Using the National Prevention Strategy to Advance Evidence-Based Practice: A Web-Based Tool

Chair: Brandie Adams, MPH, Senior Program Analyst, National Association of County and City Health Officials (NACCHO)
1100 17th St. NW, Seventh Floor, Washington, DC 20036
Tel: 202-507-4210 | Email: badams@naccho.org

Co-authors: Alison Huang

The National Prevention Strategy (NPS) calls for collaboration among cross-sector partners to implement evidence-based strategies for wellness. Local Health Departments (LHDs) are well positioned to implement NPS due to their ability to engage local stakeholders and provide data on local public health concerns. NACCHO surveyed 79 LHDs to determine factors that influence adoption of NPS. More than half of participants did not use the NPS for the following reasons: 1) lack of awareness about how to access/use NPS; 2) perceived lack of relevance and limited time to implement it; and 3) perceived duplication of the NPS with other public health planning resources including Healthy People 2020 and The Community Guide. In response, NACCHO developed the Resource Center for Evidence-Based and Cross-Sector Approaches, a time-efficient, interactive, web-based tool offering a framework that advances implementation of NPS through integration with Healthy People 2020, The Community Guide, and LHD Community Health Improvement efforts. The Resource Center includes an NPS toolkit, prescribing 4 steps LHDs can use to implement NPS. The toolkit contains links to helpful tools that facilitate implementation of each step, and is designed to develop key competencies among local public health practitioners: 1) cross-sector partnership; 2) stakeholder engagement; 3) assessment; 4) evidence-based practice; and 5) evaluation. Preliminary data shows high demand and use of the tool by LHD users. Future testing will investigate the impact of the Resource Center in increasing competencies for forging cross-sector partnerships for prevention, adoption of evidence-based strategies, coordination across sectors to address the chronic disease burden, and adoption of NPS.
If you Disseminate It, Will they Implement It? Usage of an Evidence Based Treatment (EBT) in Cancer Control

Chair: Barbara Andersen, PhD, Professor, Ohio State University
Department of Psychology, 1835 Neil Ave., Columbus, OH 43210-1222
Tel: 614-292-4236 | Email: andersen.1@osu.edu

Co-authors: Caroline S. Dorfman, MA., Ohio State University; Brittany M. Brothers, PhD, Indiana University; Barbara L. Andersen, PhD, Ohio State University

Research is only now accumulating on how to disseminate and implement (DI) mental health EBTs. However, there is no such research base for psychosocial EBTs for cancer patients. Ongoing support (CA163197) has provided for dissemination of an EB psychosocial biobehavioral intervention (BBI) to mental health providers. We have shown (Brothers et al., in press, Translational Behavioral Medicine) that the 3-day institute trainings achieved the following: 1) Significant pre/post improvements in therapists’ (N=62) knowledge and clinical skill in BBI delivery, attitudes toward EBTs, and self-efficacy as therapists. 2) Theory of Planned Behavior analyses showed unique contributions of trainees’ self-efficacy to use and attitudes toward BBI in the prediction of their intent to implement BBI. Data on therapists’ actual usage of BBI are now provided.

Trainees (N=62) were full time social work, psychology, or other licensed providers at large medical centers (50%) or community facilities. Post institute, trainees reported BBI usage at 2-, 4-, and 6-months on a supported website.

The percentage of patients treated with BBI was high (range 57-82%), and mixed-effects models demonstrated usage increasing by 6% with each follow-up (B=.059, p=.015). The contributions of five “setting” factors were explored, with only a single factor remaining following backwards elimination. Specifically, therapists in community organizations reported greater BBI usage than their counterparts at academic cancer centers or VA facilities (B=.155, p=.047).

For EBTs to be used beyond the research environments in which they were developed it is essential to identify factors associated with real world adoption. EBT adoption is dynamic and multi staged, with issues at the interface of therapist and setting playing a role. An effective EST dissemination strategy led to high levels of intentions to use the EBT. Importantly, high increasing rates of EBT actual usage were subsequently found, providing an effective model for DI of mental health EBTs.
Increasing Collaboration between Nurse-Family Partnership and Child Protective Services: A Multiple Case Study

Chair: Roman Ayele, MPH, Research Assistant, Health Systems, Management, and Policy, Colorado School of Public Health  
13001 E. 17th Place, Room E3316, 3rd Floor, Building 500, Aurora, CO 80045  
Tel: 608-770-6070 | Email: Roman.Ayele@ucdenver.edu

Co-authors: Venice Ng, MPH, CHES, Department of Pediatrics, University of Colorado; Suzuho Shimasaki, MPH, Community and Behavioral Health, Colorado School of Public Health; Christina Ostrom, MSW, Lcsw, Invest in Kids; Gregory Tung, PhD MPH, Health Systems, Management, and Policy, Colorado School of Public Health; David Olds, PhD, Department of Pediatrics, University of Colorado Denver

Introduction: The Nurse-Family Partnership (NFP) is an evidence-based voluntary, home visitation program designed to improve the health and development of low-income first-time mothers and their babies. In a series of randomized controlled trials, the NFP program improved prenatal health, reduced child abuse and neglect and injury outcomes, and changed maternal lifecourse. The effectiveness of NFP in decreasing child maltreatment is influenced by nurses’ collaboration with Child Protective Services (CPS). The objective of this project was to understand factors that facilitate or are barriers to effective collaboration between NFP and CPS in their shared goal of preventing child abuse and neglect.

Methods: We conducted a multiple case study informed by 5 focus groups and 122 qualitative interviews with NFP nurses, CPS workers, and other stakeholders. The interviews and analysis in this study were conducted using a grounded theory approach from October 2013 to June 2014 across seven sites in Colorado. Qualitative data analysis was conducted using NVivo.

Findings: Levels of collaboration between NFP and CPS varied significantly. Key factors that facilitated collaboration include: mutual understanding of roles, established working relationships, open communication on joint cases, common philosophy in supporting families, and informal communication channels. Perspectives and attitudes surrounding what constitutes effective collaboration varied across sites and organizations. Recommendations to strengthen collaboration include: education on NFP and CPS program structures and processes, joint training opportunities on mutually-relevant topics, involvement in team meetings for mutual clients, and organizational policy changes.

Conclusion: We found sites with effective collaboration between CPS and NFP as well as associated facilitators and barriers. These findings advance the field of dissemination and implementation by helping us to better understand the role of collaboration between different agencies in the integration of evidence-based interventions in varied community settings.
Introduction/Objective: Mobile health (mHealth) applications (apps) are increasingly available, yet little rigorous research exists regarding efficacy or effectiveness in practice. The objective of this study was to analyze an mHealth decision support system (DSS) RCT from the perspective of the Reach, Efficacy/Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM) framework. Methods: The RCT compared the efficacy of mHealth DSS for the guideline-based care (screening, diagnosis, management) in three conditions: obesity, tobacco use, and depression in a sample of 34,349 unique eligible patient encounters in which a registered nurse in Nurse Practitioner (NP) training (n=363) entered data into mHealth DSS or a control app. The apps integrated automated capture of data related to RE-AIM dimensions. Results: Reach – mHealth DSS was used in the majority of eligible encounters and almost all eligible nurses used the app. Efficacy – The RCT demonstrated efficacy of mHealth DSS in significantly increasing screening and diagnosis rates in all three conditions and in the presence of a guideline-related care plan in obesity and pediatric depression, but not tobacco use and adult depression. Adoption - Patients represented in the encounters were 57% female and primarily Latino (49%) or Black (22.5%). Medicaid, Medicare, or State Children’s Health Insurance Program were the predominant payers. The nurses represented six NP specialties spanning acute care and ambulatory care settings in four states. Settings ranged from small private practices in suburban settings to urban academic medical centers; all associated with one School of Nursing. Implementation - mHealth DSS use varied by condition, NP specialty, patient race/ethnicity, and payer. The nurses rated mHealth DSS as easy to use but only somewhat useful. Maintenance – The mHealth DSS was not maintained by the institution post-RCT. Data related to the RE-AIM dimensions offer perspective and lessons related to dissemination and implementation of mHealth interventions beyond that provided by efficacy alone.
Evaluating the Dissemination of Evidence-based Community Health Worker Policy Strategies Using Enacted State Laws

Chair: Colleen Barbero, MPPA, Statistical Data Analyst, Washington University in St. Louis
700 Rosedale Ave CB 1009, St. Louis, MO 63109
Tel: 314-935-3783 | Email: cbarbero@wustl.edu

Co-authors: Siobhan Gilchrist, JD, Centers for Disease Control and Prevention; Jamie Chriqui, PhD, University of Illinois at Chicago; Ashley Wennerstrom, PhD, Tulane University; Molly Martin, MD, University of Illinois at Chicago; Kim Prewitt, BA Sociology, Washington University in St. Louis; Jennifer VanderVeur, JD, Centers for Disease Control and Prevention; J. Nell Brownstein, PhD, Centers for Disease Control and Prevention

Objective: Community health workers (CHW) have the potential to transform the public health system by increasing quality and cultural competence of service delivery that can lead to improved population health and health equity. Policy and practice networks have disseminated evidence showing the effectiveness of CHW policy strategies with the goal of encouraging enactment of evidence-based laws among states choosing legislative approaches. However, the effectiveness of dissemination processes has not been evaluated.

Method: We evaluated the extent that enacted state CHW laws reflected available evidence using a two-step, qualitative approach, sponsored by the Centers for Disease Control and Prevention. First, 2 policy analysts identified 14 evidence-based CHW policy strategies using available evidence and then assessed the strength (i.e., “emerging,” “promising,” or “best”) of individual strategy evidence bases using a previously developed method. Second, 2 legal analysts independently and manually coded laws (i.e., codified statutes and regulations) from all 50 states and Washington, D.C. (i.e., collectively “states”) that were in effect by December 31, 2013 for these strategies and then reached consensus on final codes. Descriptive statistics for the codes were computed.

Results: Of the 14 evidence-based CHW policy strategies, 8 were “best” and 6 were “promising” or “emerging.” Twelve states’ laws (24%) addressed at least 1 strategy, with a maximum of 9 and an average of 4 strategies addressed. Most of the enacted strategies (70%) had the strongest (i.e., “best”) evidence basis. Linking laws and evidence required CHW expert opinion because the terms used to describe CHWs varied.

Conclusion: The states that had enacted evidence-based CHW policy strategies had mostly enacted strategies aligned with the strongest evidence, which suggests that evidence had been disseminated effectively. Additional translation and dissemination of CHW evidence are needed, with attention to establishing shared terminology and definitions.
Drivers of Adaptation and Fidelity for Early Home Intervention Programs

Chair: Frances Barg, PhD, MEd, University of Pennsylvania
3620 Hamilton Walk, Anatomy Chemistry Bldg. Rm. 128, Philadelphia, PA 19104
Tel: 215-573-7148 | Email: katherine.kellom@uphs.upenn.edu

Co-authors: Katherine Kellom, BA, University of Pennsylvania; Peter Cronholm, MD, MSCE, FAAFP, University of Pennsylvania

Objective: By delivering care to at-risk families in the home, home visitation programs present opportunities, as well as significant challenges to producing measurable outcomes. In this large scale mixed methods evaluation of home visitation programs in Pennsylvania, we explored how programs approach curricular adaptation while maintaining curricular fidelity and working towards national performance benchmarks.

Methods: In-depth qualitative interviews of administrators and home visitors (n=74) were conducted at 11 home visitation program sites across the state selected using a sampling frame stratified on geography, size, geographic density, and program model type. All interviews were audio recorded, transcribed, de-identified, and imported into NVivo 10 for coding and analysis. Qualitative data were analyzed for themes and patterns using grounded theory, a methodology that involves iterative development of theories about the data as they are collected.

Results: Home visitors retained the “active curricular ingredients” while also adapting sessions to better match client needs, supporting program engagement and completion. Specific curriculum training was described as facilitating curricular fidelity, while additional training opportunities and supplemental materials were sought out in order to fill in areas relevant to the community that may be absent from the existing curriculum. Certain programs described using multiple curricula to address gaps and better meet specific client needs. Concerns were raised about the competing demands of program adaptation and fidelity in addressing larger programmatic goals. Respondents also raised concerns about alignment between national measures of performance and the nature of programmatic impact. Additionally, circular challenges were raised related to programmatic dependence on funding and how funding depends on evidence and outcomes.

Funding source: Pennsylvania Department of Public Welfare
Providers’ Perspectives on the Implementation of Electronic Consultations in the VHA: Change over Time

Chair: Catherine Battaglia, PhD, RN, Nurse Researcher, VA Eastern Colorado Health Care System, Department of Veterans Affairs Medical Center
1055 Clearmont Street Building A, Denver, CO 80220
Tel: 720-857-5099 | Email: catherine.battaglia@va.gov

Co-authors: Anne Lambert-Kerzner, PhD, VA Eastern Colorado Health Care System, Department of Veterans Affairs Medical Center; P. Michael Ho, MD, PhD, VA Eastern Colorado Health Care System, Department of Veterans Affairs Medical Center; Leah Haverhals, MA, VA Eastern Colorado Health Care System, Department of Veterans Affairs Medical Center; David C. Aron, MD, MS, Louis Stokes Cleveland Department of Veterans Affairs Medical Center; Lauren Stevenson, PhD, Louis Stokes Cleveland Department of Veterans Affairs Medical Center; Susan Kirsh, MD, MPH, Louis Stokes Cleveland Department of Veterans Affairs Medical Center; George Sayre, PsyD, VA Puget Sound Health Care System, Department of Veterans Affairs Medical Center; David H. Au, MD, VA Puget Sound Health Care System, Department of Veterans Affairs Medical Center; Christian D. Helfrich MPH, PhD, VA Puget Sound Health Care System, Department of Veterans Affairs Medical Center

Introduction: Many Veterans face barriers accessing specialty services, which are typically concentrated in urban centers. The Veterans Health Administration began a national electronic consultations (EConsults) pilot initiative in 2011 to increase access to specialty care. E-consults represent a substantial departure from the conventional referral process. We describe the evolution of the experience of primary care providers (PCPs), specialists and staff implementing E-Consults.

