

PS2-52:

### **Building a Simulation System to Train Dentists to Practice Evidence-Based Dentistry**

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**Background/Aims:** Because of the distributed nature of dental practice, dentists tend to develop practice patterns based on the training they received in dental school. While their training was current at their graduation, as the period post-graduation increases more recent research holds the potential to improve dental care. Innovative methods are needed to educate dentists in the latest evidence-based approaches to practice. The aim of this study is to build a case-based internet simulation interface to educate dentists on the latest evidence-based approaches to practice. **Methods:** Due to the complexity of the project it was decided to work on multiple components in parallel. One team was formed to review possible guidelines using the Appraisal of Guidelines for Research and Evaluation II (AGREE II) standards. Insufficient high quality guidelines necessitated examining systematic reviews using an approach based on PRISMA (Preferred Reporting Items for Systematic Review and Meta-Analyses). A second team began work to develop standards for case creation. A third team of internet programmers began to create the front- and back-end for the case-based interface. Communication between the teams is facilitated by partial shared team membership and the attention of the principal investigator. **Results:** In order to complete the system within the one year development timeline, we discovered that we needed to make specific compromises to balance the ideal and the practical scenarios. First, each case would involve a single encounter where the provider would be given sufficient information to identify the problems and plan treatments for future encounters. Second, in order to limit the options for gaming the system, all sub-actions will be linked to specific time intervals. Each encounter will then be assigned total completion time based on the sum of the sub-action times. **Conclusions:** Case-based learning, structured around an internet interface and presented to dentists distributed across small practices throughout the world, should be an important link in educating dentists on uniform evidence-based dental information.

**Keywords:** Evidence-Based Dentistry; Dental Practice

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PS2-53:

### **Make Research Matter: A Web-Based Toolkit that Supports the Development of Interventions with High Dissemination and Implementation Potential**

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**Background/Aims:** It is now widely recognized that the mere existence of scientific knowledge is not sufficient for its subsequent application. Active dissemination methods are necessary to increase the effectiveness of dissemination and implementation efforts. Furthermore, systematic formative activity and evaluation about external validity and scale-up considerations such as reach, effectiveness, and implementation, and about diffusion considerations such as target audience structure, potential adopter perceptions of prototype interventions, and change agent support, can increase the likelihood of dissemination. **Methods:** We developed, implemented, and tested the Make Research Matter (MRM) website, an online toolkit that assists developers of public health and health services research interventions increase the dissemination and implementation (D&I) potential of their interventions. The toolkit was developed building on the expertise of D&I researchers and existing literature about D&I, and was funded by the National Cancer Institute. Usability testing with potential users was conducted to refine the content and format of the toolkit. **Results:** The MRM website consists of four main tools: 1. the Planning Tool—an interactive survey which provides a tailored report that aids researchers with their dissemination plan; 2. the Resource Library—a searchable database consisting of a compilation of D&I related articles from multiple sources

which is updated monthly; 3. the Narrative Library—a freely accessible online library containing video vignettes and transcripts with junior and senior D&I experts of “how-to” knowledge to D&I problems; 4. the Glossary—containing over 100 definitions of terminology used in D&I health research. Additionally, users of the MRM website can learn more about current publications and presentations, and current news related to D&I. **Conclusions:** The MRM website has been presented to potential users through meetings and poster presentations at different conferences. While it is too early to tell the immediate effectiveness of the MRM website, with continued exposure, the site will be a great starting point for researchers seeking information on how to increase the dissemination and implementation potential of their interventions.

**Keywords:** Dissemination; Implementation

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PS2-54:

