Special points of interest:

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Center Updates: A Seasonal Review

In Search of a Few Good Apps

by Graham Lowenthal

In a recent article published in the Journal of the American Medical Association, David W. Bates, MD; Adam B. Landman, MD; and Adam C. Powell, PhD explore the rising mobile health (mHealth) app industry. In response to this technological age, the article envisions a future in which apps devoted to health, fitness, and medicine may be prescribed by physicians to their patients to aid in care and improve wellness. However, with so many mHealth apps being created and added to the market each day, how can anyone trust which of these apps are safe, accurate, and effective? The authors propose that standardizing mHealth apps through regulatory measures could influence development of more clinically effective apps, redefining modernized healthcare.

Other fields of health information technology (HIT) are subject to rigorous evaluative measures to certify their clinical reliability, and it is perhaps imperative that mHealth apps go through the similar processes. The FDA and mHealth app reviews are currently doing their part to ensure mHealth apps are clinically effective, but they are only conducive to influencing a small percentage of the market. Furthermore, mHealth app reviews have so far been consistently biased, and thus unable to properly attest to the value of these apps, especially at the clinical level. Also, because mHealth apps are generally offered free or inexpensively to consumers, their developers seem less likely to hire existing, impartial HIT certification organizations, which often require funding.

The article therefore calls for the formation of unbiased app certification companies to regulate, verify, and improve the quality of mHealth apps without any implicit conflicts of interest. These initial organizations could help standardize mHealth apps by instituting specific guidelines that map out the characteristics that high-quality mHealth apps possess. Developers could then follow these guidelines related to qualities such as user safety/security, medical content, and practicality; better guaranteeing that each app will be certified.

The authors predict that as the demand for certified apps increases, so will the number of certification companies willing to provide their services to mHealth app developers, regardless of the app's market price and revenue turn-around. As more

Spotlight: David Feygin

by Graham Lowenthal

The Center for Patient Safety Research and Practice has proudly appointed David Feygin, PhD, MBA as Executive Council Chairman. An Executive Council Member since 2011, Dr. Feygin has worked diligently to provide commercial guidance on the implementation of technologies and initiatives that respond to and resolve critical patient safety issues.

Dr. Feygin earned his PhD in Mechanical Engineering from UC Berkeley for his work in virtual environments and medical simulation. He used his knowledge of this field to lead the development, commercialization, and launch of state-of-the-art medical simulators at startups such as Virtual I.V.™. He received his MBA from Harvard Business School.

As Vice President of Corporate Strategic Innovation for Becton Dickinson (BD), Dr. Feygin develops and integrates high-impact growth concepts that fall outside of, or cut across, existing business units, and companywide activities focused on identifying new market opportunities. As World-Wide Director of Strategic Innovation for BD's Medical Surgical Systems (MSS) business unit, he leads the MSS Strategic Innovation Group, which he formed to identify and develop growth strategies for MSS, implementing front-end innovation capabilities across the globe.

A highly skilled leader and strategist, as well as an awarded researcher, Dr. Feygin's expertise, and how

The PROMISES Project: Improving Patient Safety and Reducing Malpractice Risk in the Outpatient Setting

by Constance Morrison

Nearly half of all malpractice suits occur in the ambulatory care setting.

An app that integrates users' electronic health records into its interface, presenting data and advice pertaining to each person's unique disposition, could prove invaluable to clinicians and their patients.

Powell AC, Landman AB, Bates DW. In Search of a Few Good Apps. J Am Med Inform Assoc. 2014 March 24. doi: 10.1001/ jama.2014.2564.

Awareness towards medical errors and adverse events in the inpatient setting has grown significantly in the past decade, as research has become increasingly targeted at improving the prevention of and response to these events. In 2006, *When Things Go Wrong*, a guide produced and published by Harvard teaching hospitals, laid out clear guidelines for the response to adverse events in the inpatient setting. These guidelines have since been widely adopted by hospitals around the country. Medical errors that occur in primary care practices, however, have received considerably less attention, even though nearly half of all malpractice suits occur in these settings. The Proactive Reduction in Outpatient Malpractice: Improving Safety, Efficiency and Satisfaction (PROMISES) project was designed to address the specific challenges primary care practices face in improving patient safety and reducing malpractice risk. Of particular interest are delays or failure of diagnosis and the occurrence of medication errors.