Methods and Findings: We conducted two waves of key informant interviews, over a year at eight E-Consult pilot sites selected for variation on early progress on implementation. We used iterative, inductive content analysis. E-consults formalized existing “curbside” consults, and increased communication between primary care providers and specialists. At baseline, some specialists experienced E-consults as administrative work, not patient care, and in some cases the work necessary to complete an EConsult exceeded the newly established workload credits. Challenges included lack of resources to respond to referral requests, lack of referral policies and standardized procedures, and confusion related to roles and responsibilities. PCPs needed to know E-Consults were available and when they were appropriate. Consult templates were sometimes developed without primary care input, and as a result some were too onerous. At follow-up, workload credit options had expanded, and specialists no longer expressed concerns that E-Consults were not patient care. EConsults ultimately were widely hailed, even at sites that initially encountered challenges.

D&I contribution: Some early challenges, which appeared to be potentially critical barriers, ultimately had limited impact. In part, this resulted from leadership taking action based on evaluation findings.

Funding Source: This material is based upon work supported by the U.S. Department of Veterans Affairs, Office of Specialty Care Transformation, the office overseeing the E-Consult initiative and Office of Research and Development Quality Enhancement Research Initiative.
Development and Implementation of a Novel Knowledge Translation Tool: Engaging Patients and Knowledge-users

Chair: Carol Bennett, MSc, Epidemiologist, Ottawa Hospital Research Institute
Civic Campus, ASB 2-006, 1053 Carling Avenue, Ottawa, ON K1Y 4E9
Tel: 613-798-5555 | Email: cbennett@ohri.ca

Co-authors: Carol Bennett, MSc, Ottawa Hospital Research Institute; Richard Perez, MSc, Ottawa Hospital Research Institute; Kasim Abdulaziz, MSc, Ottawa Hospital Research Institute

The burden of poor health that can be attributed to unhealthy behaviours is one of the most pressing problems of our generation. The negative impact of smoking, alcohol, diet, physical activity on health and health care costs has been demonstrated. Yet, despite the striking importance of health behaviours and a growing number of effective interventions to reduce behavioural risks, individual knowledge and detailed information in medical charts about patients’ risks are lacking. Patients cannot be empowered to improve their health behaviours if they don’t know which ones they should address. Similarly, clinicians cannot begin the discussion on improving unhealthy behaviours or offer interventions—including cost-saving interventions—if they don’t have the tools or the time to accurately assess their patients’ current risks.

We developed online health calculators as a novel way to effectively and quickly close this gap. These simple, patient-centred tools estimate individual life expectancy and hospitalization based on users’ responses to brief questions about their health behaviours and demographics. In addition, the calculator reports how each health behaviour impacts an individual’s life expectancy.

The public response was remarkable: more than 400,000 life expectancy calculations performed in the first month. It told us that individuals are interested in understanding their health risks, and it supported our thinking that personalized information using intuitive health outcomes is engaging for individuals and potentially useful in clinical encounters, intervention research, and population health planning.

We will present the development process, which included knowledge user engagement through all phases of the project as well as descriptive statistics for end-user uptake.

Since the initial success, we have had dozens of inquiries from engaged end-users, clinicians, private enterprises, major knowledge-brokering organizations, and health planners interested in partnering with us to advance the scope, reach and effectiveness of this e-health innovation. Several partnerships have emerged. We view our project as just a beginning. We will continue to evaluate patient engagement and knowledge user uptake as we release additional tools in conjunction with our risk algorithm development and dissemination.

This research was funded in part by the Ontario Ministry of Health and Long-Term Care and the Canadian Institutes of Health Research.
Factors Influencing Implementation of Collaborative Care for Perinatal Depression in Low Income Populations

Chair: Ian Bennett, MD PhD, Associate Professor, University of Pennsylvania
Family Medicine, 2nd floor Gates Pavilion, 3400 Spruce Street, Philadelphia, PA 19104
Tel: 610-659-4267 | Email: ian.bennett@uphs.upenn.edu

Co-authors: Steven Ratcliffe MD MPH, Lancaster General Health; Donna Cohen MD MScE, Lancaster General Health; Steven Marcus PhD, University of Pennsylvania

Objective: Evidence for the benefits of team based care of depression is very strong but this approach has not been widely implemented. We wished to assess factors influencing variation in implementation success among four primary care sites caring for low income women in pregnancy.

Methods: Mixed methods quantitative and qualitative study involving survey, clinical data abstraction, and in depth interviews. Low income and race/ethnic minority women in pregnancy from three Federally Qualified Health Centers (FQHCs) and a hospital affiliated family medicine office caring for women with Medicaid insurance were included. A team based collaborative care model of care for depression in pregnancy was implemented from 10/2010-9/2013. The consolidated framework for implementation research (CFIR) framework was used to guide analyses.

Findings: We found a significant variation of implementation across the four sites. Time to implementation and sustained fidelity of the team based model were sensitive to factors related to commitment of leadership to the implementation effort, organizational readiness for change, and staffing of key members of the team. A group organizational readiness for change measure identified implementation team efficacy as a predictor of these outcomes (P<0.05). In depth interviews at these sites corresponded to these findings and indicated that internal factors were key to understanding the team efficacy – specifically the support of site leadership and effectiveness of intervention champions strongly influenced the perceived efficacy of the intervention team. Effective reporting on the progress of the intervention through quality improvement processes were also identified as key to the ultimate success of implementation.

Impact: These findings from a pragmatic study of collaborative care for depression in pregnancy provide insights into factors influencing effectiveness of implementation in federally qualified health centers. These findings can be used to inform the design of implementation and dissemination studies of this care model for depression in pregnancy.

Funding: Robert Wood Johnson Foundation, Solving Disparities Program
Practitioners, researchers, and policy makers have increasingly come to recognize the importance of implementation research to guide adoption, replication, and scale-up of effective interventions. While rigorous research on the effectiveness of interventions continues to grow, information about how to implement them lags behind. This paper examines gaps in the implementation knowledge base in the field of home visiting and presents lessons learned about how to apply implementation science tools to strengthen the design and execution of systematic, high-quality implementation evaluations. This analysis of knowledge gaps draws upon two sources. The first is a systematic assessment of research to support replication and scale up of 22 home visiting programs. The assessment reviewed 178 implementation articles and practice guidance provided by the programs using the Interactive Systems Framework for Dissemination and Implementation. The second is an in-depth, mixed-methods implementation study of a home visiting program, conducted as part of a rigorous evaluation of a national teen pregnancy prevention initiative. The study employed implementation science tools to inform the development of a conceptual framework, measures of core program elements, data sources, data collection instruments, and analysis plans. This paper identifies key lessons about how to use tools from implementation science to improve program evaluation, including to (1) explore key drivers and elements of implementation necessary for replication and scalability of effective programs; (2) select valid quantitative and qualitative measures of these elements; (3) determine multiple, appropriate data sources for these measures; and (4) develop rigorous, systematic approaches to data collection and analysis in evaluation research. Together, these two studies suggest how the use of implementation science in evaluation research can fill critical knowledge gaps, increase the rigor of implementation studies, and produce evaluation findings to inform program replication and scale up. Both studies were funded by the Administration for Children and Families, DHHS.
Good Food as Intended? Designing and Implementing an eLearning Module to Implement a Healthy Diet Promotion Program for People with a Limited Budget

Chair: Kathelijne Bessems, PhD, Postdoctoral Researcher, Maastricht University, NUTRIM, Department of Health Promotion
PO Box 616, Maastricht, 6200MD
Tel: +31433882829 | Email: k.bessems@maastrichtuniversity.nl

Co-authors: Assema, P van, PhD; Linssen, E, MSc; Vries, NK de., PhD

Introduction: The Dutch program ‘Good food does not need to be expensive’ (GF) is a healthy diet promotion program for people with a small budget. The key message is that healthy eating does not need to be expensive, thereby trying to remove a barrier to healthy eating that is often perceived by people who are less well off. Since 2000 GF has been implemented by dietitians as a part of an obligated course household budgeting for people in depth repayment and reached more than 3000 families. Key for the successful implementation in the Southern part of the Netherlands is the close collaboration with the South Limburg Regional Public Health Institute and the Limburg Credit Bank. A short-term effect evaluation study showed that GF had beneficial effects on participants’ dietary intakes (van Assema et al., 2005). Preliminary findings of a longer-term effect study of the recently updated program are promising. The national dissemination and implementation will start in the fall 2014.

Methods: ELearning modules will train dietitians in other parts of the country to teach GF, to adapt it to multicultural groups, and to collaborate with important stakeholders. Trained dietitians will receive feedback on fidelity of implementation from the research team based on structured observations. Interviews will be conducted to get insight in appreciation and perceived usefulness of the feedback and other implementation-related determinants and outcomes.

Advances in D&I: While the implementation of most Dutch health promotion programs stops after a few years of funding, GF is a promising exception. Knowledge and skills from years of implementing GF have been translated into eLearning modules. By providing feedback based on observations, fidelity of implementation and program effects can be maintained at a larger scale.

Funding: This work has been financially supported by the Dutch Organization for Research and Development, grant number 200130001.
Conceptualizing Healthcare Innovation Sustainment through Adaptive Structuration Theory

**Chair:** Sarah Birken, PhD, Research Assistant Professor, Department of Health Policy and Management, The University of North Carolina at Chapel Hill
1103-E McGavran-Greenberg, 135 Dauer Drive, Chapel Hill, NC 27599-7411
Tel: 919-445-0774 | Email: birken@unc.edu

**Co-authors:** David Chambers, National Institute of Mental Health; Alicia Bunger, College of Social Work, The Ohio State University

**Background:** The declining quality, intensity, and comprehensiveness of healthcare innovation use following implementation are well-documented. Sustainment, a recently coined term that refers to the continuous use of a healthcare innovation, as intended, over time, is poorly understood. Existing evidence regarding healthcare innovation sustainment is often anecdotal, descriptive, or cross-sectional, and it is often gathered too soon following implementation. Evidence is also limited by underdeveloped theory of sustainment. Existing theories often use inconsistent definitions of sustainment and do not adequately delineate between determinants of sustainment and determinants of healthcare innovation adoption and implementation. Further, existing theories do not account for why and how unique contexts may facilitate sustainment in some organizations and lead to discontinuation in others.

**Discussion:** We propose adaptive structuration theory as a means of conceptualizing healthcare innovation sustainment. Adaptive structuration theory explains how innovations become integrated into routine practice through the dynamic interplay between structures and social interactions among organizational members over time. It emphasizes that determinants of sustainment are contextual; no one set of determinants influences sustainment consistently across innovations, the organizations in which they are used, and over time.

**Conclusion:** By distinguishing determinants of sustainment from those of adoption and implementation and accounting for context, adaptive structuration theory advances the field of dissemination and implementation, extending existing frameworks for conceptualizing sustainment and offering researchers a promising framework for empirical studies. This may in turn promote better understanding of healthcare innovation sustainment. Adaptive structuration theory also identifies key questions for practitioners to consider when attempting to sustain the use of healthcare innovations.

