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Smoking is Out; Vaping is In. The Rise of E-Cigarettes among U.S. Youth

The landscape of nicotine addiction in the US is changing, particularly among youth. Tobacco control efforts, including policies regulating the marketing, sale, use, price, packaging, and disposal of tobacco products, have been successful in reducing the prevalence of cigarette use. Today, rates of cigarette use among adults are less than half what they were in 1965.[1] But, as recent studies have shown, while traditional cigarette use has also declined among young people, electronic cigarette (e-cigarette) use has sharply increased. Although researchers disagree on the net risk that e-cigarettes pose to the health of populations, there is general agreement that using e-cigarettes, or vaping, is detrimental to the health of minors. It is imperative that population health professionals learn about this emerging trend and take steps to prevent use of e-cigarettes among young people.

E-cigarettes are typically made of plastic and often resemble a cigarette, but can also look like pens, "light sabers," flash drives, or pipes and come in a variety of colors that appeal to young people. E-cigarettes deliver nicotine, flavorings, and other substances to the user in the form of an aerosol without combustion of tobacco. Unlike cigarettes, e-cigarettes contain a battery-operated heating element, a cartridge that may or may not contain nicotine, and an atomizer that, when heated, converts the contents of the cartridge into a vapor that is inhaled.[2]

E-cigarettes have been available for purchase in the US since 2007, and vaping has grown rapidly in popularity since their introduction to the market.[3] Recent studies have shown that use of e-cigarettes among adults increased from 1.0% in 2010 to 2.6% in 2013.[4] Among young people in the US, the increases were even greater. Results from the 2014 National Youth Tobacco Survey showed that e-cigarettes replaced cigarettes for the first time as the most commonly used tobacco product among middle and high school students, with 3.9% and 13.4% reporting e-cigarette use, respectively.[5] The exponential uptick in youth use of e-cigarettes has likely resulted from the industry's use of television, radio, and internet advertising that depicts glamorous celebrities puffing on e-cigarettes, a marketing tactic that was banned for cigarettes in 1970. Additionally, e-cigarette cartridges come in hundreds of different flavors, some of which are particularly appealing to young people, such as gummy bears or cotton candy.

Researchers are still working to comprehensively quantify the risks of e-cigarette use on public health. While studies have shown that the vapor inhaled while smoking e-cigarettes contains many of the same carcinogens identified in traditional tobacco smoke, concentrations of cancer-causing and other harmful chemicals are much lower in e-cigarettes.[6] Additionally, while the empirical evidence is lacking,[7] advocates claim that e-cigarettes are being used successfully for cessation purposes; however, e-cigarettes are not an FDA approved smoking cessation method. The major concerns about e-cigarette use among young people are 1) the damaging effects of nicotine exposure on the developing adolescent brain, 2) the high likelihood that youth use of nicotine will develop into a lifetime of nicotine addiction, and 3) that e-cigarette users will switch to traditional cigarettes to feed their addiction. In fact, a recently published longitudinal

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study showed that teen e-cigarette users had significantly higher odds of initiating traditional cigarette smoking compared to non-users.[8]

As with conventional tobacco products, e-cigarettes require action at the local, state, and federal levels to prevent youth use and exposure. At least 44 states and 1 territory currently prohibit sales of e-cigarettes to minors.[9] In addition to restricting access to minors, states have begun to add e-cigarettes to smoke-free policies and explore excise taxes.[10] A critical component of the federal policy solution will be the adoption of FDA's proposed regulations on the sale and distribution of e-cigarettes.[11] Although the proposed rule is extensive and will be more comprehensive than any state or local policy, as proposed, it does not include flavoring or marketing restrictions, which are often designed to appeal to minors.[12] The development of nationwide regulations by the FDA will provide guidance to state and local governments on how to proceed. The current policy arena is a heterogeneous blend of different policy interventions that have not yet been analyzed for best practices.

As an academic medical center, Thomas Jefferson University (TJU) has a responsibility to respond appropriately to the challenge of youth e-cigarette smoking. The inclusion of e-cigarettes under both the TJU Tobacco-Free Environment and Nicotine-Free Hiring policies does well to encourage those on campus to refrain from smoking traditional and novel sources of nicotine addiction such as the e-cigarette.[13] While screening patients for tobacco use, TJU clinicians, especially those focusing on adolescent health, should specifically assess patient use of e-cigarettes. If patients use e-cigarettes or other nicotine products, clinicians should follow the 5 A's of evidence-based treatment: ask, advise, assess, assist, and arrange.[14] Clinicians should ask patients about their interest and willingness to quit, and history of use of approved cessation products. If patients smoke cigarettes, they should be encouraged to seek cessation counseling, and use FDA-approved nicotine replacement therapies such as varenicline and bupropion. If patients have not been successful using (or refuse to use) FDA-approved cessation therapies and would like to use e-cigarettes to try to help them quit, clinicians should advise patients of the lack of studies showing the effectiveness of e-cigarettes for cessation purposes, but encourage the attempt. The most important thing is for them to quit smoking traditional cigarettes as soon as possible. Finally, it is important to advise patients to set a quit-date for use of e-cigarettes to discourage prolonged use and possible negative effects of secondhand exposure to e-cigarette vapor.[15]

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Jefferson Interprofessional Education Center TeamSTEPPS® Workshops for Staff

It is becoming readily apparent that effective teamwork is essential to reduce errors and increase patient safety.[1,2] A recent related article in *Population Health Matters* described team training workshops designed by the Jefferson Center for InterProfessional Education (JCIPE) for students across Thomas Jefferson University. This article will describe the team training workshops that JCIPE helped design and coordinated for staff members in different areas at Jefferson: the ICUs; across the Jefferson enterprise; and the Department of Family and Community Medicine.

The workshop for the critical care units was designed specially to facilitate the implementation of new Clinical Practice Guidelines using the ABCDE Bundle, an approach designed to improve outcomes for ventilated patients. The ABCDE Bundle is a group of evidence-based interventions, divided into five interdependent components. The Bundle is aimed at optimizing patient care while preventing some of the unintended consequences of critical illness.

One unique aspect of this workshop was the inclusion of issue-based brainstorming sessions to help problem solve the interprofessional and team-based challenges inherent in implementing the ABCDE Bundle.[3] "This interprofessional workshop allowed participants to interact with all health professions across varying ICU settings to review ABCDE skills and to identify actionable solutions to address implementation barriers. Participants identified many barriers and issues related to bundle implementation (such as fear of patient discomfort or self-extubation, how to best manage the agitated patient, contraindications for mobilization, fear of injury with mobilization plus fear of and resistance to culture change), yet they eagerly arrived at constructive solutions to bring back to their individual ICUs. As a result of the workshop, 94% of participants reported an increase in confidence in implementing ABCDE bundle components and 90% reported an increase in confidence regarding communication related to patient safety issues." [4]

A few learners volunteered to participate in a simulation with someone playing the role of an intubated patient for whom the team needed to reduce sedation, test and continue ventilation, and mobilize while still intubated on the ventilator. This demonstrated the essential role of the various professionals in implementing the Bundle and provided an opportunity for many of the participants to see it implemented for the first time. "The hands-on workshop provided an ideal format for interprofessional training. By introducing TeamSTEPPS® vocabulary and skills, participants felt empowered to advocate for patient safety and optimize patient care and felt less hesitant to implement ABCDE bundle components."[4]

Following this success, the Jefferson Patient Safety Leadership Institute charged a planning group made up of educators from the Institute, JCIPE and the Dr. Robert and Dorothy Rector Clinical Skills and Simulation Center with the task of developing a special TeamSTEPPS® course for faculty, clinicians and staff throughout the Jefferson enterprise. A unique, highly interactive course was designed using simulation, role-playing and didactic strategies that emphasized collaboration and active learning.
The challenge was to bring together professionals from diverse clinical and academic departments and various clinical and non-clinical roles and responsibilities and train them to work together effectively and safely in teams. The course emphasizes the TeamSTEPPS® principles of leadership, situational awareness, team support and communication skills. However, the main take-away message focused on speaking up about patient safety issues at Jefferson. The inaugural course was held at Jefferson on December 19, 2014 and March 25, 2015 with a total of 46 individuals representing clinical and administrative departments across both Jefferson Center City and Methodist campuses. Participants included physicians, nurse practitioners, nurses, physical and occupational therapists, and pharmacists.