PROMISES was a randomized controlled trial testing multiple interventions at 16 small-to-medium sized primary care practices in Massachusetts. The interventions focused on helping providers better manage processes shown to be particularly vulnerable to errors, namely test results, referrals and medication management. The PROMISES interventions also addressed communication challenges with patients and among care providers, as most malpractice suits result from a breakdown in communication and trust when an adverse event occurs. Intervention practices participated in a learning network to share challenges and learn from other teams. The interventions were evaluated using surveys and chart reviews, as well as qualitative exit interviews with participants. The study included an additional 9 control practices.

The PROMISES project was a statewide collaboration among numerous organizations, led by the Massachusetts Department of Public Health, in partnership with patient safety experts and researchers at Brigham and Women's Hospital and the Harvard School of Public Health, the Massachusetts Coalition for the Prevention of Medical Errors, the Massachusetts Medical Society, the Institute for Healthcare Improvement, the Massachusetts Board of Registration in Medicine, Health Care for All and the state's leading malpractice insurers, CRICO and Coverys.

Together, these organizations worked to create and publish a consensus document, *When Things Go Wrong: In the Ambulatory Setting*, modeled after the Harvard teaching hospital guide for inpatient settings. This guide was created to provide primary care practices with information on the skills and tools necessary to handle the disclosure process after an adverse event occurs. The final product was disseminated to the intervention practices as part of the intervention implementation training.

Additionally, this collaboration resulted in the PROMISES Patient Safety Curriculum, a fourteen session resource compiling lessons learned and successful case studies from the practices involved. The curriculum includes sessions on the role of practice leadership in improving patient safety, communication tools for engaging patients, advice for improving high priority processes (test results, referrals and medication management) and sustainability guidelines. *When Things Go Wrong* and this curriculum are now available online to individuals and practices seeking to improve patient safety on the [Brigham and Women's Hospital website](#).

Apps, continued

apps are reviewed, a larger percentage of them can be certified. Over time, these organizations could become more specialized, working with developers to generate meaningful clinical advancements. For instance, an app that integrates users' electronic health records into its interface, presenting data and advice pertaining to each person's unique disposition, could prove invaluable to clinicians and their patients.

In this technological age, where so many rely so heavily on their smartphones and tablets for information and assistance, a logical step forward is using these devices for clinical betterment. Standardizing mHealth apps with set guidelines through impartial regulatory means could result in more trustworthy and effective apps. Key advancements to the mHealth app industry could eventually lead to apps being manufactured for clinical use. If approached correctly, this idea of clinically-prescribed mHealth apps may not be as nonsensical as it initially appears, and the world might soon see the future of healthcare literally at its fingertips.

Evaluation of medium-term consequences of implementing commercial computerized physician order entry and clinical decision support prescribing systems in two 'early adopter' hospitals   by Kelly McNally

With electronic medicine on the rise, various systems have been developed to improve care quality while reducing errors. Two examples are computerized physician order entry (CPOE) and clinical decision support (CDS) systems. Specifically, these systems aim to decrease the disease burden associated with prescribing and medication errors, as well as provide an opportunity to improve the quality and efficiency of prescribing decisions. CPOE systems allow healthcare professionals to directly enter medical orders and instructions for patient care. The orders are communicated through a computer network to the medical staff, or another department responsible for fulfilling an order, such as pharmacy, radiology or laboratory. CDS systems provide clinicians, staff, patients or other individuals with patient-tailored information to enhance health care and decision-making in the clinical workflow. CDS systems use a variety of tools to provide such information to facilitate clinical workflow decisions. These tools include computerized alerts and reminders to care providers and patients, clinical guidelines, condition-specific order sets, focused patient data reports and summaries, documentation templates, diagnostic support, and contextually relevant reference information. In a recent study, published in the Journal of the American Medical Informatics Association, Kathrin M. Cresswell et al. discuss CPOE and CDS systems and the effects of their implementation in two "early adopter" hospitals in the UK.

