

Volume 8, Issue 1

Spring 2016

**Special points of interest:**

- **Center members take BMJ top honors!**
- **Harkness Fellow Dr. Kakad profile**
- **Recent Publications from Center members**
- **Four summaries on recent Center member publications**

**Inside this issue:**

- High Override Rate for Opioid Drug-allergy Interaction Alerts **2**
- Legal and Policy Interventions to Improve Patient Safety **3**
- Gordon Schiff and Team Receive Top BMJ Honors **4**
- How Safe is Primary Care? **4**
- Developing a Framework for Evaluating the Patient Engagement, Quality and Safety of Mobile Health Applications **5**
- Global Fellows Corner - Meetal Kakad, MD, MPH, MFPH **6**

# Center Updates: a seasonal review

## How to Stop Overprescribing Antibiotics

Antibiotics are an indispensable weapon in every physician’s arsenal, but when prescribed unnecessarily for nonbacterial infections, they provide no benefit and only serve to create problems, such as the destruction of healthy bacteria, adverse drug reactions and contributing to the increase of ‘superbugs’.

The Centers for Disease Control and Prevention estimate that about half of outpatient antibiotic prescriptions in the United States are unnecessary. Each year, as many as two million Americans suffer from antibiotic-resistant illnesses, and 23,000 die as a result.

Several strategies have been tried in recent years, without much success. These have included, educating doctors and patients about the proper use of antibiotics has only had a modest effect; alerts sent to physicians through the patient medical record reminding them to not prescribe unnecessarily are often ignored due to an overload of such alerts; and offering of financial incentives had mixed results.

The problem with these strategies is that they are each based on the assumption that physicians behave rationally and will do the right thing if provided the

proper information. The truth however, is that physicians are just as irrational as everyone else.

Doctors overprescribe antibiotics out of an irrational fear that the patient could develop complications and need them later on. It is also much easier than arguing with a patient who insists on them. In fact, a study in [JAMA Internal Medicine](#) shows that doctors take the path of least resistance as they become increasingly tired which leads to an increase in antibiotic prescribing over the course of a four hour clinical shift.

These factors lead to the development of several new approaches based in behavioral economics and social psychology by Jeffery Linder, MD, MPH and his team. These approaches acknowledge that people do not always behave rationally and are motivated by social incentives to seek approval and compare favorably to their peers.

In a study published four years ago, Linder’s group asked a group of doctors to place a signed poster in their exam rooms. This poster attested to the physicians’ commitment to following antibiotic prescribing

*(Continued on page 2)*

## Exciting International Collaboration for the Center

The Center for Patient Safety Research and Practice, signed an agreement in July 2015 with The Ruth and Bruce Rappaport Faculty of Medicine at the [Technion – Israel Institute of Technology](#) in Israel to collaborate on healthcare entrepreneurship and innovation by exchanging knowledge and skills. This collaboration will enable innovation by establishing mutual programs to engage and support outstanding healthcare professionals in the field of medical entrepreneurship in both institutions.

This collaboration started two years ago under the direction of Ronen Rozenblum, PhD, and David Bates, MD, MSc, when they helped the Technion – Israel Institute of Technology to host their first healthcare Hackathon.



*(Continued on page 8)*

## High Override Rate for Opioid Drug-allergy Interaction Alerts

By Jeffrey Medoff, Research Assistant

Computerized provider order entry (CPOE) systems have become standard requirements for medication orders during the past several decades. In CPOE systems, drug-allergy interaction (DAI) alerts play an important role to help clinicians prescribe safely. However, a phenomenon called ‘alert fatigue’ when desensitization causes clinicians to delay or miss responses to alarms may occur from constant interruption by DAI alerts. The most common alert type encountered by health practitioners involves opioid analgesics. Most opioid-related reactions are not true immune mediated reactions and are caused by non-immune mediated sensitivities or opioid-induced adverse events, and many opioid alerts represent reactions between similar drug families rather than exact matches between allergies and prescribed medications. The non-specific nature of opioid DAI alerts might increase ‘alert fatigue’ among providers.

