines, or if other family members were vaccinated; if their primary concern was the safety of the vaccine; or if they would vaccinate against the disease if it presented itself in the community. In essence, anyone could claim a religious exemption for reasons that had nothing to do with religion.

A preliminary analysis of school immunization reports revealed that the number of students with active religious exemptions statewide went from 1,625 in 2007, prior to the change in standards, to 6,204 in 2011 or 1.2% of the sampled population (Harris: unpublished data). While it can’t be proven that the regulatory change allowed for more religious exemptions, anecdotally there was evidence (via online forums) that parents whose objections to vaccinations were more philosophic or safety-related were exchanging tips on how to obtain an exemption based on religious objection.

These new regulations effectively converted New Jersey’s current law limiting vaccine mandate exemptions to medical or religious grounds into a law allowing liberal philosophic exemptions. The data supported the concern that the number of under-immunized children was quickly approaching a level similar to states with lax philosophical exemption standards, putting the state at risk of major outbreaks.

The New Jersey state legislature is considering a bill (S 1759) that will make...
explicit the process for granting religious exemptions and follow judicial precedent allowing for appropriate verification of religious exemption claims. Recent outbreaks of pertussis\textsuperscript{10,11} and mumps are just a foreshadowing of what might be coming if the state continues to allow parents unqualified access to the religious exemption process.

Immunity against vaccine-preventable disease is a community resource, bequeathed to us by generations past and current who rolled up their sleeves for shots that protected not only themselves but everyone else. □

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REFERENCES


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It was Bernard Wolfman’s love of words that inspired the creation of the Bernard Wolfman Civil Discourse project, and the inaugural Civil Discourse on the topic of the role of government in health reform. On March 28, 2013, the fourth night of the Jewish Passover, David Nash, MD, MBA and Stuart Butler, PhD, drew a crowd of over five hundred to Beth Shalom Congregation in Elkins Park, Pennsylvania, where they engaged in a public conversation moderated by Chris Satullo, WHYY vice president for news and civic dialogue, and co-founder and co-director of the Penn Project for Civic Engagement at the University of Pennsylvania. Distinguishing between civil discourse and talk-show debate, Satullo defined civil discourse as an ‘exploration’ of ‘shared identities’ and leveraging ‘intellectual and ideological diversity to model a means to generate effective public policy.’ The two candidates agreed not to argue or debate, despite their differing views on government’s role in health care.

Stuart Butler, PhD is currently serving as Director of the Center for Policy Innovation at The Heritage Foundation, a conservative think tank located in Washington, DC. An expert in the areas of Medicare, entitlements, and health care reform, Butler identified three main influences on his political views: the ethics and values of Judaism, the principles of market economics, and the principles of federalism. He went on to ask although the general consensus is that Americans ought to have ‘equitable, affordable care,’ what level and how much health care should Americans expect? He expressed his concern over what he views as a ‘spend then bill’ system, which lacks a concrete budget. A staggering hypothetical statistic supported Butler’s concerns: if the United States’ health care system were its own economy, it would be the sixth largest economy worldwide, surpassing both France and Britain. Butler also expressed his specific concern over the recently passed Affordable Care Act; “If government cannot organize a system of records, can government come in to the exam room?”

David Nash, MD, MBA, Dean of Jefferson School of Population Health and a practicing internist, emphasized right away the need for eliminating waste in our health care system. Nash identified six areas of waste: overtreatment, failure to coordinate care and the lack of follow up, failure in execution, administrative failure, pricing failure, and fraud/abuse, the elimination of which would allow the US to fix its broken system. Nash also supplied his own hypothetical statistic; with medical errors currently the fourth leading cause of death in this country, it is akin to a 747 crashing every day, killing all its passengers. He went on to express his continued outrage that this persists, “What other industry would tolerate this?” Nash agreed with Butler’s observation that healthcare spending is out of control in this country, at 20% of the gross domestic product, but disagreed with Butler, remarking that ‘only Uncle Sam has the power to rein in spending, change the payment process to reduce waste.’