The team conducted a qualitative case study of the two UK hospitals that implemented a CPOE/CDS at least 2 years prior. The aim of the study was to identify the medium-term effects of these systems, excluding the immediate effects of implementing a new disruptive technology into the existing workflow. One of the hospitals adopted a commercial system resembling a CPOE, while the other adopted a commercial system resembling CDS. Data collected included a combination of semi-structured audio-recorded interviews, observations of strategic meetings and system use by different professions, and documents providing information on implementation plans. Issues explored in interviews included perspectives on the development, implementation, and maintenance of systems, as well as associated lessons learned and suggestions for the future.

The results of the study indicated that overall there were no significant differences in medium-term consequences between CPOE and CDS systems. However, these investigators identified three themes from the introduction of these systems: 1) Impact on healthcare professionals and support staff; 2) New, unwanted risks to patient safety; and 3) Benefits to the organization through the use of secondary data. Advantages of CPOE/CDS systems include organizational benefits related to secondary uses of data. The disadvantages of these systems include reports of some adverse consequences for individual users and patients. However, the results also suggest that improvements in system design and integration could improve productivity and workflow (i.e., through improved user interface design allowing integration of information, such as enabling simultaneous view of multiple windows for the same patient). Even greater benefits might result from ensuring adequate availability of computer terminals and supporting computing and communication facilities.

In conclusion, the team emphasizes how inadequate system design and provision of devices, and the resulting use of workarounds, can lead to the development of new safety risks. The lack of clarity regarding benefits and apparent trade-offs emphasizes the need for current rather than retrospective study and for quantitative evaluation. The team hypothesizes that the greater complexity of CDS systems and more efficient processing of data will result in more considerable long-term benefits compared with CPOE solutions. However, it is unclear whether these advantages can be achieved through incremental implementation and interfacing with CPOE systems. Therefore, future studies should further this work by examining the longer-term consequences of CPOE and CDS systems in a larger number of hospitals.

Three themes from the introduction of CPOE and CDS systems:

1) Impact on healthcare professionals and support staff; 2) New, unwanted risks to patient safety; and 3) Benefits to the organization through the use of secondary data.

Cresswell KM, Bates DW, Williams R, Morrison Z, Slee A, Coleman J, Robertson A, Sheikh A. *Evaluation of medium-term consequences of implementing commercial computerized physician order entry and clinical decision support prescribing systems in two 'early adopter' hospitals*. J Am Med Inform Assoc. 2014 Jan 15. doi: 10.1136/amiajnl-2013-002252.

DGIM Research Day

Division of General Internal Medicine and Primary Care

Poster Presentation, 75 Francis Street, 2nd Floor

Friday, May 2, 2014, 12:00PM-4:00PM

The Division of General Internal Medicine and Primary Care is hosting its first annual DGIM Research Day to celebrate the rich diversity of projects conducted by its members. This annual activity, in particular, is a day dedicated to the research assistants in our division by providing a forum to showcase their contributions and promote their personal career development.

The afternoon will include a series of oral presentations, poster presentations, and a panel discussion covering the range of research, quality improvement, and scholarship activities conducted by members of the DGIM community. All oral and poster presentations will be led by research assistants. The day will also include a panel discussion with DGIM leadership that focuses on career advancement.