The workshops were four hours in length. Participants were introduced to the importance of working together as a team and the importance of speaking up about safety issues. They were engaged with videos and group activities, each followed by debriefings that enhanced the learning experience by reflecting on those activities in relation to the major TeamSTEPPS® components. The workshop culminated in a simulation-based experience where the learners were required to practice the teamwork skills that they had learned.

Several evaluation strategies were used to assess the success of the workshop. Participants were given a teamwork attitudes survey at the beginning and end of the workshop. They were also asked to rate how well they felt the components of the workshop advanced their knowledge of team care and their perceived ability to work on a team. Finally, they were asked to complete open-ended questions regarding knowledge gained during the workshop. The results of the evaluation suggested that it was a resounding success. Comments about each of the components were extremely positive and the pre-post survey indicated an increased positive attitude about many of the components of teamwork. For example, following the workshop, 67% of respondents strongly agreed that all members of the healthcare team can assume a leadership role if the situation warrants, compared to 40% strongly agreeing prior to the session. Similarly, after the workshop, nearly 60% of respondents strongly disagreed that working in teams tends to complicate things, while only 28% strongly disagreed prior to the training. As 100% of respondents agreed or strongly agreed that the workshop added to their awareness of the importance of team care, it is anticipated that this workshop will serve as a model for future courses to be offered to all staff throughout the enterprise when funding becomes available.

The Department of Family and Community Medicine (DFCM) recognized the need to improve teamwork to address patient safety, patient satisfaction and employee satisfaction. JCIPE staff collaborated with members of the DFCM to develop and offer the Primary Care version of TeamSTEPPS® to their staff. This workshop was held for the first time on March 19, 2015 for 19 individuals on one of the four teams of DFCM clinic staff. Similar to the other workshops, this highly interactive course was also designed using simulation, role playing and didactic strategies to emphasize

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collaboration and active learning. Although some of the group activities were similar, some videos and the simulations used office-based rather than hospital-based scenarios, enabling the participants to relate more easily to the training.

For example, one simulation involved a scenario where a medical assistant (MA) interrupted the medical provider when an asthmatic patient in distress arrived at the clinic. When the provider admonished the MA for the interruption, unaware that it was due to a sick patient, the MA was faced with the choice of backing down or speaking up for the patient's safety. It was also an opportunity for the MA to provide feedback at a later time about how she would like the provider to modify his behavior so they could have a productive and mutually supportive team relationship.

The DFCM workshop was evaluated using the same evaluation tools employed for the enterprise course. Again, 100% of respondents agreed or strongly agreed that the workshop added to their awareness of the importance of team care and positive attitudes about teamwork and the ability to teach people to be better communicators increased. In particular, participants emphasized the value of having all staff trained in the skills and vocabulary of TeamSTEPPS.® Training side by side gave them the confidence to use their new skills and made them feel safe to support and even challenge others in the name of patient safety and teamwork. DFCM leaders suggested that future versions of this Primary Care course include a brainstorming segment at the end to allow participants the opportunity to discuss how they would implement their new skills in the workplace. By expanding team training throughout Jefferson we hope that rather than having "teams of experts we will develop expert teams." [5]

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The Expanding Role of the Medical Assistant

In order to succeed in today's evolving healthcare climate, practices must reconsider the role of the medical assistant. The process begins with evaluating the needs of patients, and redefining expectations for team members. Medical assistants need training to expand their expertise and ensure that they are working to the top of their license.

The medical assistant is an essential, but often underutilized, member of the outpatient practice team. Training and certification for medical assistants has traditionally included basic administrative and clinical tasks, such as rooming patients, taking vital assigns, and performing some in-office tests.[1] But that role has expanded with the passage of the Affordable Care Act (ACA) and the evolution of the Patient-Centered Medical Home (PCMH) and Patient-Centered Specialty Practice (PCSP). There is not enough time in a working day for physicians to address the preventative, chronic and acute care needs of their patients.[2] Expanding the role of the medical assistant in the PCMH and PCSP is essential to achieving the triple aim of improved care, improved population health, and reduced costs. The first step in the transformation to team-based care is to establish buy-in from the key stakeholders. In this instance, perspectives

must shift from the reactionary care of patients arriving at the office, to the proactive care of populations. A major challenge to this shift in thinking is development of new roles and responsibilities for the team, not just the individual.[4] Physicians must recognize that they cannot care for their patients alone. By relying on their medical assistants for many preventative and chronic care tasks, physicians can instead spend time resolving complicated diagnostic dilemmas and strengthening the therapeutic relationship. Physicians will want to ensure that their medical assistants are capable of performing these tasks so they can build a strong, cohesive team.

The second step is to determine the specific roles of medical assistants within the care team. Medical assistant certification includes limited training on cancer screening, smoking cessation, and chronic disease health coaching.[1] Expectations for expanding this training will differ by practice. Specialty practices are likely to have a very specific role in mind for their staff members, while primary care practices may encourage broader roles. Either way, medical assistants will function best when their role has defined parameters. For example, if the expanded role of the medical assistant encompasses pre-visit planning, specific criteria and time intervals for cancer screening and diabetic care need to be defined.

The third step is to capitalize on the resources available within the practice and institution to train the medical assistants. Trainers may choose to start with a refresher on the basics, such as vital signs and electronic medical record documentation. From there, the training should quickly expand to the additional roles identified by team members. One of the major challenges in teaching medical assistants is determining which learning approach to use when developing an instructional program. Adult learners typically respond well to practical and experiential approaches, particularly when learning new skills that are most relevant to their job.[5] Medical assistants often have a limited knowledge base to draw from and are more dependent on their instructors for subject matter expertise. Awareness of different levels of learners is essential to the success of a medical assistant training program.

As with any transformation process, the final (and arguably most important) step is constant reflection and assessment. Review goals with stakeholders, and determine if the training program has helped them to reach those goals. One of the keys to the success of team-based care is having each team member working to the top of their license. If this is not occurring, it is incumbent upon the practice to reconsider the roles, reassess strengths and weaknesses, and make needed adjustments.

The practices affiliated with Thomas Jefferson University have been working to increase the number and caliber of medical assistants in our clinics. As we add more medical assistants, our ability to expand their role within the practice improves. Each practice approaches training differently, but the overall goal is to provide additional services to the patient prior to, during and after their visit with the provider. Training sessions encompass basic chronic disease management, pre-visit planning skills, and team and morale building using the

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TeamSTEPPS® program.[6] Quality metrics are attributed to individual medical assistants as motivation for continuous improvement.

Our initial pilots at Jefferson Internal Medicine Associates have been met with enthusiasm, but also some struggles. Establishing buy-in from stakeholders is essential, and we have found that this must be constantly revisited as the training program evolves. Providers that have embraced their new medical assistant teammates have been able to improve their quality scores and job satisfaction. Others are still struggling to let other members of the team take over tasks that have been their responsibility for so long. As with any quality improvement process, it is a work in progress that requires optimism and flexibility.