In a recent article published in the IMIA and IOS Press, Maxim Topaz, PhD, PN et al. examined the

rates and reasons for DAI alert overrides for opioid medications. They sought to follow-up on previous studies by describing the prevalence of opioid DAI alert overrides, probing the nature of opioid-related allergic reactions, and examining factors associated with providers’ tendencies to override opioid DAI alerts. The observational study was done with data extracted from the Partners Enterprise Allergy Repository (PEAR), a shared allergy database within the Partners network. The data was generated during a 10-year period and came from Brigham and Women’s Hospital and Massachusetts General Hospital. DAI alerts were triggered in response to exact matches (Codeine-Codeine) or probable matches (Codeine-Oxycodone) between prescribed medications and stored allergy information. The research team used literature review and consultations with allergy specialists to create two classifications for allergic reaction information: likely immune mediated or non-immune mediated, and potentially life threatening or non-life threatening.

The team confirmed a trend of increasing DAI alert overrides for the 10-year data period (85.1% in 2003 to 89.7% in 2013). They found that about nine-tenths of the alerts were triggered by probable allergen-medication matches, and though override rates were notably high in probable medication matches as well as exact medication matches, exact matches were significantly less likely to be overridden. Override rates did not seem to differ significantly whether a reaction was immune mediated or not and also whether a reaction was life threatening or not. Additionally, the team noted that providers overrode one-third of alerts because patients had previously tolerated the medication or had no allergy to it, and that 45% of alerts were entered without an override reason. They concluded that drug-allergy alerting systems should evolve to account for medications patients have tolerated or possess no allergy towards and that enabling more accurate and less interruptive alerts is a clear way to reduce alert fatigue.

Topaz, M., Seger, D. L., Lai, K., Wickner, P. G., Goss, F., Dhopeswarkar, N., Zhou, L. (2015). [High Override Rate for Opioid Drug-allergy Interaction Alerts: Current Trends and Recommendations for Future](#). IOS Press, 216, 242-246. doi:10.3233/978-1-61499-564-7-242

## How to Stop Overprescribing Antibiotics

(Continued from page 1)

ing guidelines. This tactic pressured doctors to hold true to their own publicly stated commitments. This method reduced inappropriate prescribing by 20% relative to the control group.

In their most recent study, Linder and his team gathered prescription rates for 248 clinicians located in 47 primary care practices in Boston and Los Angeles for an 18-month period. This was then compared to another 18-month period where nearly 17,000 acute respiratory infections, for which antibiotics were not indicated, were reviewed in order to test new approaches to promoting more selective prescribing.

In one arm of this study, doctors received a monthly email informing them of their performance relative to that of their peers. Those with lowest inappropriate antibiotic prescribing rates were congratulated for being “top performers.” All others were told “You are not a top performer.” The email also included a personalized count of unnecessary antibiotic prescriptions and the count for a typical top performer. This “peer comparisons” approach almost completely eliminated inappropriate prescribing: from 19.9% in the pre-intervention period to 3.7% during the post-intervention period – an 81% reduction.

What these studies suggest is that simple and inexpensive tactics, grounded in scientific insights about human behavior, can be extremely effective in addressing public health problems.

Fox, C. R., Linder, J. A., & Doctor, J. N. (2016, March 25). How to Stop Overprescribing Antibiotics. Retrieved April 28, 2016, from [http://www.nytimes.com/2016/03/27/opinion/sunday/how-to-stop-overprescribing-antibiotics.html?\\_r=0](http://www.nytimes.com/2016/03/27/opinion/sunday/how-to-stop-overprescribing-antibiotics.html?_r=0)

## Legal and Policy Interventions to Improve Patient Safety

### Summary by Lake Walsh, Research Assistant

Over the past 20 years, improving patient safety has become an important field in medical research. Many new systems and organizations have been implemented to collect and report medical errors and to foster a medical culture that views patient safety as a priority. While there is some evidence that these systems have been beneficial, there are still several areas to improve upon safety in medicine

A paper by Dr. Allen Kachalia et al. looked at many different kinds of systematic efforts to improve patient safety. They organized approaches into 4 general categories: increasing transparency, providing financial incentives, changing regulatory methods, and reforming the liability system.

The first category involves increasing transparency. This includes the public reporting of healthcare data. For example, the Center for Medicaid and Medicaid Services has used its significant leverage to mandate the official reporting of healthcare data. Other private organizations, such as the US News and World Report, publish annual statistics and rankings of healthcare providers. While there is limited evidence that people use this data to comparison shop, hospitals may value the reputational advantages these rankings and published data can provide. On the other hand, hospitals may avoid caring for the most at-risk populations that may lower their statistics.