Abstracts were accepted for three categories: Research, Quality Improvement, and Scholarship (including innovation in education). The following research assistants from the Center for Patient Safety Research and Practice are presenting their work at the first Annual DGIM Research Day:

Oral Presentations

1) Medications During Care Transitions: Potential Contributors To Medication-Related Adverse Events Post Hospital Discharge
Hilary Heyison, Katherine Reifler, Allison Haupt

2) Clinician's Perspectives On Care Coordination Between Intensive Care Units And Long-Term Acute Care Facilities
Conny Morrison

3) Demographic Predictors For Successful Completion Of An Automated Phone Survey In Medical Outpatients
Japneet Kwatra, Jeffrey Medoff

4) Patient Safety PROMISES Are Hard To Keep: Inconsistent Improvement With A Malpractice Safety Intervention
Marykate O'Malley

5) An International Evaluation Of User Perceptions Of Drug-Drug And Drug-Allergy Interaction Alerts
Alexandra Robertson

Poster Presentations

1) Developing and Testing a Web-based Interdisciplinary Patient-centered Plan of Care
Diana Stade, Kelly McNally, Conny Morrison

2) Identifying Strategies to Promote Adoption of a Web-based Patient-Centered Communication Tool by Providers in the Acute Care Setting
Kelly McNally, Diana Stade

3) Preparing Family Caregivers of Very Ill Patients for End-of-Life Decision Making
Jorge A. Dorantes

4) Neighborhood Safety and Adipose Tissue Distribution in African Americans: The Jackson Heart Study
Do Quyen T. Pham

5) Use of Electronic Health Records for Addressing Overweight and Obesity in Primary Care: Preliminary Results from a Cluster-Randomized Controlled Trial
Katerina DeVito

6) Comparing Perceived and Actual Risks of Coronary Heart Disease and Diabetes
Katyuska Eibensteiner, Stella St. Hubert

7) Implementation of an EMR Integrated iPad Tool to Enable Tailored Breast Cancer Screening: Lessons Learned
Marjorie Odegard, Jane Chen, Stella St. Hubert

8) Demographic Factors Affecting Participation in an IVR-mediated Tobacco Treatment Outreach Program
Stella St. Hubert, Katyuska Eibensteiner

9) Born to Lose (the Call): Date of Birth Errors in an Automated Adverse Drug Reaction Call System
Jeffrey Medoff, Japneet Kwatra

10) Closing the Loop with an Enhanced Referral Management System
Amanda von Taube

11) Examining the Potential for CPOE System Design and Functionality to Contribute to Medication Errors
Arbor Quist, Alexandra Robertson

A qualitative study identifying the cost categories with electronic health record implementation in the UK
by Diana Stade

A team of international researchers in collaboration with Dr. Bates have identified cost categories for the implementation of electronic health record (EHR) systems in healthcare organizations, as well as factors that may influence these costs. They anticipate that their findings will help plan future EHR initiatives in healthcare.

Although the apparent benefits to EHR systems, such as improving safety, quality and efficiency, are well received, there is uncertainty in whether these systems will yield a return on investment. This uncertainty is due to the limited availability of evaluative cost-benefit information for adopting EHR systems. The few completed studies that have looked at physician order entry systems and hospital pharmacy bar-code systems do not capture all relevant cost categories. In fact, there is no standard evaluative framework to categorize costs and factors that influence these costs.

The investigators conducted a qualitative study to collect data from various players in an EHR adoption including directors of finance and technology, outside consultants, clinical staff, unit managers, and project managers. The semi-structured interviews spanned 12 hospital sites in London, including the north, midlands, and eastern geographical regions, as well as southern England. These sites were considered to be early adopter hospitals, which are the first hospitals to acquire an EHR system as part of the National Program for IT (NPfIT). Interviews were also conducted on an individual basis with authorities involved in the NPfIT at associated national conferences. Refinements were made to the interview questions over time in order to delve deeper into cost category analysis. Saturation of data collection was achieved when data was repeated and conducting new interviews yielded no new insights.

The study identified four main cost categories associated with integrating EHR systems into the hospital setting: 1) Infrastructure; 2) Personnel; 3) Estate and Facilities; and 4) Other Material costs. Infrastructure costs include hardware, software and maintenance costs. In contrast, personnel costs consist of project management, IT services, data migration, administrative, training, testing, etc. Securing well-equipped work space for staff contributed to most of the Estate and Facilities costs. Miscellaneous items, such as consumables and training documents, made up most of the expenses in the Other Materials category.