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Pharmacists on the Front Lines of Polypharmacy: The Individualized Medication Assessment and Planning (iMAP) Project to Improve Medication Use in Senior Adults with Cancer

The American Cancer Society (ACS) estimates that by the year 2030, 70% of all cancers in the US will be diagnosed in senior adults.[1] The multiple layers of specialized (i.e. oncologists, radiation oncologists, surgeons), general and allied health professionals make it challenging to manage this population. Senior adults are particularly prone to the perils associated with multiple transitions in care, including medication errors attributed to medication changes, complex regimens, and incomplete information handoffs between providers which can lead to potential harm, hospitalization and heightened utilization of health care resources.[2-3] Cancer-related therapy adds to the prevalence of polypharmacy and potentially inappropriate medications; consequently, this increases the risk for adverse drug effects, drug-drug interactions, unnecessary medication use, non-adherence and geriatric syndromes.[4-8] Jefferson Health System is undergoing significant transformation in the delivery of 21st century services and is ripe for greater engagement of pharmacists. The roles and responsibilities of US pharmacists as members of the health care team have expanded beyond medication dispensing.

Polypharmacy is commonly defined as concurrent use of five or more medications for the treatment of one or more medical conditions. Older adults, who typically see multiple providers, may receive potentially inappropriate medications which may increase the risk for adverse drug effects. One approach to address these types of medication-related problems (MRP) is through utilization of team-based care that includes pharmacists. Integrating pharmacists, who represent the third-largest health profession after nursing and medicine, into team-based care models is an underutilized yet viable solution to optimize medication management.

This pharmacist-led pilot -- a prospective, exploratory study-- is currently being conducted at the Senior Adult Oncology (SAO) Center at Thomas Jefferson University's National Cancer Institute-designated Sidney Kimmel Cancer Center. This pilot was facilitated by two Advanced Practice Pharmacists and the medication management follow-up sessions are conducted via telephone at 30 and 60 days post the initial face-to-face session. This iMAP intervention has been used in the primary care setting to identify and reconcile medication related problems in geriatric populations (without cancer).[9] The mean number of medication related problems per patient were reduced (4.2 at baseline versus 1 at 6 months, $p<0.0001$) and the prevalence of medication related problems at 6 months were significantly reduced ($p<0.0008$) compared with baseline. We expect to find similar results in our senior adult oncology population. The SAO center is a consultative outpatient ambulatory center that provides half-day services (5 hours) for patients 65 years and older with cancer. The core inter-professional team consists of medical oncologists, geriatricians, patient navigators, clinical pharmacists, social workers, and registered dieticians. The purpose of this study is to implement a pharmacist-led individualized medication assessment and planning (iMAP) intervention to: 1) examine the feasibility of the intervention; 2) compare

the number and rate of medication-related problems (MRP) between contacts [Day 0, 30, 60]; and 3) evaluate the proportion of MRP that are successfully addressed between contacts [Day 0, 30, 60]. Study feasibility utilized a qualitative survey relating to the iMAP intervention that encompassed measures such as: 1) time; 2) resources utilized; 3) barriers encountered. MRP were assessed by synthesizing information from the electronic health record, the pharmacist-patient session and the evidence-based literature. All medication-related problems were identified and measured based on the American Society of Health System Pharmacists classification tool with categories such as under-treatment, suboptimal drug, suboptimal [dosing, duration, frequency, administration], monitoring needed, and non-adherence). Medication adherence is measured based on a patient self-reported questionnaire.

At our SAO center, it is routine practice for patients to bring in all medications (prescription, nonprescription, herbals, and supplements) for the pharmacist-patient session. During the session, the pharmacist evaluated each medication with the patient and/or caregiver to confirm medication possession and/or self-administration, indication, and adverse effects; in addition, the pharmacist assessed the patient's ability to read medication label directions and to manage medications in and organized manner. Once the pharmacist identified medication-related problems (e.g. cognitive impairment associated with medication non-adherence), this information is discussed with the patient and the inter-professional team and a progress note is documented in the electronic health record. The pharmacists' medication-related recommendations (e.g. patient requires caregiver assistance for medication management based on cognitive status; consider discontinuing potentially inappropriate medications due to increased risk of falls given history of recent falls, recommend a safer alternative) are forwarded to the primary oncologist and/or medical provider for evaluation and follow-up.

The Institute of Medicine recognizes the significant role played by pharmacists in the areas of medication management and medication safety, as well as the value of pharmacist-physician collaboration in patient care.[10-11] Studies show when pharmacists are involved in direct-patient care and take measures to decrease the prevalence of medication related problems, hospital readmission rates and preventable adverse drug events are substantially reduced.[12-14] Pharmacists have the professional education, training, skills, and expertise to address key challenges facing the health care system and are well equipped to work on inter-professional healthcare teams and employ evidence-based medicine to optimize medication use and patient outcomes. Well-designed inter-professional, innovative medication management interventions are needed to continuously manage medication use in this complex population.

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Antibiotic Resistance and the White House Forum on Antibiotic Stewardship

Antibiotics have transformed the practice of medicine, making once-lethal infections readily treatable and facilitating other medical advances, like cancer chemotherapy and organ transplantation. Today, however, with the rise in antibiotic resistance, treatments for bacterial infections are increasingly limited, and in some patients, effective treatment options are nonexistent.[1] The Centers for Disease Control and Prevention (CDC) estimates that annually at least two million illnesses and 23,000 deaths are caused by antibiotic-resistant bacteria in the United States alone.[1]

Antibiotic resistance is one of the top infectious disease issues facing the world today, encompassing human and animal health, agriculture, and the economy. For the first time, a presidential administration has taken on this public health problem. In September 2014 the White House published the *National Strategy for Combating Antibiotic-Resistant Bacteria*[2] and President Obama signed an Executive Order directing the enactment of the strategy. The President's Council of Advisors on Science and Technology later issued a related report with specific recommendations to address antibiotic-resistance. In March 2015, the Administration released the *National Action Plan for Combating Antibiotic-Resistant Bacteria*.[1] The Plan outlines U.S. Government activities over the next five years to enhance domestic and international capacity to prevent and contain outbreaks of antibiotic-resistant infections; maintain the efficacy of current and new antibiotics; and develop and deploy next-generation diagnostics, antibiotics, vaccines, and other therapeutics. The Plan can also guide action by public health, healthcare, and veterinary partners in a common effort to address urgent and serious drug-resistant threats that affect people in the U.S. and around the world.[1] The National Action Plan is a must-read for every health care professional and student interested in public and population health.

Antibiotic Stewardship

Antibiotic stewardship, or the combined, coordinated effort to detect, prevent, and control antibiotic resistance, has been shown to limit the emergence and spread of antibiotic-resistant bacteria in hospitals.[3] Expanded stewardship depends on the active engagement of all stakeholders including: public and private sector leaders, healthcare providers, governments, academia, veterinarians, policymakers, the general public, the agricultural community, and international partners. Stewardship efforts carried out as part of the *National Action Plan* are intended to improve antibiotic stewardship in healthcare settings, prevent the spread of drug-resistant threats, eliminate the use of medically-important antibiotics for growth promotion in food animals, and expand surveillance for drug-resistant bacteria in humans and animals.