There are also attempts to encourage providers to disclose mistakes to affected patients. Communication and Resolution Programs (CRPs) incorporate formal apologies as well as monetary compensation for damages. While there is limited evidence that these programs increase patient safety spe-

cifically, there is a lot of early evidence that these programs reduce liability claims and allow providers to better communicate and learn from mistakes.

The second category involves providing financial incentives to improve performance. While there is little evidence that our current fee-for-service approach will be fully abandoned anytime soon, the Affordable Care Act has expanded legislation for two kinds of financial incentives: direct pay-for-performance programs reward or penalize the worst performing hospitals, while Accountable Care Organizations (ACOs) allow providers to share cost-savings if safety benchmarks are met. Early evidence indicates that ACOs may have moderately decreased costs, but there is little evidence that either type of program has increased the quality of healthcare overall.

The third category involves modifying regulations. There is a long history of self-regulation in the medical community. With the accelerating pace of medical knowledge there has been a shift from one-time certification to maintenance of certification programs. These programs are controversial however, and many physicians view these programs as an unnecessary and time-consuming burden. External regulation has also grown. Perhaps the most influential factor in the regulatory process is the state's licensing boards. Boards have historically focused on punishing the most visible and egregious examples of malpractice, but this is changing.

The fourth and final category involves reforming the liability system. The current system is meeting neither of its two main

goals: compensating patients and deterring poor care. Although there are very few claims relative to the incidence of medical negligence, the fear of malpractice liability causes many doctors to practice defensive medicine. Some proposals for reforming the tort system include enterprise liability (holding hospitals and systems, instead of physicians, responsible for medical errors), safe harbors (establishing guidelines for care that if followed—protect the provider from malpractice claims), and establishing health courts which attempt to resolve malpractice claims before they reach the legal system.

The authors conclude by examining what this means for clinicians. In the near future, clinicians will likely face increasing regulation from different organizations, as well as an increase in pay-for-performance programs. Importantly, there is very little empirical evidence that any of these systematic efforts actually improve patient safety. The authors suggest that while trial-and-error may be necessary for now, more empirical efforts at evaluating these programs are necessary. In the meantime, doctors should dedicate themselves to creating a medical culture where patient safety is a priority, as any effective approach will require buy-in from the entire healthcare community.

Kachalia, A., Mello, M. M., Nallamothu, B. K., & Studdert, D. M. (2016). [Legal and Policy Interventions to Improve Patient Safety](#). *Circulation*, 133(7), 661-671. doi:10.1161/circulationaha.115.015880

## Gordon Schiff and Team Receive Top BMJ Honors



Since 2013, the British Medical Journal for Quality and Safety (BMJ), a highly selective journal that only accepts about 10% of 1,200 annual submissions for publication, has released its annual list of the year's top ten articles.

It should come as no surprise that Dr. Gordon Schiff, Associate Director of the Center and his team of talented researchers took top honors this year for their article entitled [Computerized physician order entry-related medication errors: analysis of reported errors and vulnerability testing of current systems](#), first published in BMJ in January of 2015. This paper identified common themes in over 10,000 medication errors related to computerized entry and tested the vulnerability to these errors in 16 unique computerized provider order entry (CPOE) systems.

## How Safe is Primary Care? Summary By Lake Walsh, Research Assistant

Because universal access to healthcare depends on primary care services, and the reach of primary care is expanding globally, it is increasingly important to ensure primary care is practiced safely. Unfortunately, while a substantial body of research has shown that safety incidents occur frequently in hospitals, relatively little is known about safety incidents in primary care settings. It will be necessary to learn more about safety incidents in primary care settings before trying to reduce or prevent them. In a recently published systematic review in the BMJ Quality & Safety Online journal, Dr. Sukhmeet Singh Panesar et al. argue that the existing research is insufficient, and that a better taxonomy of patient safety incidents should be created to facilitate the comparison of research in an increasingly global field.