As the study progressed, the researchers were able to pull together factors that might influence the costs that fall under these categories. For example, the amount and type of infrastructure necessary to implement an EHR system depends on the following: the stage of hardware maturity within the hospital; the requirements of the software application being implemented; the products currently available on the market; the predetermined budget; and the physical requirements of the wards or office rooms. Personnel costs may be driven higher if the data migration also requires a change in format, if there are numerous systems to replace, and if a hospital wishes to modify the interface or build their own. Also, the costs incurred with testing the new EHR could vary significantly. Some hospitals found that the software suppliers evaluated the system inadequately and wished to test it themselves. Interestingly, one of the IT managers who were interviewed commented that the commercial provider "had handed over stuff that you could see clearly didn't work."

The amount of resources spent on training clinical and administrative staff also varied significantly across hospital settings. The number of users at each site, the training methods employed, the decision to backfill staff, and the level of support provided all influenced the price of staff training. The method of training varied between one-to-one, classroom, and 'mass' training sessions. Some employed extra trainers to coach clinicians day and night. The costs associated with each of these methods were not recorded. However, the decision to backfill staff on wards reached $1.1 million at one hospital in the study. Spending money to backfill staff may ensure participation in training sessions. IT support also varied between hospital settings, costing as much as $390,000 annually. The researchers found that lost productivity was an added cost that was neither expected nor easy to measure. Completing a paper form, for instance, might be found to take less time than completing the computer equivalent.

The study was limited due to varying delays in implementation and lack of available data, which made it difficult to compare start-up costs with recurring costs. None of the hospitals had reached a state of steady maturation to unveil stable recurring costs. Consequently, observed costs were considered either start-up or *potential* recurring costs. Moreover, collecting actual expenditures from hospitals was difficult because staff were hesitant to provide such information. With reported losses of up to $10 million after implementing EHR systems, it is no wonder why hospitals are a little behind in the movement of EHR system adoption.

Although the apparent benefits of EHR systems, such as improving safety, quality and efficiency, are well received, there is uncertainty in whether these systems will yield a return on investment.

Global Fellows Corner, Alexander Leung
by Graham Lowenthal

In this section, we share the story of one of the Center's Global Fellows – what brought them here, what they learned, and what their take away will be.
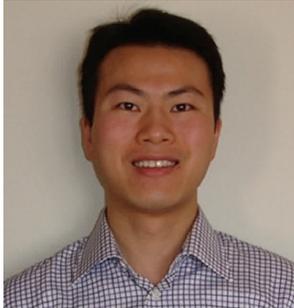
Many understand the importance of improving the quality of healthcare, but few are as determined to make those advancements as Alexander Leung, MD. Excelling as a community physician in Calgary, AB, Canada, Dr. Leung's clinical work has mainly dealt in the areas of inpatient care and perioperative medicine. Planning to shift his focus toward diabetes and metabolism, Dr. Leung attributes many of his recent successes to the skills he developed in the Global Fellows Program here at Brigham and Women's Hospital.

Dr. Leung graduated from the University of Alberta's medical school in 2006. He went on to complete an internal medicine residency, a chief residency, and a fellowship in general internal medicine by 2010. These programs led him to understand how important well-conducted research is to improving the quality and delivery of healthcare, and decided to seek extra training in research methods. Realizing that Canada's clinically-driven fellowships would not provide him with the experience he craved, however, Dr. Leung opted to enroll in the Center's Global Fellows Program. As a Global Fellow, he enjoyed academic freedom to customize his training, designing and working on numerous projects through which he could pursue and achieve his own desired accomplishments. "My projects can be broadly grouped into three large categories," he explains. "First, the focus of my work was on clinical informatics and evaluation. Second, I worked on some projects that centered around my clinical interests, including perioperative medicine and cardiovascular health. Finally, I spent quite a bit of time on data synthesis, particularly with secondary data sources, and participated in a number of meta-analyses."