**Funding Acknowledgement:** The preparation of this article was supported in part by grant number R25 CA057726 from the National Cancer Institute (SAB) and in part by the Implementation Research Institute (IRI), at the George Warren Brown School of Social Work, Washington University in St. Louis; through an award from the National Institute of Mental Health (R25 MH080916-01A2) and the Department of Veterans Affairs, Health Services Research & Development Service, Quality Enhancement Research Initiative (QUERI) (ACB). The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Cancer Institute or the National Institute of Mental Health.
Improving Reach through Innovative Recruitment and Retention Methods with Chronically Ill Medicaid Patients

Chair: Kimberly Case, PhD, Research Scientist, University of Florida  
1329 SW 16th Street, Gainesville, FL 32610  
Tel: 352-627-9109 | Email: kim.case@ufl.edu

Co-authors: Jill Herndon, PhD; Martin Wegman; Bruce Vogel, PhD; Dena Stoner; Keith Muller, PhD; Elizabeth Shenkman, PhD

Patients with chronic, co-occurring physical and mental (CCPM) health conditions are commonly excluded from clinical trials due to the difficulty in reaching this population and engaging them in research. Wellness Incentive and Navigation (WIN) is a health promotion trial with CCPM Medicaid members who are provided with a health navigator and a patient-directed wellness account. Patients within this population represent a particularly difficult group to engage in clinical trials due to cognitive limitations, poly-pharmacy, low health literacy, low health self-efficacy, unstable financial situations, and/or an unsupportive social environment. Qualitative research was conducted to test different mechanisms for recruitment and retention with CCPM members. Recruitment included a number of novel methods including GIS mapping and accessing Medicaid files for updated contact information. T-tests confirmed no differences in recruited vs. non-recruited patients by race (p=.135) or CCPM-diagnosis (p=.525), though more males than females chose not to participate (p<.001). Retention methods for the intervention and control groups focused on consistently updating contact information due to the fluctuating living arrangements of the CCPM members. Retention strategies included offering incentives for updated contact information and a study assigned cellphone. The intervention itself has many features that contribute to retention including patient-centered wellness goals using motivational interviewing, a patient-driven flexible wellness account, and additional financial incentives for consecutively completed appointments. Annual follow-up completion rates remain high at the Year 1 mark with rates comparable in the intervention (86%) and control groups (84%). Separate group T-tests confirmed no differences in race (p’s>.077), gender (p’s>.079), or diagnosis (p’s>.370) between retained and non-retained members. The lack of literature addressing reach in psychiatric populations in longitudinal and clinical research posed a challenge in developing sound research-based strategies for recruitment and retention. The creative and innovative approaches add to the literature by documenting effective methods to inform future interventions.
Strengthening the Capacity of Local Researchers to Disseminate Study Results: Lessons Learned from the R2P (Research to Prevention) Project

Chair: Alison Cheng, MPH, Health Science Administrator, US Agency for International Development
1300 Pennsylvania Ave NW, Washington, DC 20523
Tel: 202-712-1664 | Email: acheng@usaid.gov

Co-authors: Sarah Sandison, MS, MA, US Agency for International Development; Stefan Baral, MD MPH MBA CCFP FRCPC, Johns Hopkins Bloomberg School of Public Health; Caitlin Kennedy PhD, Johns Hopkins Bloomberg School of Public Health; Heena Brahmbhatt PhD, Johns Hopkins Bloomberg School of Public Health; Andrea Vazzano MPH, Johns Hopkins Bloomberg School of Public Health; Emily Hurley MPH, Johns Hopkins Bloomberg School of Public Health; Deanna Kerrigan, PhD, Johns Hopkins Bloomberg School of Public Health

Research to Prevention (R2P) was a USAID-funded task-order aiming to identify critical knowledge gaps and inform program strategies for effective HIV prevention including improving the quality and coverage of prevention interventions in countries most affected by the pandemic, particularly sub-Saharan Africa(SSA). Critical to R2P’s work were capacity building for local research partners, and data utilization strategies co-led with local co-investigators. R2P conducted a Small Grants Program(SGP) as a capacity building exercise focused on local emerging investigators developing concepts and then receiving research mentorships, training, and implementation support from staff and faculty at Johns Hopkins University combined with networking opportunities with other grantees. Subsequent rounds of the SGP had different themes ranging from studies exploring HIV-related risks associated with alcohol, HIV prevention for men who have sex with men(MSM), and also the development of data dissemination strategies for R2P studies. The SGP included support for global dissemination through abstract preparation and manuscript development including conference satellite sessions focused on HIV prevention for MSM and HIV among key populations in West Africa, and also two similarly themed journal supplements. The conferences and journal supplements provided a platform for emerging investigators to engage directly with policy makers and more established scientists from their countries and regions maximizing the policy and global impacts of their work. Local investigators from several countries reported that these dissemination and engagement opportunities had direct impacts on policies and informed targeted HIV prevention, treatment, and care programs. Ultimately, the experience from the SGP suggests that supporting balanced partnerships leveraging the expertise of local emerging investigators to develop appropriate research questions together with technical support from R2P and specific faculty members resulted in effective transfer of skills, ongoing collaborations, and potentially sustained improvement in the capacity to respond to the local HIV epidemics in these countries.
Improving Rates of Influenza and Pneumococcal Vaccination through Patient Outreach, Improved Medical Record Accuracy and Targeted Physician Alerts

Chair: Sarah Cutrona, MD, MPH, Assistant Professor of Medicine, Meyers Primary Care Institute, University of Massachusetts School of Medicine
365 Plantation St, Biotech 1, Suite 100, Worcester, MA 01605
Tel: 508-856-3086 | Email: Sarah.Cutrona@umassmemorial.org

Co-authors: Larry Garber, University of Massachusetts Medical School; Lloyd Fisherb, Peggy Preusse, University of Massachusetts Medical School Sarah Goff, Baystate Medical Center and Tufts University School of Medicine; Meera Sreedhara, Meyers Primary Care Institute; Madeline Jackson, Meyers Primary Care Institute; Devi Sundaresanc, Kathy Mazora, University of Massachusetts Medical School

Background: Influenza and pneumococcal vaccines are beneficial but underutilized.

Objectives: Using health information technology and patient self-reported data, we aim to improve rates of influenza and pneumococcal vaccination in a large multi-specialty group practice in central Massachusetts.

Methods: We have undertaken a multi-faceted vaccine promotion program with patient-, provider-, and system-level components. Patient and provider qualitative interviews (20) were conducted to inform development of provider educational materials and patient outreach materials. Provider education was delivered via in-person brief presentations at practice sites given by research team physicians (respected members of the group practice). Patient outreach will target patients eligible but overdue for influenza vaccine (a subset is also overdue for pneumococcal vaccine). Using a factorial design, 20,000 patients who are active users of electronic patient portals will be randomized in November 2014 to (a) receipt of a portal message providing education and access information on flu and pneumococcal vaccines; (b) receipt of an interactive voice recognition call with similar content; (c) both or (d) neither. Both outreach methods will invite patients to update their electronic health records (EHRs) by reporting whether they have received vaccines not currently recorded (increasing accuracy of the existing EHR provider alert system).

Results: We are using multi-level interventions and technological innovation to increase rates of recommended vaccine completion in our population. To date, factors contributing to success include (a) research team’s inclusion of physician thought-leaders well-known within the practice; and (b) alignment of study goals with the mission of the group practice (improving delivery of preventive care, improving accuracy and efficiency of EHR without interfering with workflow, achieving Meaningful Use goals by inviting patient communication via e-portals).

Conclusion: Aligning implementation research with the existing goals and values of the medical group practice can yield effective collaborations and facilitate project success.
Adaptation, Education and Motivation: Improving Evidence-based Medication Adherence among Adults with Type 2 Diabetes

Chair: Pamela Daniels, MBA, MPH, PhD, Epidemiologist, Morehouse School of Medicine
720 Westview Dr., SW, Atlanta, GA 30310
Tel: 404-756-5714 | Email: pdaniels@msm.edu

Co-authors: Robert Mayberry, MS, MPH, PhD; Fengxia Yan, MD, MS

Purpose: The purpose of study was to incorporate evidence-based medication use into patient selfcare, the diabetes self-management, and the decision support functions of the electronic medical record system of a local federally qualified community health center (FQHC). We had previous found in an early investigation that nearly 90% of the predominately African American adults with type 2 diabetes receiving care in this FQHC did not take their medications as prescribed and that documentation of evidence-based prescribed medication was very poor.

Methods: We used a community health worker (CHW) approach with the innovation of motivational interviewing (MI) to adapt and customize Comparative Effectiveness Research Summary Guides (CERSGs) for Consumers and deliver the content of CERSGs to adults with type 2 diabetes. Adults with type 2 diabetes (n=460) were randomly assigned to the MI-CHW group to receive MI by trained CHWs or to the control group to receive general diabetes education by CHWs (GE-CHW) who are not trained in MI. All study participants were followed during monthly one-on-one in-person and phone-administered counseling sessions over a 12-month intervention period. The delivery of the CHW intervention was based on the psycho-social needs, stage of readiness of the study participants, and enhanced patient-provider communications.

Results: Study participants in MI-CHW intervention group and GE-CHW control group experienced a significant increase in medication adherence (p<0.001) and diabetes-self management (p<0.001) over the 12-month intervention period. Furthermore, the clinic was successful in incorporating evidence-based oral and insulin medications into its drug panel.

Conclusions: This CHW intervention was effective in improving evidence-based medication adherence among adults with type 2 diabetes, most likely through enhanced patient-provider communications and the patient’s willingness to work with the care team.
Does Open Access to Primary Care Improve Patient Experience? A Case-control Study

Chair: Lauren Duhigg, MPH, BS, Research Associate, American Board of Internal Medicine
510 Walnut Street, Suite 1700, Philadelphia, PA 19106
Tel: 215-446-3534 | Email: lduhigg@abim.org

Co-authors: Rebecca Baranowski, MEd, MS, American Board of Internal Medicine; Gerald Arnold, PhD, MPH, American Board of Internal Medicine

An open access to care protocol, emphasizing timely appointments and care delivery, should increase patient satisfaction (Bodenheimer, 2003). Research has not supported this hypothesis, but existing evidence has been of low quality (Degani, 2013).

Research Goal: We investigated whether practices providing open access care coordination (OAC) have better patient experience scores than practices without OAC.

Methods: Using data from a survey of physician communication skills, we devised an open access score for differentiating OAC practices from non-OAC practices. OAC practices scored at least 15 of 22 points and had three required items relating to access and care coordination.

We studied 823 internists reporting chronic illness (e.g., diabetes, hypertension) as the most important condition in their patients. Participants completed an assessment of their practice, and their chronically ill patients completed a survey. 333 practices had OAC (cases); 490 did not (controls). Patient experience was measured by ratings of: timely appointments/health information (Cronbach’s α = .83); physician communication (Cronbach’s α = .87); SDM (Cronbach’s α = .65); staff helpfulness (Cronbach’s α = .85); and physician rating (Cronbach’s α = 0.89).

Cases and controls were paired via a dual-propensity score shortest distance matching procedure: one score matched 30 physician/practice traits, the second matched 12 patient demographic variables, controlling for clustering of patients within physicians. Differences in cases and controls were assessed via Wilcoxon signed-rank tests (two-tailed α = 0.1).

Results: Case-control differences were inconclusive for communication (p=0.22), SDM (p=0.68), staff helpfulness (p=0.5), and physician rating (p=0.11) but cases experienced greater access to care than controls in terms of timely appointments/health information (mean (SD): 11.9 (2.5) vs. 11.5 (2.2); (p=0.01)).

Advances in Dissemination and Implementation Science: Our study represents a rigorous case-control study design with innovative analytical methodology. We provide evidence that effective implementation of OAC in clinical practice has a positive effect on patient experience outcomes.

Primary Source of Funding: Funding for this research was supported by the American Board of Internal Medicine.
Stakeholders' Perspectives on Disclosing Large Scale Adverse Events: A Toolkit Built on Lessons from Implementing a National Policy

Chair: A. Rani Elwy, PhD, Research Health Scientist, Center for Healthcare Organization and Implementation Research
Bedford VA Medical Center, 200 Springs Road (Mailstop 152), Bedford, MA 01730
Tel: 781-687-2861 | Email: rani.elwy@va.gov

Co-authors: Elizabeth M. Maguire, MSW, VA CHOIR, Bedford VA; Barbara G. Bokhour, PhD, VA CHOIR, Bedford VA; Steven M. Asch, MD, MPH, VA Palo Alto; Allen L. Gifford, MD, VA CHOIR, Bedford VA; Todd H. Wagner, PhD, VA Palo Alto and VA HERC; Thomas H. Gallagher, MD, University of Washington; Richard A. Martinello, VA Clinical Public Health, Office of Public Health; Robert L. Jesse, MD, PhD, Department of Veterans Affairs

Objective: Many healthcare organizations have developed policies for disclosing large scale adverse events. However, little research is available to guide implementation of these policies. We aimed to develop an evidence-based large scale adverse event disclosure toolkit built from a range of stakeholders' perspectives on previous disclosures implemented as part of the Veterans Health Administration (VA) disclosure policy.

Methods: We conducted semi-structured interviews with 97 stakeholders involved in nine disclosures which took place between 2009-2013. We applied relevant constructs from the Consolidated Framework for Implementation Research (CFIR) to our interview data to identify key factors related to stakeholders' perceptions of past disclosures.

Results: Stakeholders provided evidence for the importance of six constructs within three CFIR domains when implementing disclosures: 1) Networks and communication (Inner Setting): Leaders were frustrated with uncoordinated communication among many groups; 2) Culture (Inner Setting): Employees involved in the disclosure process felt proud of their "Veteran-first"; 3) Leadership engagement (Inner Setting): Employees asked for more open communication about event details and actions; 4) Design quality and packaging (Intervention Characteristics): Patients and families wanted to be called at home and not notified by a certified letter, thus suggesting a disclosure policy improvement; 5) Executing (Process): All wished that disclosures occurred faster; and 6) Reflecting and Evaluating (Process): Leaders worried that implementation of the disclosure policy would not improve because lessons learned through reflection and evaluation were not systematically collected and shared with others.

Implications: All healthcare systems must face how to communicate bad news to patients, as recent events in the VA have underlined, and having an implementation policy and toolkit to address the process of doing so will ensure more timely and transparent disclosures. Based on our findings, we created a disclosure of large scale adverse events toolkit, currently being tested within the VA.

Funded by VA HSR&D SDR 11-440
A New Look at Behavioral Interventions: Trajectory Pattern Recognition Approach

Chair: Julia Fang, PhD, Associate Professor, University of Massachusetts Medical School
AS8-2061, 368 Plantation St, Worcester, 01605
Tel: 508-856-2502 | Email: hua.fang@umassmed.edu

Co-authors: Jeroan Allison, MD, University of Massachusetts Medical School; Zhaoyang Zhang, MS, University of Massachusetts Medical School; Arlene Ash, PhD, University of Massachusetts Medical School

Introduction: The efficacy of behavioral interventions is often unclear, because they are complex. These interventions have multiple components and are implemented over time. In the intervention process, patients' response fluctuates, causing substantial individual variations that lead to their different outcomes. Characterizing these temporal and individual variations can clarify intervention efficacy. Identifying risky behavioral patterns can facilitate future adaptive intervention design. Our trajectory pattern recognition approach was designed for such purposes.