This review, titled "How safe is primary care?" included published and unpublished systematic reviews and primary research papers from 1980-2014 which looked at one or more of the following: frequency, type, or severity of safety incidents in primary care settings. Because what constitutes primary care varies across the world, the review only included studies where the meaning of primary care is similar to the conception of primary care in the US. The team narrowed an initial set of 61,521 papers down to 109 papers. Out of these 109 papers, 9 were systematic reviews, and 100 were primary research papers. A quality analysis found that 88% of the systematic reviews, but only 12% of the primary research papers, were of excellent quality.

Because methodologies varied significantly between studies it was impossible to combine data and per-

form a meta-analysis. As a result, the team's findings were tentative. The median number of safety incidents was 2 to 3 incidents per 100 consultations. There were three main types of safety incidents: administrative/communication, diagnostic, and medication related. Most safety incidents did not result in harm, but diagnostic and medication related incidents were more likely to result in harm than administrative/communication incidents.

The authors reiterate that much more research needs to be done, especially as the reach of primary care continues to expand globally. Because this review cast a wide net for papers from low-income and middle-income countries, and included both published and unpublished papers, the team was confident the main findings—that safety incidents do occur relatively frequently in primary care settings—established a solid baseline for future research. At the same time, the author's stress that future research will be hindered as long as there is no standard taxonomy for classifying patient safety incidents in primary care settings. Establishing this taxonomy is an important prerequisite; only when research can be done efficiently and with a standard set of terms will we then be able to focus on guidelines for preventing patient safety incidents in primary care settings across the globe.

Panesar, S. S., Desilva, D., Carson-Stevens, A., Cresswell, K. M., Salvilla, S. A., Slight, S. P., Sheikh, A. (2015). [How safe is primary care? A systematic review.](#) *BMJ Qual Saf* *BMJ Quality & Safety*, 133(7), 661-671. doi:10.1136/bmjqs-2015-004178

## Developing a Framework for Evaluating the Patient Engagement, Quality and Safety of Mobile Health Applications

Summary by Jeffrey Medoff, Research Assistant

Engaged patients are able to interact with providers, collaborate on decision-making, and receive information about treatment in a respectful, dignified and autonomous way. Active patient engagement has been shown to be essential for successful care management in high need and high cost (HNHC) patient populations. Due to increasing ownership of smartphones and tablets in America, mobile health applications (apps) are viewed as an ideal tool to engage HNHC populations. In a recent issue brief commissioned by The Commonwealth Fund, Dr. Karandeep Singh, et al., address the potential usefulness of apps to activate HNHC patients in their health care. The project team proposes criteria to evaluate apps for patient engagement, quality, and safety, developing and testing these criteria on samples from the Apple iOS and Android App stores.

Patient engagement was conceptualized as the ability for apps to enable collaboration, activation and participation, information-sharing, and decision-making. The team assessed the mobile health app landscape taking into consideration the extent to which patients already participated in their health care, the idea being that app functionalities would not be equally helpful to patients with varying levels of engagement. For instance, the least engaged patients facing literacy or social barriers may benefit from apps that serve as platforms for health education, whereas moderately engaged patients who already possess information may benefit from ways to visualize information and interact with providers, and the most engaged patients may benefit from peer support systems that employ social media or gaming functions for interactive use. To address this, they constructed a pyramid to reflect the needs of patients on differing levels of engagement to use for evaluation. Quality and safety were also accounted for, with quality reflected by the reliability of information, recommendability and usability, and safety reflected by the ability to handle 'dangerous' patient information and issues related to data privacy and security.

The team identified relevant and potentially useful applications with a focus on vulnerable populations through a systematic search of the Apple iOS iTunes and Android Google Play app stores, conducting searches for 26 terms. After rejecting non-health-related, non-patient-facing, non-English and highly similar results, they selected the first 50 listings for each term and further evaluated apps for potential usefulness. Potential usefulness was based

on description, total number of ratings and mean cumulative ratings, consumer reviews, screenshots and recentness of last updates. If apps were found to possess minimal functionality beyond traditional media, were irrelevant to searched illnesses, had poor ratings or consumer reviews, or were not intended for broad use, they were considered unlikely to be useful.

The initial search yielded 946 iOS apps and 1,173 Android apps. These were reduced to 376 iOS apps and 569 Android apps after removing non-relevant results. Of these, 161 (43%) iOS apps and 152 (27%) Android apps were assessed as possibly useful. The team discovered that a minority of patient-facing apps on both Apple and Android stores appeared likely to be useful by HNHC patient populations.