While they differed in their perspectives of the government’s role in health care, the
two experts did converge on a number of details. When asked about the idea that most healthcare spending comes about in the last two years of life, both Butler and Nash agreed that Americans need to start having more conversations with their loved ones and their providers about end of life. Dr. Nash went a step further to say that one way to ensure this conversation takes place would be to create a Medicare fee for the end of life conversation. Ever the educator, he also indicated that this is a huge opportunity for an educational piece. Both speakers also agreed on the importance of care coordination and accountability on the part of both patient and provider.

When asked by Satullo about the implementation of a single payer system in the United States, both experts said that they didn’t believe it would work, and each offered a humorous explanation of why. Butler gave a nod to his British roots when he said “British people see a line, they get in it, and then ask what it’s for.” Americans will not wait for health care. He also expressed his concern that if implemented, a single payer system might eliminate the worry of being bankrupted by medical bills at the expense of not receiving medical care at all. He ended by saying that healthcare requires flexibility, and the federal government cannot be flexible. Nash weighed in on implementing a single payer system by stating, “I like my Lipitor on the way to McDonalds. I want you to buy the Lipitor, and I’ll buy the Big Mac.” Nash offered advice to fix the broken system in the form of a seven point plan: a greater level of patient engagement, including an open medical record; simply asking caregivers if they have washed their hands; the Choosing Wisely campaign; encouraging end-of-life conversations; behavioral modifications such as exercise, wearing seatbelts, and stopping smoking; finding a primary care doctor and visiting that doctor: and finally, practicing charity.

Though the evening ended without a “debate winner” guests were left with evidentiary proof that a civil conversation between adversaries can lead to convergences and opportunities to work toward common goals. The Project’s namesake, who treasured his Oxford Dictionary and his Merck Manual of Medical Information, believed in maintaining respect in a disagreement, a principle upheld by both speakers.

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Joseph S. Gonnella, MD Scholarship Awarded to Evan Bilheimer

The Jefferson School of Population Health (JSPH) has awarded the Joseph S. Gonnella, MD Scholarship to Evan Bilheimer, a Jefferson Medical College (JMC) student who recently completed his third year of medical school and is entering the MPH program at JSPH. He received high honors in Neurology and Pediatrics in Fall 2013 and he participates in the College within a College, Population Health voluntary scholarly concentration.

The Joseph S. Gonnella Scholarship is named in honor of Dr. Gonnella, Distinguished Professor of Medicine, former Dean of Jefferson Medical College, and founder and director of JMC’s Center for Research in Medical Education and Healthcare. This merit-based award is intended specifically for highly qualified students of JMC who wish to pursue an MPH in addition to their medical degree.

Bilheimer graduated from the University of Rochester in 2009, Magna Cum Laude, with degrees in History and Chemistry. During his time in undergraduate school, Bilheimer volunteered for two medical service trips abroad for Shoulder to Shoulder, Inc. After graduation, he worked for AmeriCorps as an HIV Counselor and Teen Substance Abuse Youth Group Leader at the Massachusetts League of Community Health Centers, Neponset Health Center in Dorchester, Massachusetts.

Since entering medical school, he participated in the Bridging the Gaps Community Health Internship program providing health education and programming at To Our Children’s Future with Health, a community-based non-profit agency. Bilheimer has also volunteered with JeffHOPE and the Refuge Health Partner’s Houston Clinic.

Bilheimer intends to pursue a career in Family Medicine by providing preventive community health services and becoming involved in the administration and delivery of healthcare at the systems level. He believes the MPH program will equip him with skills for evaluating and managing the various social determinants of health, while becoming actively involved with the changing health care environment and practice transformation. He is committed to providing equitable and quality healthcare to patients and populations.
Global Health: Innovation/Implementation/Impact

A report on the Fourth Annual Conference of the Consortium of Universities for Global Health (CUGH)

Nine representatives from Thomas Jefferson University, including two from the Jefferson School of Population Health (JSPH), attended the fourth annual conference of the Consortium of Universities for Global Health in Washington, DC (March 14-16, 2013). The theme was Global Health: Innovation/Implementation/Impact. The program featured world-renowned keynote speakers and plenary panels addressing the complexity of today’s global health challenges and highlighting a diverse group of experts from a broad range of sectors. It was clear that solving global health problems requires a collaborative approach that harnesses the skills and energies of multiple disciplines, promotes cooperation across multiple sectors and embraces innovation. Over 1,390 people attended the conference, representing more than 56 countries. More than 230 speakers presented in the concurrent and special sessions and 308 posters were on view; two of the posters were from the JSPH. A third of the posters focused on education and capacity building in global health.