Method: Our multiple-imputation (MI) based fuzzing clustering was tested on two NIH random controlled trials (RCT) and via simulation. One RCT is for culturally-tailored smoking cessation (N = 109, missing rate < 25%, 5 components, 20 attributes) and the other is a dietary intervention for patients with metabolic syndromes (N =240, missing rate < 23%, 8 components, 32 attributes). Our method was compared to partition-, model-, and neural network-based methods. Our simulated data was generated using the parameters from the two RCTs under different statistical distributions. Our MI pattern validation was compared to single- and noimputation based validation. All identified patterns were related to outcomes in each trial: Abstinence rates and depression for smoking cessation; anthropometric, physiological and psychosocial outcomes for the dietary intervention.

Results: Our method (a) exhibited the most reliable and accurate results across real and simulated data; (b) identified three culturally-aware smoking cessation patterns and five dietary response patterns which traditional analytics were unable to detect; (c) teased out important intervention components. Non-culturally-aware smokers have the highest depression risk and lowest abstinence rate. Low-dietary response patients have the worst outcomes, e.g., weight loss and insulin resistance.

Conclusion: Our approach advances the D&I field by providing detailed understanding of patients’ differential behavioral patterns in interventions, and advising the timing and dose for future adaptive interventions.

Acknowledgement: This research was supported by NIH5R01DA033323, 1UL1RR031982-01 Pilot Project to Dr. Fang.
A Systematic Process for Selecting, Adapting, and implementing Evidence-based Interventions for New Settings and Populations

Chair: Maria E. Fernandez, PhD, University of Texas, School of Public Health
7000 Fannin, Houston, TX 77030
Tel: 713-500-9774 | Email: marieke.a.hartman@uth.tmc.edu

Co-authors: Marieke A. Hartman, Dr, University of Texas, School of Public Health; Patricia D. Mullen, DrPh, University of Texas, School of Public Health; Cam T. Escoffery, PhD, Emory University, Rollins School of Public Health; L. Kay Bartholomew, EdD, MPH, University of Texas, School of Public Health

Problem: Despite knowledge about what works evidence-based interventions (EBIs) to promote health and prevent diseases are often not used in communities. Challenges include identifying EBIs that are suitable for new populations and settings and adapting then to fit the community’s unique needs. Existing adaptation models provide limited guidance on how to make decisions about what should change and what should remain the same.

Methods and Results: We present a framework based on Intervention Mapping processes to guide the selection and adaptation of EBIs. The process includes the development of a logic model of change (LMC) based on the community assessment. A LMC is a diagram of what change is needed in the determinants of health promoting behaviors and environmental conditions to solve the health problem. The LMC is then compared with the basic features of available EBIs (determinants addressed, resources needed, etc.) to assess potential fit with the new population or setting. Following selection, planners further examine the internal logic of the EBI including the behaviors and environmental conditions that were the targets of the original EBI, the determinants addressed, and the change methods and/ or strategies used. Planners then compare the EBI features to the LMC to determine what needs to be adapted while maintaining change methods used in the original intervention since these often represent the intervention’s core elements.

Conclusion: The framework can be used to improve adaptation of EBIs. The Cancer Prevention and Control Research Network is currently developing an online expert system “TACTICC: Tailored Aid for Communities adapting Tested Interventions for Cancer Control” that applies this process in real time for EBI selection and adaptation. This framework expands and provides detail to the general processes described in existing frameworks and provides step by step guidance on decision making during the selection, adaptation and implementation of EBIs.
Addressing Pragmatic Blood Pressure Control Research through Innovative Methods

Chair: Kevin Fiscella, MD, MPH, Professor, Family Medicine and Public Health Sciences, University of Rochester
1381 South Ave, Rochester, NY 14620
Tel: 506-9484 | Email: Kevin_Fiscella@urmc.rochester.edu

Co-authors: Jonathan Tobin, PhD, CDN and Einstein Medical School; Jennifer Carroll, MD, MPH University of Rochester; Paul Winters, MS, University of Rochester; Hua He, PhD, University of Rochester; Mechelle Sanders, BA, University of Rochester; Andrea Cassells, MPH, CDN; Gbenga Ogedegbe, MD, MPH, New York University

Background: Hypertension treatment guidelines, including the 2014 Hypertension Control Guidelines, recommend that patients with uncontrolled blood pressure (BP) have follow-ups within four weeks. Evidence on how to achieve more frequent visits and whether this improves BP is lacking. We aim to examine whether a multimodal intervention increases clinician visits among patients in Federally Qualified Health Centers (FQHCs), and whether BP visit frequency increases improve BP control. We will also examine mediators/moderators of uptake, implementation and effectiveness.

Study Design: A stepped-wedge cluster randomized trial (SWCRT) randomizes when each FQHC (n=12) receives the intervention.

Population Studied: The primary population includes clinicians who consent to participate. The secondary population includes patients with uncontrolled BP (>140 systolic or >90 diastolic).

Intervention: Clinicians will receive CME-accredited training (face-to-face, webcasts) in effective methods for engaging patients to commit to monthly visits until their BP is controlled. A practice champion will facilitate use of templates and clinician visit frequency and BP control reports, and outreach to patients with uncontrolled BP who have not been seen for > 3 months.

Data collection and assessment: Primary data obtained through electronic health records (EHRs) extraction, include: clinician, unique patient identifier, demographic characteristics, insurance, BP, visit dates, BP medications, and labs. Secondary data will be obtained using email surveys of clinicians and practice leadership. We have obtained waivers of informed consent and HIPAA from relevant IRBs.

Implications for Policy, Delivery or Practice: The SWCRT design enables all FQHCs to receive the intervention, while preserving randomization. A patient level waiver of informed consent ensures that hard-to-reach patients are included, thus enhancing generalizability. Using EHR data reflects pragmatic outcomes (visit frequency, BP), minimizes costs, and increases implementation and sustainability.

Limitations: Phased-in recruitment and minimization of late FQHC drops-outs requires randomization in blocks rather than randomization of the entire cohort at once. A waiver of informed consent limits types of data that can be collected. Use of FQHC EHR data imposes minimal study eligibility requirement.

Conclusions: These three innovative methods represent a model for conducting rigorous, practice-based quality improvement research that can be implemented, scaled and sustained in FQHCs and other primary care practices.

Primary Funding Source: NHLBI R18 HL117801-01.

Mapping the Evidence for Patient-centered Care Innovations to Implement Broad Scale Cultural Transformation
Objective: The Promoting Action on Research Implementation in Health Services (PARiHS) Framework argues evidence is crucial to successful implementation; however, broad scale organizational transformation may not be based on traditional research evidence. The Department of Veteran Affairs is working to transform to a patient-centered model of healthcare through a range of innovations intended to enhance patient-centered care (PCC). To better understand how these innovations facilitate PCC transformation, it is important to understand the extent to which they map to PCC principles.

Methods: We conducted a qualitative study to understand how ongoing PCC innovations at two dedicated VA PCC facilities mapped to 14 PCC principles identified in two PCC conceptual frameworks. We conducted in-depth interviews with 51 leaders, middle managers and front-line staff who played key roles in PCC initiatives, and observed leadership meetings and hospital activities. Fieldnotes were generated and interviews were audio-recorded and transcribed. Using consensus coding procedures, we developed an “innovation map” to identify key innovations and assess how each advanced PCC principles.

Findings: We identified 31 unique innovations ranging from institutional level programs, to smaller targeted initiatives intended to change current practice. Innovations ranged in the extent to which they facilitated PCC principles. The personal health inventory, a care planning and communication tool met 13 principles; two innovations only met one principle. On average, innovations addressed 4.7 PPC principles. Two-thirds had a personalized approach or focused on relationships, while less than 10% were dedicated to patients’ surroundings. We further categorized innovations into 8 sub-types of interest to facilities seeking to adopt PCC innovations, including enhancing current practices and staff focused programs.

Implications: Our PCC innovation map can be a tool for spreading evidence-based, PCC practices. Facilities wishing to advance PCC cultural transformation can use this tool to identify gaps in PCC and select innovations to meet their needs.

Funding: This study was funded by the Department of Veterans Affairs, Office of Patient-Centered Care and Cultural Transformation and Health Services Research and Development, Quality Enhancement Research Initiative.
Using the Arts as a Knowledge Translation Strategy – Informing Disability Policy and Practice

**Chair:** Gisselle Gallego, PhD, Research Fellow, University of Western Sydney
Building 3, Campbelltown Campus, Locked Bag 1797, Penrith, NSW 2751
Tel: +61 46203949 | Email: g.gallego@uws.edu.au

**Co-authors:** Katherine Boydell PhD, The Hospital for Sick Children and Department of Psychiatry, University of Toronto; Angela Drew PhD, University of Sydney; Michelle Lincoln PhD, University of Sydney; Anita Bundy PhD, University of Sydney

Background: Knowledge derived from health research is of limited value unless it is translated into policy and practice. Knowledge translation (KT) has emerged as a paradigm to address challenges in closing the “know-do” gap. “Partnerships” have been proposed as a way to conduct meaningful research that is relevant to the policy and decision making process. The Wobbly Hub and Double Spokes (WH&DS) is a project funded by the Australian Government “Partnerships for Better Health” grants. It draws on the knowledge and experience of researchers, policy-makers, clinicians and consumers to generate evidence-based policies to support therapy service delivery to people with disability living in rural communities. One of the key activities of this research program is to ensure that research findings are translated to a wide group of stakeholders including people with disability, carers, service providers and policy makers.

Methods: The present study combined integrated and end-of-grant KT strategies in order to engage stakeholder groups and deliver pertinent findings in an appropriate and timely manner. The goal was to generate awareness and interest, to share the study findings broadly and to inform disability practice and policy. In addition to traditional means of disseminating research knowledge such as via peer-reviewed journal articles and conference presentations, the project has used social media and applied arts-based/creative strategies in the dissemination of research findings, and development of research outputs.

Results: Integrated KT strategies (throughout the project) included comic strips, posters, infographics, newsletters, two page summaries, a project website and webinars. End-of-grant strategies included two forums with decision makers in Government and non-government organisations, designed so participants and researchers could jointly develop effective end-of-grant KT strategies. As a result more “active” forms of KT have been implemented. This includes ‘policy ready’ documents with policy relevant recommendations. We are currently collaborating with artists to develop a multi-media installation to share research findings with other audiences such as people with disability, carers, service providers and communities.

Conclusions: Traditional methods of research dissemination often restrict audiences to fellow academics and pose a barrier to research use. Arts-based approaches recognize different forms of knowledge and there emerging evidence to suggest its effectiveness in increasing knowledge, raising awareness changed attitudes, behavior and practice may make research accessible to different audiences.
Socio-Contextual Determinants of Research Evidence Use in Public-Youth Systems of Care

Chair: Antonio Garcia, PhD, Assistant Professor, University of Pennsylvania
3701 Locust Walk, Philadelphia, PA 19104-6214
Tel: 215-898-1592 | Email: antgar@sp2.upenn.edu

Co-authors: Lawrence A. Palinkas, PhD, University of Southern California School of Social Work; Minseop Kim, MA, University of Pennsylvania School of Social Policy & Practice; Lonnie Snowden, PhD, University of California -Berkeley School of Public Health; John Landsverk, PhD University of Southern California and Brown School of Social Work

Decreasing the gap between the development of research evidence and the translation of that knowledge in practice is paramount. While evidence-based practices (EBPs) exist to promote positive developmental outcomes among at-risk youth (Weisz, et al., 2005), they have not been implemented to fidelity (Axford & Morpeth, 2013). One way to address this gap is to understand and promote conditions through which evidence is used (Barwick et al., 2008). This study identified whether contextual determinants (poverty, foster care placements, mental health expenditures, and Medicaid enrollment) predict REU. Socio-contextual factors for 37 counties in California were gathered from public records in 2008; and child welfare, juvenile justice, and mental health system leaders’ (n=96) perceptions of their REU while implementing an EBP were measured via the Structured Interview of Evidence Use (SIEU) between 2008 and 2012. The SIEU (Palinkas et al., 2012) is a psychometrically sound 45-item instrument that asked respondents’ to indicate the extent to which they obtain research evidence from primary and secondary sources (input), whether they assess the validity of those sources (process), and the circumstances in which they use or ignore evidence (output). Regression analyses were conducted to examine relationships between contextual determinants, and each of the dependent variables (input, process, output, and total SIEU score). Results showed an inverse relationship between mental health expenditures and REU. Higher educational attainment, (Master’s or Ph.D.) increased the likelihood of access, evaluation and application of research evidence. Positive relationships between scores on the “input” subscale and (1) racial minority concentration and (2) poverty were detected. Findings underscore the importance to (1) identify the organizational conditions by which a sufficient supply of mental health services influence REU, and (2) hire providers who are trained to interpret and rely upon research evidence to ensure EBPs are implemented.
Theoretical Foundations of Dissemination and Implementation Leadership: A Conceptual Model for Leadership Development

Chair: Wendy Gifford, RN, PhD, Assistant Professor & Associate Researcher, University of Ottawa & Saint Elizabeth Health Care
451 Smyth Road, Ottawa, ON K1H8M5
Tel: 613-562-5800 | Email: wgifford@uottawa.ca

Co-authors: Ian D. Graham, PhD, University of Ottawa; Ann Catrine Eldh, PhD, Dalarna University & Karolinska Institutet; Nancy Lefebre, MScN, Saint Elizabeth

Introduction: The leadership of healthcare managers is considered critical to implementing evidence based practice for strengthened healthcare delivery and improved patient, provider and system outcomes. However, lack of clarity exists regarding what leaders actually do and the basis for their actions, or how to develop leadership capacity for successful dissemination and implementation.