The White House Forum on Antibiotic Stewardship

The White House Forum on Antibiotic Stewardship marked a major milestone in the fight against the threat of antibiotic resistance. More than 150 private and public key stakeholders including, hospitals and health systems, clinical and professional organizations, food producers and retailers, pharmaceutical companies, and other leaders in human and animal health convened in this invitation-only event held on June 2, 2015 in Washington, DC.[4] The goal was for participants to exchange ideas on ways all stakeholders can collaborate to improve responsible antibiotic use and to discuss opportunities for further improvement. I was deeply honored to attend and represent the Association for Professionals in Infection Control and Epidemiology (APIC) to provide information and offer examples of how infection preventionists (IPs) and registered nurses can facilitate antibiotic stewardship efforts as they work across the continuum of patient care to identify and report trends and outbreaks from antibiotic-resistant infections; support efforts to improve antibiotic prescribing and stewardship; and implement interventions to guide the delivery of evidence-based practices to prevent infections.

The Forum opened with remarks from Obama Administration officials, followed by a panel discussion moderated by the CDC Director Dr. Tom Frieden. The distinguished panel included leaders from the Hospital Corporation of America, Genesis Healthcare, Walmart, Elanco Animal Health, and Tyson Foods. The hospital healthcare leaders stressed that good antibiotic stewardship begins with good infection prevention, and good infection prevention begins

with effective hand hygiene. As a clinician dedicated to infection prevention this was music to my ears, and provided a solid foundation for the ensuing human health discussions throughout the day. When the panel concluded, participants then moved to assigned human health or animal health breakout sessions. I participated in the four human health sessions on the following topics: improving inpatient, outpatient and long-term care prescribing, and developing new tools for stewardship (better therapies, better diagnostics). Each session lasted about 90 minutes, began with a moderated brief panel presentation, and was followed by robust participant discussion. Common themes throughout the human health breakout sessions included: the need for standardized antibiotic use and antibiotic resistance data; the need to establish partnerships, provide education and culture change; the role of patients, families and consumers in stewardship activities; the use of a holistic approach across the spectrum of patient care, and the importance of federal funding.

Many stewardship commitments were made throughout the Forum. Here are a few examples: [5]

- CDC, along with other Health and Human Services (HHS) agencies, will provide data about antibiotic use and prescribing trends in order to improve antibiotic use in the future and cut inappropriate prescribing by 50 percent in doctors' offices and 20 percent in hospitals.
- Healthcare systems representing thousands of hospitals, long-term acute care facilities, and skilled nursing centers committed to establishing or expanding stewardship programs across their locations to improve prescribing.
- Major food producers committed to phasing out giving unnecessary antibiotics to animals, and food retailers, like grocery stores, committed to providing more antibiotic-free options to their consumers.
- Drug store and drug companies committed to integrating CDC's stewardship principles into programs that provide free or reduced-price antibiotics to patients.

The opening session of the Forum can be viewed at: https://www.youtube.com/watch?v=dNXQko0KbDA

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PhD Students at Jefferson's College of Population Health Advance the Population Health Agenda through Courses they Design and Deliver

The College of Population Health at Thomas Jefferson University (JCPH) offers a PhD in Population Health Sciences that combines a broad grounding in this emerging field with a special focus in health policy, healthcare quality and safety, applied health economics, or behavioral health sciences. Designed with the working healthcare professional in mind, the PhD program has attracted highly qualified applicants from a variety of industry sectors in the Philadelphia region. Consequently, entering students bring extensive real-world experience and expertise to the learning community they join at JCPH.

Since its inception, the PhD program has recognized the importance of preparing its graduates to be effective educators, providing them with formal training in instructional design and hands-on experience with classroom management through a seminar in teaching and learning, PHS 620. In PHS 620, students work closely with their instructor and one another as they bring together their academic training and professional experience to the task of authoring and delivering a three-week course on a Population Health topic of their choosing. Throughout the course authoring process, design principles and development techniques are modeled directly on those applied by JCPH faculty to the College's online Masters programs. Through this course, PhD students at JCPH have been developing their skills as instructors while 'evangelizing' for population health to a variety of workplace audiences.

Continued on page 10

Continued from page 9

The courses PhD students design and deliver are typically structured as 'hybrid' courses—the first week takes place in a conventional classroom or corporate training facility, the second week continues online, and the third week is conducted once again in a face-to-face setting. Each week of instruction is built on a carefully designed lesson holding specified learning objectives, readings, lecture, written assignments, discussion, application oriented activities, assessment, and student evaluation of their own learning. Through the lessons conducted across these three-week spans the PhD students engage closely with audiences in a range of industry sectors and academic settings.

In this way JCPH educators-in-training promote the study and application of population health and related disciplines directly to the healthcare workforce. As of spring 2015, these courses have addressed a remarkably broad range of topics in population health.

The topics of study addressed in these courses have tended to fall out into categories representative of the evolving discipline of population health. What does this *de facto* 'curriculum' look like as it is carried out into the workplace by PhD students? Courses produced by PhD students in the past 5 years are outlined in Table 1.

Table 1. Courses Authored and Delivered by PhD Students at JCPH Through 2015

Topic of Study	Course Title(s)	Audience(s)
Research Methodology	• PCORI Methodology Standards for Conducting Patient-Centered Outcomes Research • Population Health Research • Community Based Participatory Research	• Research team, Pharma • Research Fellows, Nemours • Field Researchers, international
Data Analytics	• Data Visualization for Population Health	• Data Analysts, commercial health services
Preventive Care	• Why Vaccinate? • Foundations of Maternal, Child and Family Health	• Expectant Parents • Research team, Community Medicine Clinic
Healthcare Quality and Safety	• Brachytherapy Refresher	• Radiation Therapy Team, Academic Health Center
Ethics	• Ethics in Medical Physics	• Residents, Academic Health Center
Health Policy	• Risk Evaluation Mitigation Strategies	• Medical Affairs, Pharma
Process Improvement	• The Art and Science of Change Management	• Administrators, commercial health services
Emerging Models of Care	• Introduction to the PCMH • Introduction to MSSP	• Educators, non-profit healthcare advocacy group • Administrators, commercial health services

The experience of designing and delivering a hybrid course to authentic audiences develops students' confidence in their ability to construct meaningful, engaging instruction. The following comment selected from a recent course evaluation can be illustrative:

> *I learned the most about creating a structured course that focuses on learning activities that relate back to the learning objectives[...]. I see myself using the skills of creating learning objectives in the near future for conference presentations. I learned a lot about the value of making work student-centered and tailoring it to your group, which was helpful this week as I gave a presentation to medical students.*
> [PHS 620, Spring, 2015]

While the full promise of PhDs trained at JCPH will be realized in future years as their research agendas are advanced, these 'scholars-in-training' are already honing instructional skills that offer immediate benefits to themselves and their audiences.

As for PHS 620, the teaching and learning seminar itself, greater attention will be provided going forward to approaches the PhD students can take in addressing the unique constraints of their course delivery model. While standard courses in the online programs at JCPH run for 14 weeks, courses created by the PhD students run for three weeks. Thus, online technologies that offer the smallest possible learning curves are being explored, as are online learning activities that will engage classes while minimizing the need for complex communication or coordination. More fully adopting existing design principles and practices to the realities of the compressed timeframe of the PhD students' courses will continue to provide stimulating challenges for the course authors and improve learning outcomes for the course participants.

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Thomas Jefferson University®
Jefferson College of Population Health

ASSOCIATE DEAN FOR ACADEMIC AND STUDENT AFFAIRS

Thomas Jefferson University, College of Population Health, seeks applications and nominations of highly qualified individuals for the position of Associate Dean for Academic and Student Affairs.