The conference began and ended with inspiring presentations from the very dynamic Agnes Binagwaho, MD, M(Ped), Minister of Health, Rwanda. Plenaries addressed the issues of: Global leaders in global health; US Government Agencies for Global Health; Innovative financing mechanisms for global health; Innovative technologies and approaches for global health: transforming the present and future; Global health justice: Empowering women, catalyzing change; and Climate change and global health: using science to protect populations. The four prominent directors of US Government Agencies for Global Health were particularly impressive: Francis Collins, MD, PhD, Director National Institutes of Health (NIH); Thomas Frieden, MD, MPH, Director, Centers for Disease Control and Prevention (CDC); Eric Goosby, MD, US Global AIDS Coordinator, Office of Global Health Diplomacy; and Jonathan Woodson, MD, Assistant Secretary of Defense (Health Affairs) and Director of TRICARE Management Activity, US Department of Defense.

Special sessions on the Role of NIH in Global Health Research, Crisis in the Sahel and the Global Burden of Disease (GBD): 2010 Report1 were both timely and informative. The session on the Global Burden of Disease by Christopher Murray, MD, DPhil, Director, Institute for Health Metrics and Evaluation used innovative technology to present the GBD report which facilitates comparisons across a multitude of mortality, morbidity, and quality of life indicators on 291 diseases and injuries, 67 risk factors, and over 1000 sequelae from 186 countries2 and was truly amazing.

The concurrent sessions covered a very broad range of topics and disciplines. Topics included: mHealth, oral health, OneHealth, community health, scaling for impact, climate change, human rights, primary health care, women’s health, global local health, social media. Key themes that ran throughout include: the importance of collaborating with China and Latin America; developing a sustainable health workforce; partnering with faith-based organizations and the private sector; and creating cross-discipline approaches to address malaria and neglected tropical diseases.

Overall, some of the key themes and take away messages of this conference were focused on:

- Innovation (i.e. mHealth, eHealth, telemedicine, technology) as the means of communication, analysis, and treatment for the future.
- Global health programs are also local or “glocal” problems.
- Research and sharing research findings with subjects of research is key to policy, development and targeted programs.

Resolving global health issues requires a collaborative cross-cutting approach that encompasses multiple disciplines, promotes cooperation, and embraces innovation. The Jefferson team has been meeting in an attempt to capture the best from the CUGH conference to apply it to the improvement of the TJU global health education programs. n

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For more information on this conference visit: http://2013globalhealth.org/

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Although social work and public health share historical roots, their paths have diverged until recently. Today’s complex health issues require the expertise of both professions. This year’s Public Health Week symposium and luncheon explored the intersections among public health, social services, health care and policy. Moderated by Dr. Bailey, Dean and Professor of the Graduate School of Social Work and Social Research at Bryn Mawr College, the panelists discussed the importance of a multidisciplinary perspective on health; implications of social work and public health principles for health and well-being; and the need for cross-disciplinary collaborations.

The Jefferson School of Population Health and the Bryn Mawr College of Graduate School of Social Work and Social Research (GSSWSR) have partnered to offer dual degrees in social work (Master of Social Service – MSS) and public health (Master of Public Health – MPH). For more information about this exciting dual degree program, visit: http://www.jefferson.edu/population_health/academic_programs/dual_degrees/mss-mph-dual-degree-program.html
Global Health in the World’s Youngest Nation

The Department of Emergency Medicine at the Thomas Jefferson University has offered a two-year Fellowship in Global Health since 2011. Fellows work part-time as attending physicians in the Emergency Department, and study towards a Master of Public Health degree at the Jefferson School of Population Health, while spending three months per year doing fieldwork. As our department’s first Global Health Fellow, I volunteered (May - August 2012) with a non-governmental organization called International Medical Corps (IMC) in the East-African nation of South Sudan.