Objectives: To describe a conceptual model that explicates key components of a leadership intervention and the subsequent leadership knowledge, skills and behaviours required by senior and front line managers for implementation.

Method: Using principals from the UK Medical Research Council’s Complex Interventions Framework, evidence and theories on leadership and implementation science were synthesized with the tacit knowledge of researchers and healthcare managers from Canada, United States and Sweden in a 3 day planning meeting in Ottawa, Canada. An intervention was developed and the key components were graphically depicted in a conceptual model with the hypothesized leadership processes and outcomes.

Findings: The conceptual model depicts the knowledge, skills and behaviours that healthcare managers require to create a strong leadership process for implementing high quality evidence-based care. The leadership process involves relations, change and task-oriented knowledge and behaviours to: prioritize improvements; set goals for change; assess and manage multi-level barriers; secure resources; and engage clinical and management staff. Together the leadership behaviours influence individuals, the practice environment and the organizational infrastructure for successful dissemination and implementation.

Conclusion: Leadership of healthcare managers is key to building effective healthcare systems; however what they do to influence dissemination and implementation of evidence based practice is not clear. The conceptual model provides conceptual clarity on what healthcare managers do to lead the implementation of evidence based practice, thereby advancing the field of D & I.

Primary Funding Source: Canadian Institute of Health Research
Factors associated with the implementation of health promotion in primary and community care: The Basque Country ‘Prescribe Healthy Life’ strategy

Chair: Gonzalo Grandes, MD, MS, Head of Primary Care Research Unit, Basque Healthcare Service
Ambulatorio Deusto - Unidad Investigacion, Luis Power 18, 4ª planta, BILBAO, SPAIN E48014
Tel: +334 94 600 6638 | Email: gonzalo.grandes@osakidetza.net

Co-authors: Catalina Martinez, BS, Primary Care Research Unit, Basque Healthcare Service; Gonzalo Bacigalupe, EdD, MPH, College of Education & Human Development, University of Massachusetts Boston; Josep M Cortada, MD, Deusto Primary Care Center, Basque Healthcare Service; Alvaro Sanchez, PhD, Primary Care Research Unit, Basque Healthcare Service; Haizea Pombo, PhD, Primary Care Research Unit, Basque Healthcare Service; Pola Bully, BS, Primary Care Research Unit, Basque Healthcare Service

Background: The impact of life style on health is undeniable and effective healthy lifestyle promotion interventions are available. However, this is not a fundamental part of routine primary care practice. We describe factors that determine changes in performance of primary care centers (PCCs) involved in piloting the health promotion innovation ‘Prescribe Vida Saludable’ (PVS), a strategy to promote healthy habits through the primary care services in community PCCs.

Methods: We engaged 4 PCCs of the Basque Healthcare Service in an action research project that aimed at changing health promotion practices, and after 2 years PCCs were categorized as high, medium, or low implementation performance based on quantitative process indicators. We completed a qualitative inductive and deductive analysis of five focus groups with these PCCs’ professionals. Themes generated by grounded thematic analysis were compared among centers to identify factors that explain the variation in implementation of PVS, and retrospectively organized and assessed against a theoretical framework: the Consolidated Framework for Implementation Research (CFIR).

Results: Eleven of the 36 CFIR constructs appeared directly related to the level of implementation performance: intervention source, Design Quality and Packaging, evidence strength and quality, tension for change, learning climate, self-efficacy, planning, champions, executing, Engaging External Change Agents, reflecting and evaluating. Organizational self-tracking was added as a new sub-construct. Other eight constructs emerged as a general influence for implementation but not related to actual change performance: relative advantage, adaptability, complexity, patients’ needs and resources, external policy and incentives, structural characteristics, available resources, and formally appointed internal implementation leaders.

Conclusions: Identified barriers, facilitators of practice change are useful for designing effective implementation strategies for health promotion in PCC that are essential for innovation success. We appreciate the CFIR framework as an analytical and verification tool in the process evaluation of a pilot implementation.

External Funding: Research Grants for PVS Project: The Basque Health Department (EXP: PI2009003); The Carlos III Health Institute (EXP: PS09/01461); The Research Network of Preventive Activities and Health Promotion (redIAPP RD06/0018/0018); Kronikgune (KRONIK11/056); Etorbizi (Exp.CA2012086); Funding for Gonzalo Bacigalupe provided by the Ikerbasque Basque Foundation for Science.
A New Reporting Guideline for Trials of Social and Psychological Interventions: CONSORT-SPI

**Chair:** Sean Grant, DPhil, Associate Behavioral & Social Scientist, RAND Corporation
1776 Main Street, Santa Monica, CA 90407
Tel: 310-393-0411 | Email: sgrant@rand.org

**Co-authors:** Evan Mayo-Wilson, DPhil, Center for Clinical Trials and Evidence Synthesis, Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health; Paul Montgomery, DPhil, Centre for Evidence-Based Intervention, University of Oxford

Problem: Understanding randomized controlled trials (RCTs) of complex interventions requires detailed reports of the interventions tested and the methods used to evaluate them. However, RCT reports often omit important information, hindering proper critical appraisal and the effective transfer of this research evidence to policy and practice decision-making.

Objective: To discuss a new extension of the Consolidated Standards of Reporting Trials (CONSORT) Statement for social and psychological interventions: CONSORT-SPI.

Methods: Stakeholders from 32 countries—including 132 journal editors—participated in a Delphi process and were asked to rate the importance of including proposed reporting standards in the CONSORT-SPI guidelines. The results of the Delphi process, along with previous systematic literature reviews, were used to inform a formal consensus development conference. Stakeholders discussed each recommended reporting standard and voted on the final guideline content. Participants included key researchers, journal editors, and funders.

Results: A checklist for reporting RCTs was developed based on empirical research and expert consensus. An explanation and elaboration (E&E) document will provide detailed advice for each item and examples of good reporting from previously published RCTs.

Conclusions: This guideline is an important step toward improving reports of many designs for evaluating social and psychological interventions. The development of an evidence-based reporting guideline should improve the accuracy, comprehensiveness, and transparency of RCT reports related to implementation science. Endorsement of the guideline by journals, research funders, and professional organizations will facilitate use of and feedback on the guideline, which in turn will help to raise the quality of standards in social and behavioral science research.
Mixed Methods Therapist Perspectives on an Evidence-Based Intervention to Increase Parent Engagement in Child Mental Health Treatment

Chair: Rachel Haine-Schlagel, PhD, Assistant Research Professor/Research Scientist, SDSU/CASRC
3020 Children's Way, MC 5033, San Diego, CA 92123
Tel: 858-966-7703 | Email: rhaine@mail.sdsu.edu

Co-authors: Molly Mechamml, University of San Diego; Lauren Brookman-Frazee, PhD, University of California, San Diego

Challenges to the implementation of evidence-based (EB) interventions in routine mental health service settings are well-documented and abundant. Understanding these challenges and factors that facilitate implementation is a critical step to design implementation strategies to facilitate uptake of effective practices. The goal of this study is to examine mixed methods data from child mental health therapists about an updated package (Haine-Schlagel et al., 2014) of EB strategies (McKay et al., 1996; 1996; 1998) to engage parents in treatment to identify implementation outcomes, barriers, and facilitators. The EB strategies were updated to improve adoption and other implementation outcomes using stakeholder input.

Twelve therapists from 5 community clinics participated in a pilot study to examine the feasibility and acceptability of the updated intervention. Quantitative data include attitudes about the intervention, training attendance, and fidelity ratings. Semi-structured feedback interviews were conducted and transcribed. The "Coding Consensus, Co-occurrence, and Comparison" methodology rooted in grounded theory principles was used to develop a coding system. Both sources of data are utilized to examine complementarity, convergence, and expansion of results (Palinkas et al., 2011).

Initial findings indicate intervention feasibility (e.g., high training attendance, able to integrate intervention tools with practice), acceptability (e.g., improved attitudes about intervention strategies, intervention provides structure and accountability to support implementation), fidelity (e.g., 80% of therapists completed required intervention steps), and sustainment (continued use of intervention tools). Examples of perceived barriers include time to fit intervention into sessions and difficulty changing practice for more experienced therapists. Examples of facilitators include organizational support from leaders and peers to focus on engaging parents and an interest in parent engagement.

These results provide important insight to facilitate the uptake of this EB intervention and inform the design of implementation strategies to move EB practices in routine service settings. This study was supported by NIMH K23MH080149 (PI:Haine-Schlagel).
The Relative Importance of Transformational Leadership and Implementation Specific Leadership for Client Outcomes

Chair: Henna Hasson, PhD, Associate Professor, Karolinska Institutet
Medical Management Centre (MMC), Stockholm, 17177
Tel: +46736340730 | Email: henna.hasson@ki.se

Co-authors: Ulrica von Thiele Schwarz, PhD, Medical Management Centre, Karolinska Institutet; Robert Lundmark, PhD, Medical Management Centre, Karolinska Institutet; Susanne Tafvelin, PhD, Medical Management Centre, Karolinska Institutet

Leadership is one of the most important factors for an implementation to succeed. Transformational leadership is a general leadership model that has been linked to positive employee and service outcomes. Within implementation science, leadership is often studied as specific actions a leader takes in conjunction to a specific implementation process. These two leadership approaches has seldom been studied in relation to each other. It remains unclear whether implementation specific leadership is something over and beyond more general transformational leadership.

Aim of this study was to investigate the relative importance of transformational leadership and implementation specific leadership on client outcomes of an evidence-based health promotion program.

Seven organizations in Sweden implemented the health promotion program. A total of 1230 respondents gave consent to participate in research. The baseline measures (T1) of employee health (job disengagement and work-ability) were put in relation to outcomes of the same variables in post implementation. Measures of transformational leadership and implementation specific leadership during the program implementation (T2) were put in relation to the outcome measures (T3) to study their impact on the outcomes. Structural Equation Modeling in AMOS was used.

The findings showed that implementation specific leadership had a significant relation to the health outcomes (reduced disengagement, p = .04 and improved work ability, p = .01) in connection to the program. Transformational leadership didn’t have significant impact on the outcome variables.

This study advances the field of implementation by showing how different leadership activities relate differently to client outcomes over time. Transformational leadership is important, but the activities a workplace leader does in conjunction to each specific implementation process has greater effect on the outcomes of that particular process than their general leadership behaviors. Thus, leaders need to acknowledge actively each implementation process, rather than trusting that a general transformational leadership behaviors would be sufficient to support implementation.

The study was funded by Swedish Research Council for Health, Working Life and Welfare (Forte) and Karolinska Institutet’s PhD funding.
Evaluating the Feasibility of an Implementation Strategy for Computer-Based Therapies in VA Outpatient Care

Chair: Eric Hermes, MD, Assistant Professor, Department of Psychiatry, Yale University School of Medicine
900 Campbell Ave., Building 35, Lower Level, West Haven, CT 06516
Tel: 203-932-5711 | Email: eric.hermes@yale.edu

Co-authors: Robert Rosenheck, MD, Yale University Department of Psychiatry and VA New England MIRECC

Objective: Computer-based interventions (CBIs) offer increased access to evidence-based psychotherapy. However, their implementation has not been fully evaluated in Veterans Health Administration (VHA) treatment settings. The objective of this pilot study was to assess the feasibility of a strategy to implement a CBI for insomnia among users of VHA outpatient substance use treatment service.

Method: An efficacy-tested, six-session, self-help CBI for insomnia was implemented using a support clinician who provided an introduction, weekly telephone contact, and in-person support as needed. Subjects receiving care at a VHA substance use disorder clinic were screened for chronic insomnia and provided CBI access. The feasibility of this strategy was evaluated in a pre-post design using engagement/completion rates, clinical outcome, and acceptability, measured by post-intervention self-report.

Results: Of the 51 enrollees, 35 (69%) engaged in the program, while 22 (43%) completed all sessions. Both the intent-to-treat and completer samples displayed clinically and statistically significant improvements on the Insomnia Severity Index (ISI) post-intervention and at 3-months for completers. Among all participants, 67% agreed that they would engage in another CBI in the future. Of five general categories of potential barriers to CBI use queried, rates of endorsement were low, but highest for “preferring face-to-face therapy,” 36% in the total sample, and 69% among individuals who engaged but did not complete. Among subjects not engaging in or not completing the CBI, 35% (50% in those who did not engage) cited a lack of convenient Internet access as a reason, even though a dedicated computer was available at the clinic.