Originally founded in 1824 as Jefferson Medical College, Thomas Jefferson University (TJU) is a private health sciences university located in Philadelphia, PA. The University's mission is to educate physicians, nurses, biomedical scientists and other health professionals; expand scientific knowledge through leading edge research; and provide quality patient care to the community.

At present, Thomas Jefferson University has grown to include six colleges that provide education for healthcare professionals: Sidney Kimmel Medical College; College of Nursing (1891); College of Biomedical Sciences (1949); College of Health Professions (1967); College of Pharmacy (2008) and College of Population Health (2008).

Jefferson is the largest free-standing health sciences university in Philadelphia and one of only 7 such institutions in the US. Thomas Jefferson University, along with its clinical partner, Jefferson Health, treats more than 46,000 inpatients and 1,000,000 outpatients every year.

As the first designated College of Population Health in the country, JCPH is dedicated to the exploration of policies and forces that determine the health and well-being of populations, locally, nationally, and globally. Its mission is to prepare leaders with global vision to examine the social determinants of health and to evaluate, develop and implement health policies and systems that will improve the health of populations and thereby enhance the quality of life. This is achieved by providing exemplary graduate academic programming in population health, public health, health policy, healthcare quality and safety/management, and applied health economics and outcomes research. The educational offerings are enhanced by research, publications and continuing education and professional development offerings in these areas.

Reporting to the Dean, and serving as an integral member of the senior leadership team, the Associate Dean will be responsible for ensuring the successful development, coordination and oversight of all academic and student affairs, with ultimate responsibility for all matters pertaining to faculty and student populations.

The Associate Dean has direct responsibility for a team of faculty, each of whom are subject matter experts and responsible for the research and teaching/learning – both online and face to face – within JCPH. The Associate Dean also has responsibility for certain administrative staff personnel including the Director and Associate Director of Online Learning, the Assistant Dean of Students, the Program Coordinator for Admissions, the Academic Projects Coordinator, and an Administrative Assistant.

The successful candidate must be a mission-focused, seasoned, strategic and team-oriented leader with experience in adopting and integrating innovative academic initiatives, leading a faculty organization, administrative and curricular oversight, and oversight of faculty development and administration.

The successful Associate Dean will have the skills, sensitivity and ability to implement strategic plans in a complex organization and translate the large-scale strategy into day-to-day operations management to provide superior leadership to the JCPH community and the communities served by Thomas Jefferson University and Jefferson Health in the greater Philadelphia region.

Interested candidates may send a resume and express interest by contacting
J.J. Cutler (jj.cutler@futurestep.com) and Samantha Hogans (Samantha.Hogans@futurestep.com)
of Korn Ferry Futurestep.

As an EOE/AA employer, Thomas Jefferson University will not discriminate in its employment practices due to an applicant's race, color, religion, sex, national origin, and veteran or disability status

KORN FERRY

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Learn More About Our Programs

JCPH is hosting a series of convenient online and onsite information sessions to help introduce you to our degree and certificate programs in: Population Health; Public Health; Health Policy; Applied Health Economics and Outcomes Research; Healthcare Quality and Safety; and Healthcare Quality and Safety Management.

ONLINE INFORMATION SESSIONS *Click on program dates to link to registration.*

Master of Science and Certificate in Health Policy
November 12, 2015
1:00 pm – 2:00 pm ET

February 17, 2016
1:00 pm – 2:00 pm ET

Master of Science and Certificate in Public Health
November 17, 2015
12:00 pm – 1:00 pm ET

Master of Science and Certificate in Healthcare Quality and Safety and Master of Science in Healthcare Quality and Safety Management
February 3, 2016
12:00 pm – 1:00 pm ET

Master of Science in Applied Health Economics and Outcomes Research
February 11, 2016
12:00 pm – 1:00 pm ET

Master of Science and Certificate in Population Health
February 25, 2016
12:00 pm – 1:00 pm ET

ON SITE INFORMATION SESSION *Click on program date to link to registration.*

Master of Public Health and Certificate
December 2, 2015
5:30 pm – 7:00 pm ET

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

Thomas Jefferson University Health Economics and Outcomes Research Fellowships: A Personal Reflection

Walking down the streets of downtown New Orleans, I remember feeling privileged to be amongst such an accomplished group of individuals with the same goal in mind – patient centered healthcare. The theme of the 18th Annual International Society for Pharmacoeconomics and Outcomes Research (ISPOR) Meeting was "patient-centered outcomes: focusing on the patient." As the Mercer University Student ISPOR Chapter President, I had the opportunity to interact with students who like me were passionate about research. That evening I was introduced to fellows from Thomas Jefferson University and the idea of pursuing a Post-Doctoral fellowship in health economics and outcomes research.

The Thomas Jefferson University Health Economics and Outcomes Research (HEOR) Fellowship was started in 1994. Under the leadership of the Dr. David Nash, Dean of the College of Population Health (JCPH) (formerly, Jefferson School of Population Health and *Office of Health Policy*), Thomas Jefferson University approached companies within the pharmaceutical industry with the idea of training pharmacists in a post-doctoral fellowship. In the "looming possibility" of Hillary Care and the recognized lack of healthcare professionals trained to solve complex healthcare issues, academic institutions and persons in pharma shared vested interest in such collaborations.[1] Parallel with the inception of the fellowship program was the formation of ISPOR (formerly, the Association of Pharmacoeconomics and Outcomes Research) in 1995. According to Dr. Maio, the current Program Director, Dr. Nash was able to envision the need for healthcare professionals trained with the *tools* to be able to "connect the dots" in clinical outcomes and economic components.[2]

The JCPH Applied Health Economics and Outcomes Research Fellowship (AHEOR) program transpires over two years. Fellows work cross-functionally at Thomas Jefferson University and their respective sponsor company. Highlights of the program include: collaboration in the completion of outcomes research projects, added technical training (SAS programming, biostatistics), medical writing, and one-on-one mentoring. Additionally, fellows are supported to earn a Master's of Science or Certificate in JCPH programs. The fellowship has been under the leadership of Dr. Vittorio Maio since 2014. Past directors include Dr. David Nash, Dr. Joseph Jackson and Dr. Laura Pizzi.

Current industry sponsors of the fellowship program include: Janssen Scientific Affairs, Novartis, and Ethicon. The first fellowships (1994) were sponsored through funding by Sandoz (Novartis) and GlaskoSmithKline. Janssen Scientific Affairs has partnered with Jefferson since 1996 serving as the longest running industry sponsor. Since 1996 Janssen has supported 18 fellows through matriculation of the program. Through the 21-year history of the program, a variety of pharmaceutical and medical device companies have also supported fellows including, but not limited to: Knoll Pharmaceuticals (Novartis), Rhone-Poulenc Rorer (Sanofi-Aventis Pharmaceuticals), and Daiichi Sankyo. Thomas Jefferson University has also sponsored two fellows through an academia-focused 2-3 year fellowship.

The JCPH AHEOR fellowship program is one of the longest running HEOR fellowship programs in the nation. With the transforming healthcare landscape, there is an increased need for persons with the skills to translate real-world problems into actionable solutions through research. Interestingly, the fellowship was formed at an appropriate time when the nation was on the brink of healthcare reform. I am grateful that such a program was developed to provide an environment for clinically trained individuals to cultivate outcomes research skills. I look forward to continuing participation in the fellowship program and mentoring students to pursue careers in outcomes research.