South Sudan seceded from Sudan in July 2011 to become the world’s youngest nation. The country was wracked by almost 60 years of civil war, leaving the South one of the most undeveloped countries in the world and with some of the poorest economic and health indicators in all of Africa. It has less than 200 miles of paved roads, only 16% of the population has access to healthcare of any kind, and for every 100,000 births over 2,000 women die from the complications of delivery.

IMC has had aid and development programs in many parts of South Sudan prior to its secession from the North. One of their most long-standing programs is in Akobo County on the eastern border of country. Akobo has no paved roads and heavy rains turn large swaths of the county into impassable swamps for almost nine months out of the year. The standing water is a perfect breeding ground for mosquitoes that carry malaria and the thick mud makes walking just a few hundred meters an energy-sapping slog.

The people of Akobo mostly come from one of two tribes that have a long-standing history of deadly conflict between them: the LuoNuer and the Murle. Both tribes live in tukuls (mud and straw huts) and survive off of a combination of subsistence agriculture, fishing, and raising cattle and goats. A custom the tribes have in common is that they use cattle as dowry; a man must give a woman’s father roughly 20 cows to secure her hand in marriage. This need for cattle has led the two tribes to carry out raids on each other’s herds. Cattle raiding, combined with a history of conflict between the tribes, has resulted in deadly and ongoing violence that has only worsened with the introduction of automatic weapons during the long civil war.

IMC operates the Akobo County Hospital – the only hospital for hundreds of kilometers in every direction. IMC employs one doctor at the hospital; the remainder of the medical staff there is composed of community health workers, clinical officers, and assistant nurses. Staff have had anywhere from three months to two years of medical training. While they are hardworking and dedicated to their community, I found that many of them had extremely limited reading, writing, and math skills, which sometimes led to errors such as incorrect medication dosages or administration.

I worked on an IMC project funded by the UN’s Common Humanitarian Fund and the European Community Humanitarian Office to improve care for traumatically injured patients in Akobo County. People in Akobo may suffer trauma due to falls or farming accidents, but the majority of serious trauma is due to gunshot wounds or stabblings that occur during inter-tribal conflicts. Working with IMC employees and volunteers, I developed a curriculum to teach hospital medical staff and lay community members skills and concepts that are important to treating trauma victims. Some of the topics we covered included mass casualty triage, stabilization of bleeding or burned patients, and splinting of broken bones.

Curriculum development proved to be especially challenging in this environment. For one, the majority of the people we were targeting for training did not speak English and were not literate. We also had no reliable source of electricity, so the lectures and training sessions had to be given using only a dry-erase board and some printed diagrams. Additionally, medical resources at the hospital were very limited so the material had to be closely tailored to what was on-hand; x-rays were not available so we did not discuss x-rays. To overcome some of these challenges we made use of local interpreters and used simulations to teach clinical principles.

During this global health project I learned firsthand about some of the challenges of developing and implementing a health education program. These experiences will help guide me during future public health projects. The project in Akobo is ongoing and a new set of IMC employees and volunteers is currently in Akobo County. There is some hope for South Sudan overall as the conflict over oil production with Sudan is being gradually resolved.

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For more information on the Global Health Fellowship contact Dr. Harsh Sule at Harsh.Sule@jefferson.edu.
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The Quality and Safety Leadership Series

JSPH has recently launched a live series of educational programs focused on quality and safety.

As healthcare expenditures continue to rise, stakeholders across the healthcare system are searching for ways to improve the quality of care and optimize the use of resources. Achieving these goals requires engaging and educating each participant – patient, payer, and provider – so they can better understand the issues and work together toward meaningful solutions. The Patient Protection and Affordable Care Act has led to the introduction of several new initiatives aimed at increasing accountability for outcomes and delivering a higher return on healthcare expenditures.

To help all stakeholders understand and adapt to this transition, JSPH has developed a live educational series focused on quality and safety leadership. The faculty for this program is drawn from among some of the top experts in the field from across the country.

The Quality and Leadership Series (QSLS) is a live series of customized educational programs designed to meet the unique needs of healthcare professionals, whether they have clinical or administrative responsibilities. Through the generous support of Sanofi US, JSPH developed this series to connect some of the nation’s foremost experts to healthcare professionals across the country.