A total of 143 app evaluations were completed based on the proposed criteria, three of which the team included in the brief as examples. The criteria framework developed by the team evaluated potentially useful apps on a basis of patient engagement, quality, and safety. Criteria were informed by existing app evaluations and frameworks as well as reviews of app store descriptions. The team also solicited open-ended responses from reviewers to each domain to remove, refine, or add criteria. The team concluded that using a framework of criteria to evaluate engagement, quality, and safety is critical in identifying trustworthy apps for HNHC patient populations. They also concluded that specific app functions should be tailored to specific audiences in order to have the greatest benefit.

Singh K, Drouin K, Newmark LP, Rozenblum R, Lee J, Landman A, Pabo E, Klinger EV, Bates DW. [Developing a Framework for Evaluating the Patient Engagement, Quality and Safety of Mobile Health Applications.](#) Issue Brief (Commonwealth Fund). 2016 Feb;5:1-11.

## Global Fellows Corner - Meetali Kakad, MD, MPH, MFPH

*In each issue, a Center Global Fellow is invited to share their experiences in the program, and how working with the Center has influenced their own patient safety initiatives.*

Meetali Kakad, MD, MPH, MFPH, is a public health physician transplanted from the United Kingdom to Norway, where she has lived since 2005. Dr. Kakad originally went into the field of public health out of desire to work with disadvantaged populations overseas. Prior to her current position in hospital administration Kakad worked in various roles with international organizations like the World Health Organization and Care International. Before her career in public health Dr. Kakad was a surgical resident at Addenbrookes Hospital in Cambridge, England. Both Dr. Kakad's husband and her 6-year old son, Ben travelled with her to the states. Her husband is currently working as a visiting scholar with Harvard University's Department of Psychology, working with a lab that focuses on child and adolescent mental health. Ben is currently a first grader and adjusting very well to a whole new country and new language.



Dr. Kakad's "real-life" role back home is the Head of eHealth (Chief Medical Informatics Officer) for the South-Eastern Health Authority of Norway, providing specialist healthcare to around 2.8 million people, which is over half of Norway's population. As the head of eHealth, Dr. Kakad's mission is to support the best use of technology to support and improve patient care, research, and the education of both healthcare professionals and patients.

Professionally, Dr. Kakad is interested in the use of technology to improve health and healthcare outcomes. In particular, her interests lie in developing a systems perspective in the context of understanding what's going on in healthcare and exactly why and how we may do things better, as well as the individual perspective on how can we keep individuals as healthy as possible for as long as possible. Dr. Kakad is passionate about how the medical community can leverage data generated in the delivery of healthcare (and elsewhere) to drive more informed and better decision making. As she puts it "The goal should be the right care, at the right time, in the right place and for the right person...The data by itself won't solve everything, but by coupling good data and information with behavioral economics-type insights you may be able to 'nudge' patients, individuals and providers or healthcare in the right direction."

Dr. Kakad came to the Center as the 2015-16 Norwegian Harkness/Research Council of Norway Fellow in HealthCare Policy and Practice under the mentorship of Dr. David Bates. The Harkness Fellowship is funded by the Commonwealth Fund, and since 1997 has focused on the creation of an international program in health policy and practice. The aim of this fellowship is to bring international experience to bear on US healthcare and reform debates and promote exchanges that stimulate healthcare system improvements in economically advanced countries. The fellowship is available to academic researchers, clinicians, governmental policymakers, and journalists from Australia, Canada, France, Germany, the Netherlands, New Zealand, Norway and the United Kingdom.

Applicants are asked to submit a project proposal to study a critical issue on the health policy agenda in both the U.S. and their home country. Dr. Kakad chose the topic of 'Big Data' and seeking ways to use predictive analytics to improve both health, and healthcare outcomes. Once accepted, they are asked to identify a suitable mentor anywhere in the US. According to Dr. Kakad, "I found out pretty early on that Dr. Bates would be the ideal mentor, and I was lucky enough that he agreed to do so!"

Dr. Kakad will complete her one year project on predictive analytics in two parts. The first part is a literature review looking at the evidence base for the impact of predictive analytics on health and healthcare outcomes. The second part will entail a qualitative piece using semi-structured interviews with stakeholders from multiple healthcare organizations, policy makers and vendors to identify the most critical factors for the successful implementation of predictive analytics.