Jacquelyn M. McRae, PharmD
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Dr. McRae is one of three 2015-2017 Thomas Jefferson University HEOR fellows. Dr. McRae is pictured here with Dr. David Nash (far left) and her two co-fellows, Dr. Varga and Mr. Chen. Jacquelyn McRae, PharmD (left) is sponsored by Janssen Scientific Affairs. Stefan Varga, PharmD (middle) is sponsored by Novaritis. Bryan Po-Han Chen, MS (far right) is sponsored by Ethicon.

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Addressing Health Literacy Needs in Southeastern Pennsylvania and Beyond

Health literacy is the degree to which individuals have the ability to obtain, process, and understand basic health information and services needed to make appropriate health decisions. Individual characteristics (age, education, experience with the healthcare setting, culture, etc.) and system factors (noise level, time, complexity of information, etc.) interact to influence a patient's health literacy during any given healthcare encounter. Patients demonstrating low health literacy are at risk for excessive hospitalizations, increased healthcare costs, poor health status, and other undesirable health outcomes. [1]

Several recent federal policy initiatives, including the Affordable Care Act, the Plain Writing Act, and the National Action Plan to Improve Health Literacy, address health literacy in the context of the entire health care system.[2] Within public health, health literacy has been linked to several key frameworks, including Healthy People 2020, and the Ten Essential Public Health Services.[3] Health literacy is no longer viewed solely as a patient deficit or responsibility, but as an integral component in moving towards a healthcare system that promotes population health.

Recognizing the need for a comprehensive regional approach to addressing health literacy, Thomas Jefferson University and Hospitals (TJUH) and the Health Care Improvement Foundation (HCIF) developed SEPA-READS, an ongoing partnership supported by funding from the Pennsylvania Department of Health since 2010. SEPA-READS seeks to improve provider communication, facilitate organizational change, and increase patient empowerment and self-efficacy. The initiative engages health systems and community organizations to affect change on both sides (provider and patient) of the healthcare encounter.

In five years, faculty from Thomas Jefferson University have educated more than 300 staff members from nine health systems (including TJUH) to become health literacy champions and trainers at their respective organizations. The comprehensive curriculum includes verbal and written communication techniques, materials design and assessment, web design, and wayfinding/navigation. The effectiveness of the trainings is assessed using pre/post-tests and evaluations. All evaluation respondents (n=90) who attended training in 2015 indicated that they intended to change practice

as a result of attending. When asked what types of practice would change, participants most commonly identified using teach back (61.2%), a verbal communication technique used to confirm patient understanding by asking the patient to explain instructions in his or her own words[4], and modifying patient education materials (68.9%). Pre and post-tests indicate a moderate increase in knowledge: before the training, respondents averaged 60% correct; after the training, the average increased to 70%. SEPA-READS provider partners have reported educating over 7,000 staff members on health literacy and effective patient-provider communication techniques as a result of the train-the-trainer sessions.

The trainings also build capacity to advocate for and implement system-level changes to improve health literacy at their respective health systems. Provider partners have reported the implementation of at least 30 health literacy interventions. Examples of these interventions include revising education materials and teaching techniques for congestive heart failure patients, updating hospital signage to improve patient and visitor navigation, implementing policies regarding the suitability and reading level of materials, and addressing the literacy and language needs of non-native English speakers.

SEPA-READS supports patient activation by recruiting and training peer educators from ten partner community organizations. The community curriculum revolves around the National Patient Safety Foundation's Ask Me 3®, an education program that encourages patients to ask questions to better understand their care. To date, over 100 peer educators have educated more than 700 patients to play an active role in their health care. Peer educators are highly praised in session evaluations, and attendees indicate intention to use Ask Me 3®during their next healthcare encounter. They also demonstrate a high level of engagement in their own care, and the passion and ability to support others in becoming empowered patients.

While trainings and interventions during the initial five-year funding period targeted cardiovascular health in older adults, the scope of SEPA-READS has now shifted towards a broader focus on chronic disease management and population health. Health literacy activities will continue through 2018, supported by additional funding from the Pennsylvania Department of Health. In addition to maintaining regional efforts in Southeastern Pennsylvania, HCIF and Thomas Jefferson University and Hospitals are leading the development of a statewide health literacy coalition. Partnering with other regional health literacy initiatives, such as the Regional Health Literacy Coalition in Pittsburgh, provides a strong foundation from which to build statewide collaboration.

Addressing health literacy, a key component of improving population health, will continue to require coordinated efforts at the provider, patient, and system levels. Leveraging existing health literacy activities in Southeastern Pennsylvania, supporting nascent health literacy initiatives, and strengthening relationships among health literacy stakeholders are crucial steps to improving the health of all Pennsylvanians by creating a culture of health literacy in the Commonwealth.

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POPULATION HEALTH FORUMS

Jefferson's Integrated Clinical Enterprise

Anne Docimo, MD, MBA
Senior Executive Vice President
Chief Medical Officer
Jefferson Health System

June 10, 2015

The last Forum of the season ended on a high note with featured speaker Anne Docimo, MD, MBA, Jefferson's Chief Medical Officer and Senior Executive Vice President. Dr. Docimo was formerly the CMO for the University of Pittsburgh Medical Center (UPMC) Health Plan and Senior Medical Director for the Hospital Division of UPMC. Prior to UPMC, Docimo was Director of Urgent Care and Community Medicine at Hopkins Health System.

Despite being at Jefferson for less than a year, Docimo shared a wealth of insights and her obvious passion and positive outlook for Jefferson's future could be felt by all. Much of her presentation was more global in nature, providing perspective on the overall outlook for healthcare and critical changes impacting structural, financial, and operational issues. Docimo

set the stage by discussing the projected costs for healthcare in the U.S. and the impact of the Patient Protect and Affordable Care Act (ACA). Outlining the ACA's core elements, such as coverage expansion, delivery system reform, and financing, Docimo emphasized that reform is here to stay.

Dr. Docimo discussed the fundamental changes in the insurance market – a shift to optimizing performance in care delivery. The payer is responsible for the financial risk and assuring the quality of the network and healthcare services provided to its members; payers must hit quality and efficiency targets. As a result of this change, it's important to create a collaborative relationship between payers and providers; they must share information and data in order to meet their mutual goals.

Docimo noted that changes in the marketplace are profoundly affected by consumers, particularly new customers, who she described as "game changers." Some consumers are dealing with the high cost of health care for the first time. The experience of selecting a plan on the exchange influences health care decisions and choices made by consumers. The future will likely consist of many people purchasing coverage through the exchanges and accessing their care through narrow networks. Docimo explained the importance of Medicare Advantage and the ways in which hospitals must achieve CMS Quality Measures. The Medicare Health Outcomes Survey is a useful tool in understanding patient reported outcomes.

Docimo refers to the Triple Aim as a business strategy. Whether it's optimizing the patient experience, improving the health of populations, or lowering the cost, this model is basic for implementing a strategy. She emphasized access to care as a huge barrier, and shared several Jefferson initiatives to decrease these barriers. For example, Jefferson has recently set up a number of urgent care centers. There is also an overall increase in same-day appointments and available appointments with less wait time. Additionally, timely and effective access to emergency care and other services, such as JeffSTAT, is also very important.

Dr. Docimo summarized her presentation by emphasizing that "everyone has a story to tell." She means that everyone – from the people who answer the phone, to those who deliver the care, to the consumers, to those who actually price the care – plays a role. Dr. Docimo expressed her optimism and excitement in being involved with change and Jefferson's new integrated delivery system.

Population Health Readiness

Wayne Giles, MD, MS
Director, Division of Population Health
Centers for Disease Control and Prevention

September 9, 2015

The Fall Forum season began with a fitting and timely presentation on population health by Dr. Wayne Giles, the Director of the Division of Population Health within the National Center for Chronic Disease Prevention and Health Promotion at the Centers for Disease Control and Prevention (CDC).