Programs are geared toward institutions and professional associations seeking to learn how to improve the quality and safety of healthcare delivery. Content is adapted for each program to meet the unique needs of each audience and organization that requests a program. There is no cost to the requesting organization; JSPH simply requests that all attendees complete a post-program evaluation.

JSPH maintains a catalog of faculty and topics, available at http://www.jefferson.edu/qsls. QSLS program staff work to identify appropriate faculty based on the information submitted, and work closely to facilitate program planning between the speakers and the requesting organization.

For more information or to request a QSLS program, visit http://www.jefferson.edu/qsls for a request form that can be sent via e-mail to QSLS staff at qsls@jefferson.edu. You may also contact us by phone at (877) 662-7757.

Practice Improvement Strategies: Online CME Opportunity

The Jefferson School of Population Health is establishing exciting new partnerships to enhance professional development and CME opportunities that are directly relevant to clinical practice in this changing healthcare landscape. A recent collaboration, The Johns Hopkins University Practice Improvement Strategies in Cardiometabolic Disease Therapies, presents a complimentary PI-CME activity that provides primary care physicians, endocrinologists, cardiologists, NPs and PAs with the tools to measure quality of care and to identify opportunities to improve the outcomes for their patients with cardiometabolic disease.

All practicing clinicians can earn 20 CME/CE credits without the need to attend a live or online program. After collecting some basic data on their patients, participants will be provided with benchmarking reports that satisfy American Board of Internal Medicine (ABIM) MOC Part IV requirements. Participants will also receive detailed clinical reports analyzing care delivered to patients with cardiometabolic disease against individual peers (anonymously) and national trends. The program will also provide exclusive access to a secure and moderated “mentor program,” an online Q&A forum with nationally-recognized experts in the field.

Clinicians are invited to share the benefits of the educational grant funding that supports this program. Each participating practice is eligible to receive $500 to support the collection of data on 25 patients with diabetes, hypertension, dyslipidemia and/or obesity. Funds are limited and will be awarded on a “first come, first served” basis. Interested practices are encouraged to complete a brief registration online at http://jhucardio.imedicaldecisions.com, or to contact us by email at PIsupport@imedicaldecisions.com, or to call (610) 891-1640.

The Johns Hopkins University School of Medicine is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

The Johns Hopkins University School of Medicine designates this PI CME activity for a maximum of 20.0 AMA PRA Category 1 Credit(s)™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.
Population Health Forums

The Choosing Wisely® Campaign: Is This a Game Changer?

Daniel B. Wolfson, MHSA
Executive Vice President and Chief Operating Officer
American Board of Internal Medicine Foundation
January 9, 2013

Have you ever received unnecessary care? This is how Mr. Wolfson, Executive Vice President and Chief Operating Officer of the ABIM (American Board of Internal Medicine) Foundation initiated the discussion on “overuse” in healthcare. The ABIM Foundation is a not-for-profit organization focused on advancing medical professionalism and physician leadership to improve the health care.

Wolfson described overuse as unnecessary procedures where the benefits don’t exceed the risks. The problem of overuse and overtreatment is staggering in the US. Wolfson explained that over $200 billion per year is wasted on overtreatment. The Choosing Wisely® campaign of the ABIM Foundation is an initiative that is aimed addressing this problem by helping physicians and patients engage in conversations about the overuse of tests and procedures, and support physician efforts to help patients make smart and effective care choices. The major components of the campaign include: simplicity, unexpectedness, concreteness, credibility, emotions, and stories. Wolfson shared his own personal stories to illustrate the classic examples of overtreatment.

An important component of the Choosing Wisely® Campaign is the document, Five Things Physicians and Patients Should Question, a series of lists representing 25 specialty societies in the US. By recognizing the significance of patient and provider conversations, the tool is aimed at improving care and eliminating overtreatment. The comprehensive lists include scientific, evidence-based recommendations to help make decisions about the most appropriate care. Consumer Reports, a partner of Choosing Wisely®, has produced over 35 patient-friendly materials based on medical society recommendations that will disseminate information about appropriate use of medical tests and procedures.