### **Best Practices: Improving Quality and Reliability in Research Data Sets**

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**Background/Aims:** Healthcare data is highly complex, and considerable effort is required to create rich data resources that are reliable, user-friendly and represent valid utilization. Challenges include identifying appropriate sources, interpreting the data in a given source, matching data between sources, and transforming source data to meet desired specifications. Flaws in any of these aspects of data development can negatively impact data quality and reliability. Creating partnerships for data development across analytic groups within the organization could make the process more efficient by pooling specialized knowledge and increasing opportunities for evaluating data quality. Within Kaiser Permanente in the Mid-Atlantic States, our goal was to (1) identify and implement best practices for data quality, and (2) determine the best method to implement those practices by working in conjunction with not only research staff, but also operations staff and information technology staff. **Methods:** We leveraged literature review to identify best practices in data quality. We identified 3 pillars of data quality improvement: (1) Assessment and Measurement, (2) System Integration, and (3) Governance and Incident Management. Then we used a combined systems and human factors approach to identify opportunities for partnership across analytic groups. This allowed us to identify resources and the appropriate process to engage the 3 pillars. **Results:** We have implemented several capacities that allow us to continually improve our data quality. We developed a decision tree that guides us through the process of developing relevant data partnerships. We implemented mechanisms to monitor relevant changes in upstream systems and alert us to the need to modify extract-transform-load scripts. Lastly, we developed processes to report and address concerns related to data quality and use. **Conclusions:** Improving data quality is not a single act, but rather a journey. The key element identified was the process and governance required to ensure successful partnerships with both the information technology group and operational analytic groups across the institution.

**Keywords:** Data; Quality; VDW

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## **Health Services Research / Health Policy**

C2-1:

### **A Randomized Controlled Trial of a Patient Navigator Intervention to Reduce Hospital Readmissions in a Safety Net Health Care System**

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**Background/Aims:** Poor care coordination at hospital discharge can result in avoidable hospital readmissions. This study's aim was to evaluate the effect of a community health worker (CHW) intervention, the Patient Navigator (PN), on readmission rates and post-discharge health care use in a

safety net population. **Methods:** This randomized controlled trial began in October 2011 among patients of Cambridge Health Alliance (CHA), an urban safety net health care system. We identified patients discharged from the medical service with lengths of stay 3 days or more, admission in the prior 6 months, age 60+ years, or admission for COPD or congestive heart failure. We randomized patients to the PN intervention or usual care alone. In the PN intervention, a bilingual hospital-based CHW engaged in discharge planning and made outreach phone calls to patients for 30 days after initial discharge and upon subsequent readmission. PNs assisted patients with follow-up appointments, obtaining and taking medications, transportation, financial barriers, and linkages to community resources. Sociodemographic, clinical, and utilization data were obtained from electronic medical records. Primary outcomes were the proportion of patients readmitted within 30 days, number of readmissions per patient, total number of hospital days within 180 days post-discharge, and proportion of patients with a primary care visit or an emergency department (ED) visit within 30 days. The trial will continue through spring 2013. **Results:** As of October 2012, 423 patients were in the PN group and 513 in the control group. Fewer PN patients (12.1%) were readmitted within 30 days of an index discharge than controls (13.6%). Readmissions per patient were lower in the PN group compared to controls (0.70 vs. 0.81), as were total hospital days (3.42 vs. 3.59). More PN patients than controls had a primary care visit within 30 days (77.1% vs. 68.6%), but similar percentages had an ED visit within 30 days (11.3% vs. 10.9%). **Conclusions:** Preliminary results show a trend toward a reduction in probability of 30-day readmission, number of readmissions, and total hospital days for safety net patients receiving a PN intervention, and a trend toward greater probability of a primary care visit within 30 days of discharge. **Keywords:** Readmissions; Transitions; Community Health Worker  
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C2-2:

#### Impact of Patient-Centered Medical Home Transformation on Process and Outcome of Care

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**Background/Aims:** We evaluated changes in care processes and outcomes associated with various care-redesign initiatives toward a Patient Centered Medical Home (PCMH) at an outpatient care delivery system. Care delivery practices and the extent of the implementation of PCMH components varied widely across clinics and physicians at the organization, thereby providing a natural experiment of PCMH evaluation. **Methods:** We used longitudinal data from Electronic Health Records (EHR) of active primary care patients (2008-2011). The group's patients represent diverse insurance (59% PPO, 26% HMO, 15% other insurance) and demographics. Data were aggregated into primary care physician (PCP) level (n = 256), each 6 months. We examined five indicators of patient-centeredness: 1) care continuity (%PCP's own patients seen), 2) timely appointment (#days to 3rd next appointment), 3) access to Personal Health Record (PHR) (#enrolled patients in a PCP panel), 4) workflow efficiency (%abnormal lab test results processed within a day), and 5) patient satisfaction (%very satisfied with physician service). Clinical quality indicators were 1) monitoring chronic conditions (monitoring of HgbA1c/LDL/blood pressure/kidney function for patients with diabetes; monitoring of ACE-inhibitors/ARB/diuretics adherence), 2) preventive screening (breast/cervical/colon cancer), and 3) diabetes control (HgbA1c/LDL/blood pressure control of patients with diabetes). Physician fixed-effects and relevant patient case-mix and sociodemographic factors were included in multivariate models. **Results:** As PCPs saw their own patients more often, their patients were significantly more likely to get cancer screening but were not more likely to get monitoring of chronic conditions or to get diabetes controlled. PHR enrollment was a positive predictor for monitoring of chronic conditions and preventive screening, but not for diabetes control. Workflow efficiency was a positive predictor for some preventive screening and diabetes control measures. Neither patient satisfaction nor timely appointment had statistically significant relationship with clinical quality indicators. **Conclusions:** Indicators of continuity of care, access to PHR, and workflow efficiency are associated with selected, mostly process-oriented, measures of clinical quality. In contrast, patient satisfaction and timely appointment, which are well-accepted indicators of patient-centeredness, are not associated with clinical quality. Construct of

PCMH is multifaceted, and no single patient-centeredness characteristic can address all the diverse needs of primary care patients.

**Keywords:** Patient Centered Medical Home; Quality of Care; Access  
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C2-4:

#### Harmonizing Measures for Implementation Science Using Crowd-Sourcing

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**Background/Aims:** Implementation science (IS) is a priority topic in the renewal funding of the Cancer Research Network and encompasses a broad range of constructs and uses measures from a variety of disciplines. However, there has been little standardization of measures or agreement on definitions of constructs across different studies, fields, authors, or research groups. Moreover, many measures developed are not practical in real-world settings such as healthcare delivery systems. To further the field of IS, there is a need to both identify and evaluate IS measures on both their validity and practical relevance. **Methods:** We describe a collaborative, web-based activity using the National Cancer Institute's (NCI) Grid-Enabled Measures (GEM) portal that uses a wiki platform to focus discussion and engage the research community to enhance the quality and harmonization of measures for IS health-related research and practice. We present the history, process, and data from 8 months of the GEM Dissemination & Implementation (D&I) Campaign on IS measurement. **Results:** The GEM D&I Campaign began in March 2012 and used a combination of expert opinion and crowd-sourcing approaches. To date, it has listed definitions for 45 constructs and summarized information for over 130 measures related to D&I. Measures identified and available include those in key domains such as organizational capacity, cost, reach/penetration, stakeholder engagement, and adherence. Just under 60% of the D&I measures have at least one comment/rating. For 74 measures, the actual measure instrument is available for download. For those measure instruments available, they have been downloaded by users, on average, 93.8 times (range 2-1472). **Conclusions:** To date, this campaign has provided information about different IS measures in many key domains, their associated characteristics, and comments. The next step is to increase the numbers and sources rating these measures for quality and practicality. Participation in this process by researchers and practitioners from practice-based settings such as the HMORN sites is crucial and could support the identification of practice-relevant measures for IS including ones measuring practice change capacity. We invite HMORN researchers to join this virtual community and help advance the quality and harmonization of IS measures and constructs.

**Keywords:** Implementation Science; Measurement Harmonization; Crowd Sourcing  
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PS2-13:

#### Implementing a Lean Management System in Primary Care: Facilitators and Barriers from the Frontlines

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**Background/Aims:** As approximately \$750 billion is wasted in the U.S. health system each year, equivalent to roughly one-third of every medical dollar, "Lean" thinking and techniques offer promising solutions for maximizing value in health care. This study examines a large, multispecialty practice's journey of implementing a Lean management system beginning in primary care. We sought to understand initial drivers and barriers to implementation, with lessons contributing to a learning system of improvement in health care. **Methods:** This case study was based on in-depth interviews with 16 physician and administrative leaders, and 4 focus groups of medical assistants and administrative staff. Transcripts were coded and analyzed using inductive, grounded methodology. **Results:** Respondents' insights were clustered around three main themes: organizational leadership, professional values/culture, and availability of resources. Informants