Dr. Giles first outlined the broad scope of CDC's population health initiatives and used the phrase "cross-cutting and emerging issues in prevention" to capture the essence of public health today. The CDC's strategic directions include: global health and health security; leading causes of death and better prevention of the leading causes of illness, injury, disability and death; and strengthening of public health and health care collaborations.

Referring to Kindig's classic definition of population health, Giles emphasized determinants of health that influence health outcomes. In particular, he stressed the geopolitical jurisdiction as an important factor in population health. He also described the drivers of health, leading causes of death and actual causes of death. Through the use of Behavioral Risk Factor Surveillance System (BRFSS) data he shared key trends in the U.S. and Pennsylvania for obesity, diabetes, blood pressure, and smoking.

Giles tipped us off to the U.S. Surgeon General's National Call to Action on Walking which was formally announced just a few hours after the Forum. Known as *Step It Up! The Surgeon General's Call to Action to Promote Walking and Walkable Communities,* this initiative promotes the health benefits of walking and addresses issues related to lack of safe and convenient places to walk. Dr. Giles discussed the importance of opportunities for physical activity, safer conditions in communities, and access to healthier food.

Using the expanded chronic care disease model, Dr. Giles explained the challenges of the patient-provider relationship in influencing change. Despite the limited time frame of these encounters, he believes that the interaction can be extremely influential in creating the bridge to behavior change and healthier outcomes.

Giles described categories of population health activities and highlighted the CDC's Partnerships to Improve Community Health (PICH), an initiative designed to support communities, improve health and reduce chronic disease through evidence-based strategies. For example, Boston Public Health Commission implemented city-wide strategies to improve built environment for walking and biking.

Dr. Giles went on to discuss emerging opportunities in population health such as the National Healthy Worksite Program (NHWP), a program aimed at improving the health of workers and their families and reducing the risk of chronic disease. The program also supports the promotion of sustainable workplace health activities and forming community partnerships and health coalitions.

Dr. Giles concluded his presentation by sharing a wealth of CDC resources including:

The Community Health Improvement Navigator, Sortable Risk Factors and Health Indicators; The Guide to Community Preventive Services, and CDC Fellowship Opportunities.

To view slides and listen to audio recordings of JCPH Forums visit Jefferson Digital Commons.

UPCOMING JCPH FORUMS - FALL 2015/WINTER 2016

November 11, 2015

5 Analytic Imperatives for Successful Population Health Management

Graham Hughes, MD
Chief Medical Officer
SAS Institute's Center for Health Analytics Insights

Bluemle Life Sciences Building
Room 105/107
233 South 10th Street

December 9, 2015

Rx for a Better Home: Philadelphia's Health Rowhouse Program

Kiki Bolender, AIA, LEED AP
Principal
Bolender Architects

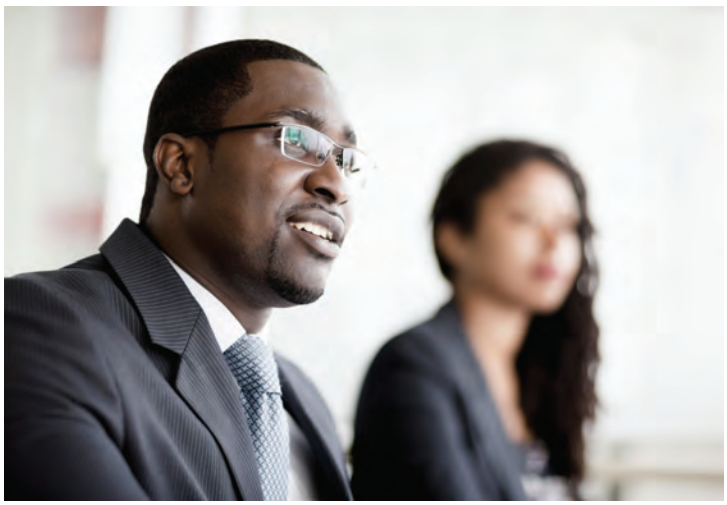
Jefferson Alumni Hall (JAH)
Solis-Cohen Auditorium
1020 Locust Street

January 13, 2016

Health Care Delivery Science as a Catalyst for Organizational Change

Eric V. Jackson, Jr, MD, MBA
Director
The Center for Health Care Delivery Science - The Value Institute
Christiana Care Health System

Location To Be Determined



February 10, 2016

What Does Population Health Mean for Public Health?

James W. Buehler, MD
Health Commissioner
City of Philadelphia

Location To Be Determined

Forums take place from 8:30 am – 9:30 am and are free of charge.

For more information call: 215-955-6969.

Forums are designed for Jefferson students, faculty and staff; health care professionals, administrators and advocates; public policy analysts and community health leaders.

For directions and parking visit: Jefferson.edu

JOIN THE GRANDON SOCIETY TODAY!

Jefferson College of Population Health invites you to join the

GRANDON SOCIETY

RENEW NOW!

A membership organization for individuals and organizations focused on advancing population health.

The Grandon Society is designed for leaders throughout the healthcare sector who are dedicated to transforming the U.S. 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 JCPH conferences and events. Memberships are available for individuals and for organizations, with special rates for academic, non-profit and government institutions.

Become a member today and join us for the next Grandon Society workshop on April 13, 2016 featuring **Alan Zuckerman, FACHE, FAAHC**, and **John M. Harris of Veralon.** They will present on the benefits of building scale for population health.

For more information visit: Jefferson.edu/GrandonSociety

Questions?

Contact Alexis Skoufalos at 215-955-2822 or Alexis.Skoufalos@Jefferson.edu

JCPH PRESENTATIONS

Ankam NS, Vause-Earland T, Lieberthal RD. Taking the lead from educational environments to publication. Presented at: Jefferson Faculty Development Days, June 10, 2015, Philadelphia, PA.

McIntire RK. Reid C. Policy map in the classroom. Presented at: Policy Mapchat webinar, October 19, 2015.

McIntire RK. Use of Propensity Score Matching to identify a strong association between health care provider advice not to smoke and quit attempts among mid-adolescent smokers. Presented at: 2015 National Conference on Health Statistics, Bethesda, MD.

Simmons R, D'Agostino A, Delgado D. Engaging Latinos in health care careers: opportunities and challenges. Presented at: Constuyendo Puentes Conference, West Chester University, September 17, 2015, West Chester, PA.

Simmons R. Getting and MPH during your Gap year before medical school. Presented at UC Davis 13th Annual Pre-Health Conference, October 10, 2015, Davis, CA.

Simmons R. Dual degrees in public health – The synergy of public health and health sciences professions. Presented at: US Davis 13th Annual Pre-Health Conference, October 10, 2015, Davis, CA.

Simmons R. The future of public health in the Post Affordable Care Act Era. Presented at: US David 13th Annual Pre-Health Conference, October 11, 2015, Davis, CA.

Simmons R. Health literacy: the impact on health care providers, consumers/patients and health care organizations. Presented at: The Value Institute Innovative Discovery Series, Christiana Care Health System, October 16, 2015, Newark, DE.

Simmons R. Global health within graduate public health education programs. Presented at the 4th Annual Delaware Health Sciences Global Health Symposium, University of Delaware, October 17, 2015, Newark, DE.

JCPH PUBLICATIONS

Nash DB. Defunding AHRQ: a shot to the foot. *Medpage Today*. July 23, 2015

Nash DB. Better than science fiction. *Medpage Today*. August 20, 2015.