Wolfson explained that the success of the campaign is based on intrinsic motivation and a shift in cultural attitude. For example, the emphasis should be on “why”: “Why did you need that procedure or test?” rather than “Why didn’t you do that procedure or test?”

The campaign will continue to grow and flourish as it galvanizes multiple stakeholders (i.e. office practices, residency and medical training programs, health systems) to advance the campaign.

To learn more about the Choosing Wisely® Campaign visit: http://www.choosingwisely.org/

To read Mr. Wolfson’s Medical Professionalism Blog visit: http://blog.abimfoundation.org/about_our_authors/

New Therapeutic Options for Stroke Prevention in Atrial Fibrillation

Joseph D. Jackson, PhD
Program Director, Applied Health Economics and Outcomes Research
Jefferson School of Population Health
February 13, 2013

Anti-coagulation therapy for stroke prevention in Atrial Fibrillation (AF) has been dominated by the drug warfarin for more than 50 years, yet three recently approved drugs are viable therapeutic alternatives to warfarin. However, according to Dr. Jackson, Program Director for Applied Health Economics and Outcomes Research at JSPH, they are not without challenges to optimize care for AF patients. He helped provide a clear and insightful overview of this topic at a recent Forum. Dr. Jackson has over 30 years of experience in the pharmaceutical industry, with much of this time devoted to clinical research and the management and practice of Outcomes Research, including the transition of clinical evidence into user-friendly cost-effectiveness models.

The framework for Dr. Jackson’s presentation was based on outcomes research, which he described as the “study that studies the studies.” The purpose of outcomes research, according to the Agency for Healthcare Research and Quality (AHRQ), is to examine three questions: 1) Do patients benefit? 2) What treatments work best? And, 3) Are health-care resources well spent?

Jackson first cited the incidence of AF by explaining that approximately 15% of all strokes occur in people with AF; the risk of stroke in patients with untreated AF averages 5% per year and increases with advancing age. Jackson emphasized the chronic and devastating nature of AF and the importance of understanding the efficacy and the effectiveness in the real world of therapeutic options.

For many years, warfarin has been the only oral anti-coagulant available for chronic care. Though hugely successful in terms of stroke prevention, its use presents

Continued on page 16
numerous challenges in everyday practice, particularly for chronically ill, elderly patients. For example, warfarin is known to have many interactions with other drugs and foods, and requires constant monitoring. There is a narrow therapeutic range, and the blood test monitoring of the INR (International Normalized Ratio), can be a significant barrier for certain populations as well as caregivers. Most significant is that warfarin is a leading cause of adverse drug events and associated visits to emergency rooms, Jackson explained.

A new group of anti-coagulants, called “Novel Oral Anticoagulants” or NOAC, including dabigatran, rivaroxiban, and apixaban, open the door for promising alternatives to warfarin, with fewer complexities in the treatment regimens. Dr. Jackson offered an overview of the major clinical studies, and even indirectly compared some of the findings, after warning the audience about the dangers of indirect comparisons.

Relating this back to outcomes research, Jackson tackled the questions, “what treatment works best?” and “are healthcare resources well spent?” NOACs, he explained, are unique compared to warfarin in that they don’t need INR monitoring, but as anti-coagulants they still need careful oversight. In many key outcomes, NOACs were actually superior or better than warfarin; however, until real-world safety and effectiveness are confirmed, their promise of a superior alternative to warfarin remains to be seen. He closed by affirming that most effective therapies prove cost-effective, and for the NOACs real-world scenarios will be crucial to assess their ultimate value.

Throughout his presentation, Dr. Jackson acknowledged the work and expertise of Geno J. Merli, MD, Co-Director of the Vascular Center at Jefferson, and a national expert on anticoagulant therapy.