*(Continued on page 8)*

## Selected Publications by members of the Center

### [RE: A systematic review of patients' experiences of adverse events in health care.](#)

Sarkar U, Bates DW.  
Int J Qual Health Care. 2016 Feb 2. pii: mzw004. [Epub ahead of print] No abstract available.  
PMID: 26843549 [PubMed - as supplied by publisher]

### [Nurses' Perspectives on Patient Satisfaction and Expectations: An International Cross-Sectional Multicenter Study With Implications for Evidence-Based Practice.](#)

Topaz M, Lisby M, Morrison CR, Levitzon-Korach O, Hockey PM, Salzberg CA, Efrati N, Lipsitz S, Bates DW, Rozenblum R.  
Worldviews Evid Based Nurs. 2016 Feb 2. doi: 10.1111/wvn.12143. [Epub ahead of print]  
PMID: 26840190 [PubMed - as supplied by publisher]

### [How often are hospitalized patients and providers on the same page with regard to the patient's primary recovery goal for hospitalization?](#)

Figueroa JF, Schnipper JL, McNally K, Stade D, Lipsitz SR, Dalal AK.  
J Hosp Med. 2016 Feb 29. doi: 10.1002/jhm.2569. [Epub ahead of print] Review.  
PMID: 26929079 [PubMed - as supplied by publisher]

### [Developing a Framework for Evaluating the Patient Engagement, Quality, and Safety of Mobile Health Applications.](#)

Singh K, Drouin K, Newmark LP, Rozenblum R, Lee J, Landman A, Pabo E, Klinger EV, Bates DW.  
Issue Brief (Commonw Fund). 2016 Feb;5:1-11.  
PMID: 26934758 [PubMed - indexed for MEDLINE]

### [Exploring the Current Landscape of Intravenous Infusion Practices and Errors \(ECLIPSE\): protocol for a mixed-methods observational study.](#)

Blandford A, Furniss D, Lyons I, Chumbley G, Iacovides I, Wei L, Cox A, Mayer A, Schnock K, Bates DW, Dykes PC, Bell H, Dean Franklin B.  
BMJ Open. 2016 Mar 3;6(3):e009777. doi: 10.1136/bmjopen-2015-009777.  
PMID: 26940104 [PubMed - in process]

### [Standard Information Models for Representing Adverse Sensitivity Information in Clinical Documents.](#)

Topaz M, Seger DL, Goss F, Lai K, Slight SP, Lau JJ, Nandigam H, Zhou L.  
Methods Inf Med. 2016 Feb 24;55(2). [Epub ahead of print]  
PMID: 26905461 [PubMed - as supplied by publisher]

### [Impact of regionalized care on concordance of plan and preventable adverse events on general medicine services.](#)

Mueller SK, Schnipper JL, Giannelli K, Roy CL, Boxer R.  
J Hosp Med. 2016 Feb 24. doi: 10.1002/jhm.2566. [Epub ahead of print]  
PMID: 26917417 [PubMed - as supplied by publisher]

### [The frequency of intravenous medication administration errors related to smart infusion pumps: a multihospital observational study.](#)

Schnock KO, Dykes PC, Albert J, Ariosto D, Call R, Cameron C, Carroll DL, Drucker AG, Fang L, Garcia-Palm CA, Husch MM, Maddox RR, McDonald N, McGuire J, Rafie S, Robertson E, Saine D, Sawyer MD, Smith LP, Stinger KD, Vanderveen TW, Wade E, Yoon CS, Lipsitz S, Bates DW.  
BMJ Qual Saf. 2016 Feb 23. pii: bmjqs-2015-004465. doi: 10.1136/bmjqs-2015-004465. [Epub ahead of print]  
PMID: 26908900 [PubMed - as supplied by publisher]

### [Integrating Predictive Analytics into High-Value Care: The Dawn of Precision Delivery.](#)

Parikh RB, Kakad M, Bates DW.  
JAMA. 2016 Feb 16;315(7):651-2. doi: 10.1001/jama.2015.19417. No abstract available.  
PMID: 26881365 [PubMed - indexed for MEDLINE]

### [Effect of Pharmacist Counseling Intervention on Health Care Utilization Following Hospital Discharge: A Randomized Control Trial.](#)