Nash DB. Watching the Apple Watch. *Medpage Today*. September 24, 2015.

When Healthcare and Innovation Converge in Philadelphia

As first-year postdoctoral fellows in Health Economics and Outcomes Research, we were fortunate enough to attend the Converge 2015 Conference hosted annually by MedCity News on September 1st and 2nd in Philadelphia. MedCity News represents a leading online news source for the business of innovation in healthcare. The purpose of this conference was to engage all stakeholders involved with healthcare innovation and to provide the most accurate picture of the prospect for the business of medicine. The conference involved keynote speakers from academia, payers, industry and government sectors covering topics such as corporate venture capitals, intellectual property protection, precision medicine, wellness programs and IBM Watson Health. The conference also included presentations from selected startup companies promoting their innovative products.

The Converge 2015 conference opened with Mr. Daniel J. Hilferty, President and CEO of Independence Blue Cross, who highlighted current challenges and innovation landscape in healthcare. Per Mr. Hilferty's remarks, the main challenge facing Philadelphia in particular, is cost of healthcare, which is 42 percent higher than the national average. This challenge therefore presents an opportunity for innovators to be more prominent in impacting healthcare. The opening remark concluded with the motivational story of the invention of the light bulb by Thomas Edison, an innovator and an inventor. Mr. Hilferty metaphorically addressed Independence Blue Cross as an innovative company in healthcare.

Following the opening remarks from Mr. Hilferty, the conference proceeded to discuss different aspects of the creation of innovative startup companies. The path from a simple startup idea to forming and leading a startup company is a complex process with a variety of difficulties to overcome. A significant difficulty recognized by most startup companies is appropriate funding. Panelists from large institutions such as Johnson & Johnson and Mayo Clinic discussed how to connect with, attract, negotiate and better understand corporate venture capitals in healthcare. As opposed to traditional venture and angel investors, corporate venture capitals can be an important funding source. One of the advantages of collaborating with corporate venture capitals is that they generally have solid connections with clinical experts in the field; however, the panelists also noted that the direction of funding might drastically change when there is an adjustment in the leadership.

In addition to funding, another critical aspect for startup companies is protecting intellectual property. During the breakout session "Protecting What's Yours", panelists explained the importance of every aspect of intellectual property protection including patents, copyrights, trademarks and confidentiality agreements. Protection of intellectual property is especially important when company leadership suspects that the company is moving in an unexpected direction. Mr. Lee Drucker, the founding partner of Lake Whillans, shared various scenarios in which entrepreneurs were challenged or taken advantage by their business partners. Moreover, the panelist provided strategies for negotiations with business partners and investors to protect their assets.

The conference also introduced various innovative topics in healthcare along with the ethical decision-making involved in the process of implementation. An interesting debate was initiated regarding consumer-driven precision medicine. An ardent exchange between Ms. Susan Hertzberg of Boston Heart Diagnostics and Dr. Alberto Gutierrez of the US Food and Drug Administration (FDA) occurred concerning the discussion of genome sequencing, data interpretation, medical ethics and patients' right to the access of the data. Dr. Gutierrez pointed out that the interpretation of genome data is never easy and there are great risks when data presented was potentially falsely positive. This particular statement was in reference to 23andMe, the direct-to-consumer genetic testing company that was selling the personal genetic testing spit kit. In late 2013, the company received a warning letter from the FDA to stop selling the spit kit due to the lack of communication with the FDA. Contrary to his perspective, Ms. Hertzberg drew attention to the fact that the healthcare climate is shifting, where the importance of access to personal data is much more valued than ever before. Thus she believed that government agencies should be more open-minded with healthcare innovations and urged payers to take on a more critical role to connect innovation and reimbursement.

Another innovative concept related to the shift of the healthcare climate is wellness programs. Wellness programs and the partnering reward programs have expanded in the last decade. Mr. Nebeyou Abebe, Senior Director of Health & Well-being, Sodexo North America discussed the success and failure of wellness programs during the fireside chat "The Cutting Edge of Health and Wellness." Mr. Abebe pointed out that up to 84 percent of large employers have developed wellness programs; however, only 4 – 6 percent of employees actually participate in such programs. There is a critical need for strategically improving employee engagement and according to Mr. Abebe, it can be accomplished through partnership with community-based organizations and utilization of simple, but powerful, technology such as text messages.

Following numerous discussions from other startup companies with innovative ideas, the conference concluded with the closing keynote presentation, "What's Next for Watson," which was delivered by Dr. Kathleen McGroddy Goetz, Vice President of IBM Watson Health. She introduced what Watson Health is by addressing that the goal of the company is to build a hub of an ecosystem, which provides "Insight as a service" solutions. As opposed to the notion that artificial intelligence is to replace people since the term was coined in 1955, it is built to augment knowledge and enhance expertise. According to Dr. Goetz, a significant amount of data has been digitalized but not made accessible or actionable, and Watson Health aims to realize its potential by acquisition and

partnership within the encouraging ecosystem. IBM Watson Health obviously has an ambitious agenda in what data and analytics can do for healthcare innovations, and it is definitely the right time for the arena.

This Conference provided an opportunity for entrepreneurs to network with professionals addressing some of the biggest challenges in healthcare. Jefferson College of Population Health was also able to share information about research interests and initiatives with the attendees at a booth. We thank Dean Nash for the opportunity to attend the Converge 2015 Conference which expanded our knowledge and insights about the new terrain of healthcare.

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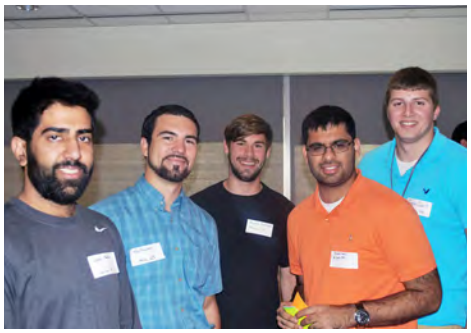
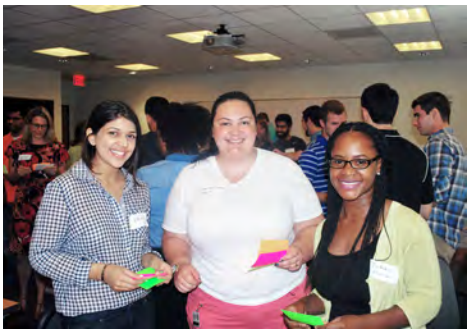
IN THE NEWS

JCPH Welcomes New Students at MPH Orientation

Left to right: Andrew Kamel, Justine Brink, Vatsal Gandhi



Left to right: Vatsal Gandhi, Tom Nowlan, Bryan Misialek, Junaid Yasin, Joshua Clark



Left to right: Esha Pawar, Christina Downing, Tashika Robinson

Meghan Gannon Defends Dissertation

Meghan Gannon (center) defended her dissertation on "Mindfulness and Quality of Parenting Behaviors of Mothers in Opioid Treatment: Results and Policy Implications." Also in this photo from left to right: Doug Tynan, Amy Leader, Marianna Lanoue, and Diane Abatemarco

JCPH Honors Health Education Heroes

Congratulations to Pamela Harrod Smith, MS, Jefferson Center for Urban Health; Terri Clark, MPH, ActionAIDS; Sue Daugherty, RN, LDN, MANNA; Alison Petok, MSW, LSW, MPH, Sidney Kimmel Cancer Center; and Amber Thompson, MS, MBA, CHE, Vree Health.

Click here for additional details.

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