Dr. Leung published the findings he gathered from these projects into several articles in acclaimed medical journals. Of these, he is most proud of a series of papers which evaluated the impact of vendor computerized physician order entry (CPOE) systems in five community hospitals. These papers are interesting because they collectively tell a unified story.

The first of these papers examined how the use of vendor CPOE systems diminished preventable adverse drug events (ADEs). "We learned that vendor CPOEs were strongly associated with an increase in potential ADEs, or *near misses*," Dr. Leung reveals. "Further examination of the data demonstrated that these potential ADEs could have been reduced by making refinements to the vendor applications and their associated decision support."

Part two of the study focused on how vendor CPOE systems affect prescribing practices for kidney disease patients. "We hypothesized that differences in clinical decision support likely confers varying benefits," Leung states, "and this is exactly what we found. Hospitals with the most advanced clinical decision support systems benefited the most. In fact, we observed a complete elimination of all preventable ADEs with these systems."

The third paper explored the financial benefits of implementing vendor CPOE systems. "Again, we found that the most favorable return on investment was associated with hospitals that had vendor CPOE systems with the most advanced clinical decision support tools," Leung expresses. "Those with basic CPOE systems, in contrast, showed a negative return on investment."

The final aspect of the study sought to validate the Leapfrog CPOE evaluation tool. "The Leapfrog CPOE evaluation tool," they discovered, "actually works as advertised, and can be used to evaluate vendor CPOE systems with clinical decision support abilities across a broad range of settings."

Over recent months, Dr. Leung has completed all of the projects he began in the Global Fellows Program; work that helped him to earn his Master's in Public Health from Harvard University. "The experience was incredibly enriching," he reflects. "It was the perfect match for my personal interests and academic goals. The coursework I completed at the Harvard School of Public Health provided me with the skills and tools I need to pursue my academic interests. The mentorship I received was crucial to my academic growth. I will always treasure the friends and colleagues I met during the three years I was in the Division. I'm grateful for the work that I was invited to participate in, and particularly for Dr. Bates for giving me the opportunity to take leadership on a number of projects. His supervision, guidance, and support were instrumental to my success.

"I also really enjoyed my time in Boston," Dr. Leung adds. "It's an amazing city to live in. I think I really grew

Selected Publications by Members of the Center

Meaningful Use and Quality of Care. Samal L, Wright A, Healey MJ, Linder JA, Bates DW. JAMA Intern Med. 2014 Apr 14. doi: 10.1001/jamainternmed.2014.662. [Epub ahead of print] No abstract available. PMID: 24733228

Disclosing medical errors: The view from the USA. Kachalia A, Bates DW. Surgeon. 2014 Apr;12(2):64-7. doi: 10.1016/j.surge.2013.12.002. Epub 2014 Jan 22. PMID:24461211 [PubMed - in process]

The Return on Investment of Implementing a Continuous Monitoring System in General Medical-Surgical Units. Slight SP, Franz C, Olugbile M, Brown HV, Bates DW, Zimlichman E. Crit Care Med. 2014 Apr 8. [Epub ahead of print] PMID:24717454 [PubMed - as supplied by publisher]

Lost in transition: Discrepancies in how physicians perceive the actionability of the results of tests pending at discharge. Liao JM, Roy CL, Eibensteiner K, Nolido N, Schnipper JL, Dalal AK. J Hosp Med. 2014 Feb 28. doi: 10.1002/jhm.2177. [Epub ahead of print] No abstract available. PMID: 24585757 [PubMed - as supplied by publisher]

A qualitative study identifying the cost categories associated with electronic health record implementation in the UK. Slight SP, Quinn C, Avery AJ, Bates DW, Sheikh A. J Am Med Inform Assoc. 2014 Feb 12. doi: 10.1136/amiajnl-2013-002404. [Epub ahead of print] PMID:24523391 [PubMed - as supplied by publisher]