Conclusion: Results suggest that an implementation strategy using clinician-based telephone support for mental health oriented CBIs is feasible in outpatient treatment settings, and specifically among individuals receiving substance use treatment. Some individuals may still prefer face-to-face therapy and limited Internet access may pose barriers to implementation.
Linkage between Theory-Based Measurement of Organizational Readiness to Change and Challenges and Opportunities Encountered during Implementation

Chair: George Jackson, PhD, MHA, Research Health Scientist, Durham Veterans Affairs Medical Center 508 Fulton St. (152), Durham, NC 27705
Tel: 919-286-0411 | Email: george.jackson3@va.gov

Co-authors: Christianne L. Roumie, MD, VA Tennessee Valley and Vanderbilt University; Susan M. Rakley, MD, Durham Veterans Affairs Medical Center and Duke University; Jeffrey D. Kravetz, MD, VA Connecticut and Yale University; Miriam A. Kirshner, MSW, Durham Veterans Affairs Medical Center; Pamela S. Del Monte, MSN, Durham Veterans Affairs Medical Center; Michael E. Bowen, MD, University of Texas Southwestern Medical Center; Eugene Z. Oddone, MD, MHS, Durham Veterans Affairs Medical Center and Duke University; Bryan J. Weiner, PhD, University of North Carolina at Chapel Hill; Ryan J. Shaw, Ph.D., RN, Durham Veterans Affairs Medical Center and Duke University; Hayden B. Bosworth, PhD, Durham Veterans Affairs Medical Center and Duke University

Background: Organizations have different levels of readiness to implement changes in patient care processes. The Hypertension Telemedicine Nurse Implementation Project for Veterans (HTN-IMPROVE) is an example of an innovation that seeks to enhance care for patients with hypertension. We describe the link between organizational readiness to change (ORC) assessed as the project began and challenges and opportunities occurring during implementation.

Methods: Three Veterans Affairs (VA) medical centers each provided a half-time nurse and implemented a nurse-delivered, telephone-based self-management support program for patients with uncontrolled hypertension. At the program’s start, we qualitatively and quantitatively assessed ORC and associated factors. Based on consensus of medical center and research partners, we enumerated implementation process challenges/barriers and opportunities/facilitators suggested by the ORC evaluation.

Results: The primary ORC barrier was unclear long-term commitment of nursing administration to provide continued resources to the program. Three related challenges/barriers included: 1) competing organizational demands; 2) differing mechanisms to integrate new interventions into existing workload; and 3) methods for referring patients to disease and self-management support programs. Despite challenges, significant commitment identified prior to implementation is reflected by the desire on the part of nurses to conduct nurse-delivered interventions that allow them to fully utilize skills, significant commitment on the part of the core implementation team, and desire to improve patient outcomes.

D&I Implications: The HTN-IMPROVE project provides a demonstration of the practical utility of assessing organizational readiness to change prior to embarking on the implementation of significant new clinical innovations. While the researchers provided input, decisions
Preparing for the Program Grant Funding to End: Implementation and Sustainability of Grant Funded Program – VA Warrior to Soul Mate

Chair: George Jackson, PhD, MHA, Research Health Scientist/Assistant Professor, Durham VA Medical Center
508 Fulton St. (152), Durham, NC 27705
Tel: 919-286-0411 | Email: george.l.jackson@duke.edu

Co-authors: Alice Fortune-Greeley, PhD, Durham Veterans Affairs Medical Center and University of North Carolina Chapel Hill; Jennifer Gierisch, PhD, Durham Veterans Affairs Medical Center and Duke University; Santanu Datta, PhD, Durham Veterans Affairs Medical Center and Duke University; Deonni Stolldorf, PhD, VA Tennessee Valley; William Cantrell, MDiv, Durham Veterans Affairs Medical Center; Keith Ethridge, MDiv, VA National Chaplain Center; Clyde Angel, DMin, VA National Chaplain Center; Dick Millspaugh, MDiv, VA San Diego; Sherri Bauch, MSW, VA Office of Patient Centered Care & Cultural Transformation; Jason Nieuwsma, PhD, Durham Veterans Affairs Medical Center and Duke University

Objective: Grant funding to enhance healthcare services is designed to be temporary and leaves organizations in a position of sustaining programs on their own (or not). Warrior to Soul Mate (W2SM) is a Veterans Affairs (VA) program that provides relationship enhancement skills to Veterans and significant others based on an evidence-based curriculum, Practical Application of Intimate Relationship Skills (PAIRS). We conducted a mixed-methods evaluation to examine the implementation and sustainability of the W2SM program among 23 separate VA medical centers after grant funding ends.

Methods: The evaluation covered: implementation effectiveness (reach, program fidelity), costs, facilitators and barriers to sustainability, and level of program sustainability (Program Sustainability Index (PSI)). Two online surveys were sent to each participating facility’s W2SM leader. The first examined how individual W2SM events were conducted (100% response rate, n=67) and the second assessed facility-level issues impacting program sustainability (100% response rate, n=23). Four sites were selected for qualitative interviews based on levels of potential sustainability determined by PSI scores (2 high, 2 low).

Results: In 2013, W2SM served 826 couples, incurring median facility per-couple costs of $1,202 [IQR=$773-$1,859]. Facilities demonstrated high levels of fidelity (75% of retreats using all PAIRS curriculum components). There were important system/organizational (e.g., contracting processes) and resource (e.g., time, concern over funding) challenges that are reflected in a wide range of predicted program sustainability after grant funding ends.

D&I Implications: Long-term sustainability of the program will likely require: 1-delivery adaptation to reduce costs; 2-working to have an adequate pool of trained W2SM facilitators; 3-having adequate staff for program facilitation; and 4-linking W2SM with missions, values, and operational needs of individual medical centers. Important strengths included: 1-perceived need for and commitment to the program; 2-fit with professional values of clinical/medical center services; and 3-centralized group of national leaders advocating for the W2SM program.
Grassroots Implementation of Dialectical Behavior Therapy in VA Settings

Chair: Sara Landes, PhD, Psychologist, National Center for PTSD
795 Willow Road, PTSD-334, Menlo Park, CA 94025
Tel: 650-493-5000 | Email: sara.landes@va.gov

Co-authors: Brandy N. Smith, BA, National Center for PTSD, VA Palo Alto Health Care System; Monica M. Matthieu, PhD, LCSW, VA St. Louis Healthcare System, Mental Health QUERI

Dialectical Behavior Therapy (DBT; Linehan, 1993) is an evidence-based psychotherapy designed to address suicidal behavior along with concomitant emotional and behavioral dyscontrol. DBT consists of five components of treatment: (1) individual therapy, (2) skills group, (3) therapist consultation team meetings, (4) skills coaching, and (5) ancillary treatment to structure the environment (e.g., case management). DBT has been shown to be effective in the Veterans Health Administration (VHA) among female Veterans with Borderline Personality Disorder (Koons, et al., 2001) and helpful in reducing VHA healthcare costs of Veterans enrolled in a full DBT program (Meyers, Landes, & Thuras, in preparation). The new VA/DoD Clinical Practice Guidelines for the Assessment and Management of Suicidality recommend DBT for treating an underlying disorder in patients who are suicidal. Given the ongoing growth in the evidence base, DBT has been implemented locally across VHA by clinicians who have championed the adoption of this innovation.

However, DBT suffers from sporadic funding, limited training resources, fragmented coordination and supervision across VHA sites, and a lack of evaluation or monitoring of the spread of this innovation. Given this, there is a pressing need to document the historical trends of early adopters and to document the variation in implementation of DBT across VHA to inform strategic planning and advocacy to go to scale with the adoption of DBT in clinical settings in order to improve care for Veterans experiencing emotion dysregulation and suicidal behavior.

Using the PARIHS model (Kitson, et al., 1998) as a conceptual framework, the current study is using sequential quantitative and qualitative methods (Creswell & Plano Clark, 2007; Palinkas, et al., 2011) to characterize multiple stakeholders’ perspectives of the evidence, context, and facilitation needs related to DBT program implementation. Quantitative data has been collected from a national program evaluation survey of VHA sites implementing DBT components.

Data will be presented to describe the amount of DBT implemented in VHA settings and will further describe the level of implementation, by defining high and low DBT adopters. Data will also be presented on the contextual variables, including provider-, and organizational-level facilitators and barriers, associated with implementing and sustaining DBT in VHA settings. Finally, next steps of qualitative data collection will be described.
Barriers to and Facilitators of Implementation of Research Evidence and Complex Interventions in Primary Care: A Systematic Review of Reviews

Chair: Rosa Lau, MSc, Research associate/PhD student, University College London
E-Health Unit, Department of Primary Care and Population Health, London, NW3 2PF
Tel: +44(0)7814443838 | Email: r.lau@ucl.ac.uk

Co-authors: Rosa Lau, Fiona Stevenson, Bie Nio Ong, Krysia Dziedzic, Sandra Eldridge, Hazel Everitt, Anne Kennedy, Evangelos Kontopantelis, Paul Little, Andrew Morden, Nadeem Qureshi, Anne Rogers, Shaun Treweek, Richard Peacock, Elizabeth Murray
(see MS word document for affiliations)

Funding: This Project (SPCR FR4 project number: 122) is funded by the National Institute of Health Research (NIHR) School for Primary Care Research (SPCR). This paper presents independent research funded by the National Institute of Health Research (NIHR). The views expressed are those of the author(s) and not necessarily those of the NHS, the NIHR or the Department of Health.

Introduction:
Research has consistently shown that many effective complex interventions are not taken up in practice. Getting evidence or complex interventions implemented into routine practice is often a challenge particularly in primary care. Complex interventions are defined as interventions with several interacting components, e.g. prescribing decision support to aid guideline implementation, web-based self-management programme for people with type 2 diabetes. To bridge this evidence to practice gap, it is important to understand the facilitators and barriers to implementation.

Aim/objective: Identify, summarize and synthesize available data on implementation of research evidence/complex interventions in primary care.

Method: Five electronic databases were searched until December 2013. Citations/full-text papers were independently screened by two reviewers. Eligible reviews explored barriers and/or facilitators to implementation of research evidence/complex interventions in primary care. Standardized abstraction forms were developed to extract information from included reviews, with barriers/facilitators identified from their Results/Discussion. Data were synthesized applying an iterative approach and using meta-synthesis techniques, involving identification and refinement of themes/concepts, formation of a conceptual framework and identification of common and refutational relationships.

Findings: 60 reviews (covering a broad range of interventions, e.g. implementation of quality indicators/guidelines, technology, new roles and change in prescribing) were included. 21 main themes emerged, which were organized into 4 groups: 1) external context: policy, infrastructure, incentives, stakeholder buy-in, technology advances, dominant paradigm/influential organisations, economic climate/governmental financing, public awareness; 2) organizational: relationship, resources, skill mix, involvement, culture, processes and systems; 3) professional: role, attitudes to change, competency, philosophy; 4) intervention: nature, implementation and privacy/safety. They were further divided into 41 sub-themes. This review also highlights the importance of ‘fit’ between the intervention and context; it is essential to consider context and its impact on implementation outcomes. Some degree of adoption or tailoring is often required to make the intervention better suited to local context.

How the research advances dissemination/implementation research: We have summarized and synthesized a large body of evidence and provided a comprehensive overview that is not restricted by type of interventions. The review findings will inform a wide audience including healthcare professionals, researchers, health services managers and policy makers.
Use of the Diffusion of Innovation Model to Evaluate Implementation of an Evidence-Based Practice to Promote Influenza Vaccination in SCI/D HCWs

Chair: Sherri LaVela, PhD, MPH, MBA, Senior Research Health Scientist, Department of Veterans Affairs 5000 S. 5th Ave. (151H), Hines, IL 60141
Tel: 708-202-5895 | Email: Sherri.LaVela@va.gov

Co-authors: Jennifer N. Hill, MA, VA Spinal Cord Injury Quality Enhancement Research Initiative; Bridget M. Smith, PhD, VA Spinal Cord Injury Quality Enhancement Research Initiative and Northwestern University; Charlesnika T. Evans, PhD, MPH, VA Spinal Cord Injury Quality Enhancement Research Initiative and Northwestern University; Henry Anaya, PhD, VA Spinal Cord Injury Quality Enhancement Research Initiative; Barry Goldstein, MD, PhD, VA SCI/D Services and University of Washington

Objectives Formative evaluation, guided by Diffusion of Innovation Model (DIM), to assess implementation of an evidence-based practice Declination Form Program (DFP), to increase influenza vaccination in SCI staff.

Design/Methods: Semi-structured post-implementation interviews with implementation team members at two facilities (n=7).

Results: The DFP has a relative advantage to existing programs because it: (1) improved awareness, compliance, and accountability and (2) provided opportunities to educate decliners. The DFP was: well-accepted (compatible); flexible and systematically tracked declination reasons and also kept track of who had been offered the vaccine (trialability); easy to use/complete (complexity), and benefited from visible and active support from leadership (observability). Leadership was widely cited as a key facilitator for implementation. One respondent suggested, “It has to be done by people that are close to the employees. Infection control leadership and leadership for [the] spinal cord [unit] were involved. I think you hit all of the key players.” Another key facilitator was the ease of use and clarity of the DFP. As one respondent said, “To me, it was very straightforward.” Although respondents suggested the program was easy to implement, one of the main barriers to implementation was that it was time consuming and difficult for the team to reach SCI HCWs that worked on the early and late shifts.

Conclusions: Evaluation of the DIM guided DFP pilot program provided a structure to explore factors influencing implementation. These results build on existing implementation literature using DIM. The study also tested the combination of two implementation strategies: use of facility-level interdisciplinary implementation teams including consensus building and integration of the DFP into existing vaccination promotion efforts. It provides pilot data on contextual barriers/facilitators, effectiveness of implementation strategies, and feasibility which will be used to determine if national roll-out of a DFP is appropriate in VA.