Bell SP, Schnipper JL, Goggins K, Bian A, Shintani A, Roumie CL, Dalal AK, Jacobson TA, Rask KJ, Vaccarino V, Gandhi TK, Labonville SA, Johnson D, Neal EB, Kripalani S; Pharmacist Intervention for Low Literacy in Cardiovascular Disease (PILL-CVD) Study Group.  
J Gen Intern Med. 2016 Feb 16. [Epub ahead of print]  
PMID: 26883526 [PubMed - as supplied by publisher]

### [Why do we still page each other? Examining the frequency, types and senders of pages in academic medical services.](#)

Carlile N, Rhatigan JJ, Bates DW.  
BMJ Qual Saf. 2016 Jan 6. pii: bmjqs-2015-004587. doi: 10.1136/bmjqs-2015-004587. [Epub ahead of print]  
PMID: 26740495

### [The problem with medication reconciliation.](#)

Pevnick JM, Shane R, Schnipper JL.  
BMJ Qual Saf. 2016 Jan 21. pii: bmjqs-2015-004734. doi: 10.1136/bmjqs-2015-004734. [Epub ahead of print] No abstract available.  
PMID: 26795914 [PubMed - as supplied by publisher]

### [Care team identification in the electronic health record: A critical first step for patient-centered communication.](#)

Dalal AK, Schnipper JL.  
J Hosp Med. 2016 Jan 13. doi: 10.1002/jhm.2542. [Epub ahead of print] Review.  
PMID: 26762584 [PubMed - as supplied by publisher]

### [Computerized Prescriber Order Entry Medication Safety \(CPOEMS\): Uncovering and Learning From Issues and Errors.](#)

Brigham and Women's Hospital, Harvard Medical School, Partners HealthCare. Silver Spring, MD: US Food and Drug Administration; December 15, 2015.



Take a look at  
some recent  
publications by  
members of the  
Center!



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RESEARCH AND  
INNOVATION TO  
IMPROVE QUALITY

## International Collaboration continued

*(Continued from page 1)*

Members of the winning hackathon team visited BWH in January and met with key leaders in their field, including researchers, clinicians, policy makers, lawyers, investors and the Brigham Innovation Hub team. Israel's Deputy Consul General to New England, Matan Zamir, joined the group for a discussion of the team's project, a device that eliminates the need for painful, costly and invasive urine collection.

Dr. Rozenblum is hopeful exchanges like this one will continue into the future and the Center will carry on sharing ideas and innovations:

"We are very excited to have the opportunity to establish a meaningful relationship with the Technion, one of the most prestigious medical schools in the world, that will help both organizations generate and pursue innovative ideas," Dr. Rozenblum said.

## Global Fellows Corner continued

*(Continued from page 6)*

In line with Dr. Kakad's work on predictive analytics while in the United States, she recently teamed with Dr. Ravi Parikh and Dr. David Bates to produce [Integrating Predictive Analytics into High-Value Care: The Dawn of Precision Delivery](#) which was published in the Journal of the American Medical Association (JAMA). All three authors are very interested in how the use of predictive analytics can assist patients and providers in more successfully targeting healthcare interventions. In particular their focus is on how predictive analytics can help identify high risk patients or so called "super-utilizers" and allow for earlier medical intervention to prevent adverse health outcomes or readmissions. This is not only better for the patient, but also reduces utilization and ultimately healthcare costs.

When asked what is the most valuable aspect of her time so far in the US, Dr. Kakad said that above all else having access to such knowledgeable individuals at the Center and more broadly within the Partners' system has been an absolute privilege. She feels that she has already profited greatly from both research-related and career-related advice and looks forward to collaborating with her newfound US network upon return to Norway. In addition, as a physician leader, Dr. Kakad has really enjoyed being able to take a closer look at the strategic and operational aspects of a large US health system and identifying what might be relevant for her to bring back to Norway. Dr. Kakad is very keen to push work on a regional clinical data warehouse and the corresponding infrastructure needed to support it when she returns home. Dr. Kakad believes that without access to good data on what they are doing, to whom and to what effect, it will become difficult for her hospital system to say they are interested in patient safety or quality improvement!

The Center has been privileged to be able to collaborate with Dr. Kakad and look forward to her continued contributions to the Center!



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