For more information visit: http://www.theheart.org/columns/clot-blog.do

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### Moving The Needle: Challenges and Opportunities in Communicating Patient-Centered Outcomes Research

**Bill Silberg**  
*Director of Communications*  
*Patient-Centered Outcomes Research Institute (PCORI)*

**March 20, 2013**

The Patient-Centered Outcomes Research Institute (PCORI) is an independent non-profit research organization charged with the task of helping the public make informed decisions and improving health care delivery and outcomes by producing high-quality evidence-based research. PCORI was authorized by Congress as part of the 2010 Patient Protection and Affordable Care Act (ACA). Bill Silberg, Director of Communications at PCORI, shared an insightful overview of PCORI’s mission and initiatives at a recent Forum.

Silberg first described PCORI’s commitment to seeking input from a diverse range of stakeholders, including patients. Patients and caregivers are viewed as a meaningful part of the research team and Silberg discussed the importance of bringing a broad range of voices to the work of PCORI. Silberg used the term “research done differently” to characterize the way in which PCORI strives to shape its purpose.

Silberg went on to discuss the details of the National Priorities for Research and the Research Agenda which include: assessment of prevention, diagnosis, and treatment options; improving health care systems; communication and dissemination research; addressing disparities; and accelerating PCOR and methodological research. These priorities are intentionally designed to be broad and process oriented.

The PCORI Board of Governors has approved a number of pilot projects throughout the United States. The projects are predominantly population specific, and focus on ways of engaging patients in research and the dissemination process. Examples include a project on how physicians and patients talk to one another more openly, to a pilot project on the use of mobile apps for patient caregiver attitudes, behavior, and knowledge, and a project on reducing disparities in a rural population with multiple cardiovascular disease risk factors.

Throughout his presentation, Silberg acknowledged that comparative effectiveness research (CER) and PCOR are not the easiest topics to communicate to the public, but he believes that PCOR can build visibility, focus on results and lessons learned, and discover powerful patient stories that can be shared.

As Silberg pointed out, “moving the needle” requires significant change in researcher culture, norms, attitudes, skill, and policies. There are multiple influences and constraints acting simultaneously on stakeholders and researchers. He stressed the importance of identifying key stakeholders and the need to plan collaborative activities as a way to effect change. Silberg explained that change will occur slowly and requires a long-term, multi-phase/multi-component plan. The focus should be on facilitating awareness, promoting education and training, facilitating feasibility, establishment of comprehensive range of incentives and rewards. Simply put, “research done differently.”

To listen to Forum podcasts and access presentations visit: http://jdc.jefferson.edu/hpforum/
Jefferson School of Population Health invites you to join the Grandon Society, a membership organization comprised of individuals and organizations focused on advancing population health. Named for our longtime benefactor and champion, Raymond C. Grandon, MD, and his wife, Doris, the Grandon Society is designed for leaders throughout the healthcare sector who are dedicated to transforming the US health care system through collaboration, education and innovation.

Benefits of membership include exclusive member-only programs and events, a member e-newsletter, and early notice and special registration rates for JSPH conferences and events.

Memberships are available for individuals and for organizations, with special rates for academic, non-profit and government institutions.

For more information or to join the Grandon Society, visit: http://www.jefferson.edu/population_health/GrandonSociety.html.

Robert W. Dubois, MD, PhD, Chief Scientific Officer at the National Pharmaceutical Council, responds to questions at recent Grandon Society Member-Only workshop.
**JSPH Publications**


**JSPH Presentations**


Plumb JD. The expanding public health profession: career opportunities, dual degree programs and how advisors can best guide their students. Presented at: North East Association of Advisors for the Health Professions, April 12, 2013, Atlantic City, New Jersey.

## Upcoming Jefferson School of Population Health Forums

### May 8, 2013

**Challenges in Building a Knowledge-Based Technology Infrastructure for Population Health**

Jonathan M. Niloff, MD  
*Chief Medical Officer*  
*MedVentive*  
*Location: Bluemle Life Sciences Building, Room 101*

### June 12, 2013

**Managing Population Health in Low to Moderate Income Medicare Eligibles**

Craig Tanio, MD  
*Chief Medical Officer*  
*JenCare*  
*Location: The Curtis Building, Room 218*

### Fall 2013 Population Health Forums – SAVE THE DATES

- September 11, 2013  
- October 9, 2013  
- November 13, 2013  
- December 11, 2013

All Forums take place from 8:30 am – 9:30 am  
For more information call: (215) 955-6969