Funding: This study was funded by VA QUERI RRP 12-515.
Implementing Interactive Diabetes Education in Older Adults: A Randomized Controlled Trial

Chair: Xuan Li, MPH, Research Program Coordinator, Johns Hopkins University  
5505 Hopkins Bayview Circle, Baltimore, MD 21224  
Tel: 410-550-6716 | Email: xli120@jhmi.edu

Co-authors: McKenzie E. Bedra, MPH, Johns Hopkins University; Joseph Finkelstein, MD, PhD, Johns Hopkins University

Introduction: Interactive health communication technologies have been shown effective in promoting health education. However, comparison between computer-assisted education and printed materials was not studied systematically in older adults. The purpose of this study was to compare tailored computer-assisted education to a brochure in a randomized controlled trial.

Methods: An interactive avatar-based diabetes education curriculum about oral diabetes medications was delivered via touch screen tablets. Eligible participants included older adults who were 65+ years of age, currently taking or having taken an oral diabetes medication, and had a Mini Mental State Examination score of at least 23. Basic information, such as socio-demographic, medication adherence and knowledge profiles, were obtained at baseline. The impact of the educational program was assessed after 24 hours using a diabetes knowledge survey administered prior to and following the educational program.

Results: Overall, 72 older adults were randomized to intervention (tablet) and control (brochure) groups; 59% were females and the average age was 75; 39% of patients have never used a computer; 81% responded that the tablet education was not difficult to use, and 81% would use the interactive education in the future; and 89% of participants would advise other older adults to use avatar-based education. After using the interactive education, knowledge scores improved from 26.6 ± 5.3 to 33.2 ± 4.2 whereas in the control group which used brochure knowledge scores changed from 26.7 ± 4.5 to 28.7 ± 4.8. The intervention group demonstrated a significantly higher change in knowledge score 6.6 ± 5.0 as compared to the control group 2.0 ± 2.4 (p<.0001).

Conclusion: Interactive avatar-based diabetes education can be potentially a useful resource to inform older adults about diabetes medications and diabetes self-care. Future work will determine the extent to which this type of education modality can supplement other education modalities.
Exploring content and context: Lessons Learned from Adapting a Technology-based Implementation Support System from Schools to Community Mental Health

Chair: Melanie Livet, PhD, Senior Research Associate, 3C Institute
1901 N Harrison Ave, Suite 200, Cary, NC 27513
Tel: 919-677-0102 | Email: livet@3cisd.com

Co-authors: Amanda Fixsen, PhD, 3C Institute

Despite availability of evidence-based interventions (EBIs) in mental health, these EBIs are often delivered without use of implementation support strategies in environments that may not be ready for implementation. As a result, EBIs often fail to achieve intended treatment outcomes. To address this knowledge-to-research gap, the 3C Institute has developed Centervention, a web-based application to support implementation of EBIs on a broad scale. While developed for use in schools, our team tested the feasibility of Centervention in community mental health (CMH) organizations with funding from the National Institutes of Mental Health. This presentation summarizes results and lessons learned from this adaptation study. We used a mixed methods approach, collecting data from surveys and interviews with 44 CMH providers. On average, participants indicated that features of Centervention could be applied to CMH settings without any substantive modifications, with agreement that the system was easy to use, with benefits of use exceeding drawbacks. Focus on billable hours and the needed flexibility in using therapeutic interventions were cited as potential challenges. Participants also identified organizational barriers, including reluctance to embrace change, lack of formalized processes for implementing change, limited use of data to make decisions, and varying levels of capacity for workforce development. Participants also made recommendations to facilitate adoption and implementation of Centervention in CMH settings: emphasize benefits of the system, provide data on effectiveness and types of interventions system can accommodate, offer customization, provide incentives for acquiring the system, facilitate integration with current technologies, offer live training and consultation, secure buy-in within the agency, and work with funders to make use of the system a requirement. This study highlights the challenges of adapting technology-based innovations in real-world settings, with barriers being clearly tied to contextual implementation realities rather than attributes of the innovation itself.
Enhancing Implementation of Telehealth for Veterans with SCI/D

Chair: Rachael Martinez, PhD, Social Science Analyst, Department of Veterans Affairs
5000 S 5th Ave (151H), Hines, IL 60141
Tel: 708-202-7130 | Email: Rachael.N.Martinez@va.gov

Co-authors: Bridget Smith, PhD, Department of Veterans Affairs, Spinal Cord Injury QUERI; Timothy Hogan, PhD, Department of Veterans Affairs, eHealth QUERI; Salva Balbale, MS, Department of Veterans Affairs, Spinal Cord Injury QUERI; Keshonna Lones, MHA, Department of Veterans Affairs, Spinal Cord Injury QUERI

Introduction/Objective: The Department of Veterans Affairs (VA) is striving to expand use of virtual care modalities to enhance care delivery and increase patient access to services. Successful implementation of these technologies is critical for VA to reach many of the complex patient populations that it serves. However, few studies have systematically assessed the factors that influence their integration into routine clinical practice for such patients. With funding from VA’s Quality Enhancement Research Initiative (QUERI), we conducted a formative evaluation to examine provider perspectives on the implementation of clinical video telehealth (CVT). This technology gives Veterans with spinal cord injuries and disorders (SCI/D) the ability to access services in their home and/or outside of a dedicated VA SCI Center.

Methods: Semi-structured interviews were conducted with 40 VA SCI/D providers. Interviews focused on barriers to implementing CVT for SCI/D management and strategies for enhancing its implementation. Interviews lasted approximately 60 minutes, were audio-recorded, and transcribed verbatim. Transcripts were coded using qualitative content analysis procedures.

Summary of Findings: The most formidable barrier to implementing CVT for SCI/D patients was scheduling difficulties due to involvement of multiple team members to address complex issues (e.g., wound management). Providers also discussed strategies to enhance implementation of CVT which included having adequate and reliable staffing (e.g., dedicated SCI/D coordinator), routine team meetings, and team continuity. Many providers also emphasized the importance of creatively troubleshooting logistical details (e.g., responding to technical difficulties) and involving patients in the creation of care plans that use CVT. Our analysis suggests that providers consider CVT an effective technology with which to efficiently coordinate care for patients with SCI/D.

Contribution to Field: Findings from this study are currently being used to design a multifaceted implementation program to facilitate use of CVT technology for the needs of SCI/D patients and other complex patient populations that VA serves.
Assessing Context Variation in a Mixed Methods Anticoagulation Improvement Study

Chair: Megan McCullough, PhD, Research Health Scientist, Center for Healthcare Organization and Implementation Research (CHOIR)
ENRM Veterans Hospital, 200 Springs Road, Bedford, MA 01730
Tel: 781-687-4502 | Email: mbmccull@bu.edu

Co-authors: Adam J. Rose, MD MSc FAC, Center for Healthcare Organization and Implementation Research (CHOIR); Joel Reisman, AB, CHOIR; Beth Ann Petrakis, MPA, CHOIR; Jeffrey Solomon, PhD, CHOIR; Christian Helfrich, PhD, MPH, Seattle-Denver Center of Innovation for Veteran-Centered and Value-Driven Care and Department of Health Services, University of Washington School of Public Health

Objective: As part of a multi-year anticoagulation improvement intervention designed to implement an evidence-based treatment algorithm, we administered the Organizational Readiness to Change Assessment (ORCA) instrument at baseline and a year into the intervention. Simultaneously we conducted semi-structured qualitative interviews. Both survey and interview guide are based on the Promoting Action on Research Implementation in Health Services (PARIHS) framework. Our objective was to assess alignment and concordance between ORCA data and qualitative data as a way to mutually evaluate both, with particular emphasis on gauging ORCA’s ability to measure contextual factors.

Methods: Participants were from VA anticoagulation clinics located at VA medical centers and community-based outpatient clinics in the Northeastern USA. We compared ORCA context scores in years 1 and 2 (n=55 and 58) with concurrent qualitative data. T-tests were performed to assess statistical differences between the two ORCA administrations.

Results: Qualitative data showed a high degree of concordance with site-level context scores. In aggregate, context scores improved by 0.56 standard deviation units across all sites. This is generally considered a moderate change and was statistically significant (\(p = .0087\)). However, change in the ORCA score was not uniform across sites, and differences are independently demonstrated by the qualitative analysis. At Site A, context improved the most of any site (0.81 points on a 5-point scale, \(p = .0134\)) and qualitative interviews revealed staff and leadership at this site were strongly supportive of quality improvement efforts and highly engaged. In comparison, Site B had little change in context scores and qualitative data attribute this to low uptake and low fidelity to the intervention.

Conclusion: Our findings suggest there is concurrent validity between the ORCA and the qualitative interviews on the PARIHS context domain, and that ORCA scores are sensitive to improvements in context.

Funded by VA QUERI SDP-12-249.
Produce Relevant Research: How to Engage the Community in Designing Effective Public Health Programs

Chair: Marjie Mogul, PhD, MBA, Director of Research, Maternity Care Coalition
2000 Hamilton Street, Suite 205, Philadelphia, PA 19130
Tel: 215-972-0700 | Email: mmogul@maternitycarecoalition.org

Co-authors: Charmaine Wright, MD, MSHP, General Internal Medicine, University of Pennsylvania

Postpartum weight retention (PPWR) often evolves into chronic obesity and cardiovascular disease among women. Few interventions offer solutions to this problem. Though all women are at risk for postpartum weight retention, the problem is amplified for low-income minority women.

The Postpartum Weight Management Study’s aim was to develop, implement and test an effective intervention to reduce postpartum weight retention for low-income, postpartum women. The study involved a community-academic partnership that engaged community members in creating and implementing it, ensuring “ownership” over the problem. Home visitors from a community-based organization and the low-income women they serve, collaborated to develop and implement the study. The intervention provided: Motivational interviewing administered through two-way text messaging; environmental aids (pedometers and baby carriers); workshops and home visits; and professional nutrition and lactation support.

A multi-site randomized controlled trial was conducted among the eight neighborhood sites the organization serves, with a sample of 220 women randomized at the individual level. The Reach Effectiveness Adoption Implementation Maintenance (RE-AIM) framework guided the analysis. Preliminary results indicate statistically significant weight loss, decreased waist circumference and increased self-efficacy among the treatment group. Most importantly, the study contributed to increased community capacity for implementation and dissemination of its successful outcomes as a result of the community-academic partnership. This study represents an important opportunity to develop an evidence-based and replicable intervention impacting health and wellness in community settings and serves as a model for community-academic engagement, an approach that is critical in addressing public health problems in hi-risk populations. The project’s next steps are: adapting the study into a program that would leave clinical expertise embedded in the community and; scaling up the intervention for dissemination into the larger community setting.

Funding: Aetna Foundation; The University of Pennsylvania; The Children's Hospital of Philadelphia Healthy Weight Program; The Robert Wood Johnson Foundation
Prioritizing Implementation Strategies for Population Health using Market Segmentation: Diabetes Screening for Adults taking Antipsychotics in Missouri

Chair: Elaine Morrato, DrPH, Assistant Professor, Colorado School of Public Health  
13199 E Montview Blvd, Suite 300, Aurora, CO 80045  
Tel: 303-724-1535 | Email: elaine.morrato@me.com

Co-authors: Elizabeth Campagna, MS; Sarah Brewer, MPA; Rich Lindrooth, PhD; Deborah Thomas, PhD; L. Miriam Dickinson, PhD; James W Dearing, PhD; Rhonda Driver, RPH; Ben Druss, MD MPH; Salma Lemtounti, MD MPH; Ben Miller, PsyD; John W. Newcomer, MD; and Joseph Parks, MD  
Affiliations: University of Colorado Denver; Michigan State University; Missouri Division of Medical Services, Medicaid Pharmacy Program; Emory University; Food and Drug Administration; Florida Atlantic University; and MO HealthNet

Introduction: Adults with mental illness taking antipsychotics are at increased risk for developing diabetes. Collaborating with Missouri policymakers, we are identifying implementation strategies to facilitate uptake of screening recommendations using market segmentation methods.

Methods: Antipsychotic market share estimates for Missouri Medicaid were calculated using claims data linked with PhysicianPRO® market data (N = 52,620 patients, N=4,323 prescribers) for four specialty segments: community mental health centers (CMHC), non-CMHC psychiatrists, primary care physicians (PCP), and other physicians. Prescribers were surveyed to ascertain diabetes screening intent and attitudes (N=924 respondents). Adjusted odds ratios (AOR) were calculated to identify independent factors associated with intent and attitudes.

Results: Psychiatry accounted for 15% of antipsychotic prescribers (CMHC, 4%; Non-CMHC, 11%) and 58% of patients (CMHC,29%; non-CMHC,29%). Non-psychiatrists accounted for 85% of prescribers (PCP,48%; Other,37%) and 42% of patients (PCP,24%; Other,18%). CMHC providers were more likely to order baseline glucose testing than PCPs (56.6% vs. 39.1%, P<0.001); screening rates were not different from non-CMHC psychiatrists (45.6%). In adjusted analysis, the strongest predictor of screening intent was strongly disagreeing that “metabolic screening is not a priority for my organization” (AOR=2.97, 95% CI: 2.00-4.42). PCPs were more likely to strongly agree their practice was responsible for screening than CMHC providers (AOR=3.75, 95% CI:1.41–9.99) but less likely to strongly agree that adults starting antipsychotics needed screening (AOR=0.22, 95% CI:0.09-0.57).

Conclusion: CMHC providers had higher rates of diabetes screening intent and stronger positive attitudes about screening patients taking antipsychotics than PCPs, consistent with state efforts to target medical home implementation strategies within the CMHC care network. To increase population-health impact, future implementation strategies should focus on raising screening awareness among non-psychiatrists who account for 42% of patients.