Doing right by our patients when things go wrong in the ambulatory setting. Schiff G, Griswold P, Ellis BR, Puopolo AL, Brede N, Nieva HR, Federico F, Leydon N, Ling J, Wachenheim D, Leape LL, Biondolillo M. Jt Comm J Qual Patient Saf. 2014 Feb;40(2):91-6. No abstract available PMID: 24716332 [PubMed - in process]

Evaluation of medium-term consequences of implementing commercial computerized physician order entry and clinical decision support prescribing systems in two 'early adopter' hospitals. Cresswell KM, Bates DW, Williams R, Morrison Z, Slee A, Coleman J, Robertson A, Sheikh A. J Am Med Inform Assoc. 2014 Jan 15. doi: 10.1136/amiajnl-2013-002252. [Epub ahead of print] PMID:24431334 [PubMed - as supplied by publisher]

Patient-centered medical home transformation with payment reform: patient experience outcomes. Heyworth L, Bitton A, Lipsitz SR, Schilling T, Schiff GD, Bates DW, Simon SR. Am J Manag Care. 2014 Jan;20(1):782-5. PMID: 24717119 [PubMed - in process] Free Article

Are we heeding the warning signs? Examining providers' overrides of computerized drug-drug interaction alerts in primary care. Slight SP, Seger DL, Nanji KC, Cho I, Maniam N, Dykes PC, Bates DW. PLoS One. 2013 Dec 26;8(12):e85071. doi: 10.1371/journal.pone.0085071. eCollection 2013. PMID:24386447 [PubMed - in process] Free PMC Article

The Medicare Electronic Health Record Incentive Program: provider performance on core and menu measures. Wright A, Feblowitz J, Samal L, McCoy AB, Sittig DF. Health Serv Res. 2014 Feb;49(1 Pt 2):325-46. doi: 10.1111/1475-6773.12134. Epub 2013 Dec 21. PMID: 24359554 [PubMed - indexed for MEDLINE]

A pilot study to explore the feasibility of using the clinical care classification system for developing a reliable costing method for nursing services. Dykes PC, Wantland D, Whittenburg L, Lipsitz S, Saba VK. AMIA Annu Symp Proc. 2013 Nov 16;2013:364-71. eCollection 2013. PMID: 24551343 [PubMed - in process] Free PMC Article

The current capabilities of health information technology to support care transitions. Samal L, Dykes PC, Greenberg J, Hasan O, Venkatesh AK, Volk LA, Bates DW. AMIA Annu Symp Proc. 2013 Nov 16;2013:1231. eCollection 2013. PMID: 24551404 [PubMed - in process] Free PMC Article

The road to patient experience of care measurement: lessons from the United States. Zimlichman E, Rozenblum R, Millenson ML. Isr J Health Policy Res. 2013 Sep 17;2(1):35. doi: 10.1186/2045-4015-2-35. PMID:24044672 [PubMed] Free PMC Article
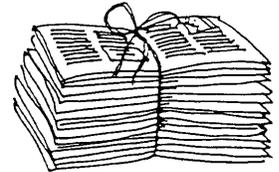
Take a look at some recent publications by members of the Center!

Spotlight, continued

(Continued from page 1)

he applies it to his new role, will no doubt help to create several progressive patient safety innovations. The Center is very fortunate to have such a distinguished pioneer on its Executive Council, and is excited to see how his contributions will aid in enhancing the future of patient safety.

Global Fellow Corner, continued

(Continued from page 6)

as a person because of the culture and environment that I was immersed in."

Always looking to the future, Dr. Leung plans to participate in a project for the Enhanced Recovery After Surgery (ERAS) initiative, which aims to improve perioperative outcomes through various intervention strategies. He intends to evaluate how carbohydrate and fluid loading before surgery, rather than fasting, may potentially improve perioperative morbidity and mortality. "The techniques I learned while I was in Boston will prove to be invaluable in the process of data collection, validation, interpretation, analysis, and presentation," Leung explains.

Dr. Leung's unique vision and unparalleled drive will surely lead him to make the new medical advancements . The Center is lucky to have had him on board, proud of his achievements, and excited for the future of healthcare he will create.