Funding: This study supported by NIH Grants 1R21MH097045-01A1 and R44-AG-038316-04
Implementing Role-Changing versus Time-Changing Innovations in Health Care: The Differing Contributions of Engaging Staff, Management, and Network

Chair: Ingrid Nembhard, PhD, MS, Associate Professor, Yale School of Public Health & Yale School of Management
60 College Street, P.O. Box 208034, New Haven, CT 06520
Tel: 203-785-3778 | Email: ingrid.nembhard@yale.edu

Co-authors: Christopher Morrow, MPH, Yale School of Public Health; Elizabeth Bradley, PhD, Yale School of Public Health

In this work, we identify two types of process innovations whose implementation can be critical to achieving healthcare organizations’ performance improvement goals yet have not been distinguished in prior health services research: role-changing innovations that alter what workers do and time-changing innovations that alter when tasks are performed. Drawing on two organizational theories (negotiated order theory and institutional theory), we hypothesize that the degree to which three organizational factors suggested by prior work - implementation team representativeness (having a project team consisting of affected staff), senior management support, and knowledge network membership - aid implementation differs by type of innovation due to differences in the adaptation required to achieve the new order brought by implementation. Our longitudinal (2006-2008), survey-based cohort study of the implementation of evidence-based practices for timely treatment of heart attack in 517 U.S. hospitals confirmed our hypothesis. For role-changing practices, we found that implementation team representativeness and knowledge network membership were positively associated with implementation, but senior management support was not, after accounting for the effects of the other two enablers using logistic regression models. In contrast, for time-changing practices, we found no effect of team representativeness, a positive effect of senior management support, and an interaction between management support and network membership. The interaction was such that senior management support was positively associated with implementation for hospitals with shorter network membership, but had no effect for hospitals with longer network membership. We explain how these findings - demonstrating the importance of innovation type and leveraging the right enabler for type - advance understanding of innovation implementation science. We propose that our work adds nuance to implementation research by showing that innovation type related to change for worker can moderate the effect of organizational factors on implementation outcomes, explaining mixed results in past studies. Funded by AHRQ.
When Site Recruitment Is an Intervention: Implications of Pre-Adoption Processes for Implementation

**Chair:** Maureen O'Dougherty, PhD, Research Health Science Specialist, Minneapolis VA Health Care System
One Veterans Drive, Minneapolis, MN 55417
Tel: 612 467-5206 | Email: maureen.odougherty@va.gov

**Co-authors:** Michele Spoons, PhD, Minneapolis VA Health Care System; Hildi Hagedorn, PhD, Minneapolis VA Health Care System

Background: Implementation studies commonly evaluate processes surrounding the adoption of an innovation to inform future dissemination efforts. Within and between facility organizational and stakeholder constructs are ascertained to identify salient factors affecting adoption. Pre-adoption factors are often not assessed or are assumed to be present for evaluation prior to initial implementation of an innovation. We propose that two pre-adoption factors, often overlooked in such studies, risk biasing results of organizational and stakeholder assessments: a) selective participation by sites and b) recruitment-related interventions with stakeholders to facilitate study enrollment.

Objective: To describe and analyze the pre-adoption site recruitment processes of complex health care service interventions. Using case examples, we discuss how recruitment-related activities impact pre-adoption and adoption relevant factors and how selective enrollment may introduce systematic bias.

Methods: Data drawn using formative evaluation methods (note-taking, debriefings and memos by project staff of recruitment strategies) were examined for reasons prospective sites agreed or declined to participate, and for characteristics of the recruitment processes for three large VA multi-site implementation studies. To determine generalizability of these findings beyond the VA healthcare system, investigators at two other health care systems took part in semi-structured interviews regarding site selection and recruitment processes in their organizations.

Findings: Sites that agreed to participate in the implementation studies were qualitatively different from those that declined participation in a number of significant ways that likely affect generalizability of the results. Recruitment-related activities may have directly impacted pre-adoption factors affecting decisions to enroll, such as the perceived need for the intervention, implementation barriers, and engagement of management and staff-level support.

Discussion: This formative evaluation of pre-study research activities raises important issues that impact the interpretation and generalizability of implementation study findings. These sources of potential bias have implications for implementation evaluations and for the success of dissemination efforts.
Enriched Primary Care Medical Home Improves Adherence to Immunization Schedule

Chair: Susmita Pati, MD, MPH, Stony Brook University
Health Sciences Center T11-020, Stony Brook, NY 11794
Tel: 631-444-3813 | Email: angie.wong@stonybrookmedicine.edu

Co-authors: Kristi Ladowski, MPH, Stony Brook University; Angie Wong, MHS, Stony Brook University; Jiayu Huang, MS, Stony Brook University; Jie Yang, PhD, Stony Brook University

Background: Vaccination is a public health imperative, yet disparities in childhood vaccination rates persist. An innovative enriched primary care medical home intervention (EMHI) using trained community health workers (CHW) as direct extenders of the pediatric medical home was implemented to improve adherence to recommended immunizations for young children. This work was supported by the New York State Department of Health and Stony Brook University School of Medicine Dean’s Targeted Research Opportunity Award.

Methods: The study sample included children less than 3 years of age at enrollment who crossed at least one age time point of 3, 7, 15, or 24 months during their 6 month post-enrollment observation period. The intervention group received EMHI services that included home visits, phone and text follow ups from trained CHWs who helped families navigate the healthcare system and understand the importance of preventive care. The control group received usual clinical care and did not have any contact with a CHW. Immunization and socio-demographic data were collected using medical records and a validated questionnaire. Propensity-score inverse probability treatment weights were applied to obtain the adjusted immunization adherence rates.

Results: The analysis included 201 children in the control group and 110 children in the intervention group. The control and intervention groups were divided into subgroups of newborn and infant/toddler to account for differences in prior immunization history. After adjusting for the differences in characteristics between the control and intervention groups using propensity scores, we found a significant increase in up-to-date immunization proportions for both newborns (20.9%, p=0.01) and infants/toddlers (16.8%, p=0.01) receiving the EMHI when compared to their peers receiving usual clinical care.

Conclusions: Our findings demonstrate that an innovative cost-effective EMHI using trained community health worker home visitation improves early childhood immunization up-to-date status.
Expectation Campaign: An Organization-level Strategy to Facilitate the Uptake of Clinical Practices

Chair: David Patterson, BSW, MSSW, PhD, Assistant Professor, Washington University in St Louis
1 Brookings Dr, Campus Box 1196, St Louis, MO 63130
Tel: 314-935-8317 | Email: dpatterson22@wustl.edu

Co-authors: Alex T. Ramsey, PhD, Washington University in St. Louis

Objective: There remains a gap in knowledge regarding the main factors contributing to successful implementation of empirically supported treatments (ESTs). The purpose of this project is to examine the factors related to the use of ESTs in addiction services. We were particularly interested in understanding whether use of ESTs in practice was predicted by agency-level expectations to use ESTs, controlling for other factors related to EST use.

Methods/Results: In Study 1, we recruited a convenience sample of 120 front-line addiction workers within four agencies providing addiction services in the St. Louis area of Missouri. Agency expectations, agency resources, and evidence-based practice (EBP) attitudes were independently associated with reported EST use. In hierarchical linear regression analyses, only agency expectations (β=.337, t=3.35, p=.001) and EBP attitudes (β=.229, t=2.56, p=.012) emerged as significant predictors of reported EST use. In a similar follow-up study (Study 2) of 244 front-line addiction workers, agency expectations, EBP attitudes, team learning climate, provider morale, and provider grit were independently associated with reported EST use. Again, in hierarchical linear regression analyses, only agency expectations (β=.375, t=5.50, p<.001) and EBP attitudes (β=.253, t=4.09, p<.001) emerged as significant predictors of reported EST use. Agency expectations accounted for 24% of unique variance in the outcome.

Advances to D&I: Workers are responsive to established agency-level expectations, and the belief that one’s agency expects the use of ESTs may increase the extent to which these practices are actually used. Organizational leaders who value the implementation of ESTs or have external pressures or mandates to incorporate ESTs into their services should send clear, strong messages that they expect workers to use ESTs during clinical practice. These findings identify key predictors of successful EST implementation and may benefit organizations interested in implementing ESTs.

Funding: This project was supported by NIH-NIAAA Grant #7K23AA017684-04 and NIMH Grant #T32MH019960.

Chair: Denise Payan, MPP, Project Assistant, University of Southern California
9205 Bartley Ave, Santa Fe Springs, CA 90670
Tel: 562-201-8397 | Email: denisedi@usc.edu

Co-authors: LaVonna Lewis, PhD, MPH, USC Price School of Public Policy; David C. Sloane, PhD, USC Price School of Public Policy; Jacqueline Illum, MPL, USC Price School of Public Policy

Introduction: With the recent increase in volume of insured patients, community clinics need to implement health technologies that improve clinical workflow efficiencies and integrate patients' preferences. Patient recall systems are evidence-based strategies that reduce no-show rates and improve clinical operations.

Objective: The process of implementing new health technologies in community clinics with underserved minority patient populations can be challenging. We examined the implementation of patient recall systems in seven community clinics in Los Angeles County.

Methods: A mixed-methods approach was utilized to: 1) track the implementation process of the new systems across clinics, 2) examine facilitators and barriers, and 3) identify inter-clinical collaborative processes. Process evaluation data collection included detailed monthly meeting notes, a baseline report, and a patient preferences survey (n=834). Surveyed patients represented a diverse cross-section—51% identified as Hispanic/Latino, 12% as African-American.

Summary of Findings: Each clinic tested a different combination of recall strategies (i.e. automated calls, texts, emails). The time range also varied—from a week prior to an appointment to the day before. 97.7% of patients liked an automated call. 62% preferred a reminder 2 days prior. A committed call center staff, patient education strategies, and EMR compatibility were identified as implementation facilitators. Challenges consisted of technical issues, inaccurate patient contact data, refusals, and HIPAA compliance concerns. Vulnerable groups who may not benefit include homeless, elderly, and visually-impaired patients and those with limited access to technology. All clinics reported the learning collaborative was useful. They learned new techniques to understand their no-show patients and late adopters reported learning from early adopters. The findings suggest community clinics face similar challenges in implementing patient recall systems. Lessons learned related to the success of the collaborative learning community and facilitators to implementation were identified.

Acknowledgement: This project is funded by the Centers for Disease Control and Prevention (CDC) Community Transformation Grant - Small Communities.
As part of an evaluation of dissemination strategies for AHRQ’s Effective Health Care (EHC) Program, we assessed trends in clinicians’ awareness and use of the EHC Program, and identified strategies for promoting the Program. We conducted two cross-sectional surveys (2012 and 2013) with random samples of clinicians (primary care physicians, physician assistants and nurse practitioners) in the U.S. We tested whether there was a statistically significant (p less than 0.05) increase in key measures (awareness of the EHC program and AHRQ) between surveys. We also conducted telephone focus groups with survey respondents, exploring strategies for promoting the EHC. Survey results indicate statistically significant increases in awareness of the EHC Program (8.4% to 12.2%) and AHRQ (32.8% to 37.8%) among the targeted clinicians. Focus group participants reported preference for sources of medical treatment information (including sources used at the point-of-care and those that are part of their continuing medical education) that are familiar, convenient, and trusted, and will continue to use these to the exclusion of newer sources. To promote the EHC Program, participants suggested that AHRQ should continue to promote the benefits and credibility of EHC materials, and then integrate the results and products into existing, easy-to-access sources of clinical/medical information, with special emphasis on packaging to support point-of-care decision-making. To achieve effective dissemination and implementation (DandI) of evidence-based health care practices, government agencies and other organizations should use strategies that emphasize the value and credibility of the information, while utilizing communication strategies at the point-of-care and through continuing medication education. The results of this study suggest that the field of DandI research should focus on understanding how clinicians value various sources of information in an information-rich world, and should test various methods of communication that fit their needs in the health care delivery context.
An increasing number of older adults are living in assisted living (AL) communities. The traditional philosophy of care in these communities, particularly care provided by nurses and direct care workers (DCWs), focuses on keeping residents safe from harm and meeting care needs (e.g., the DCW bathes or dresses the individual). This is in contrast to care that focuses on optimizing residents’ underlying physical capability. Our evidence based Function Focused Care for Assisted Living (FFC-AL) program integrates a philosophy of care into AL communities which teaches nurses and DCWs to engage residents in their routine care activities (e.g., bathing, dressing, turning in bed or ambulating) and increase the time they spend in physical activity versus performing tasks for residents or limiting the amount of activity performed by simplifying the tasks (e.g., giving the resident a urinal versus helping/encouraging him to stand and walk to the bathroom to urinate). FFC-AL was developed using a theoretically based approach that includes social cognitive theory and a social ecological model. Specifically, FFC-AL involves a combined face-to-face and internet augmented approach that includes interactive participation of a community based nurse change agent working with a research function focused care nurse to implement the four previously established steps to FFC-AL: (I) Community Goal Assessment, Environment Assessment and Policy Assessment; (II) Education about FFC; (III) Establishing Resident FFC Goals; (IV) Mentoring and Motivating of Staff and Residents. To disseminate and implement FFC-AL in 100 AL communities we utilized an Evidence Integration Triangle model and a hybrid approach that included face-to-face and web/email interactions. Specifically, this hybrid approach involved an initial training of all community based change agents and then a community visit by a research nurse to facilitate the dissemination and implementation process. In addition, weekly interactions on-line and final follow-up face-to-face visits at the communities were provided. Outcomes were evaluated using the Reach, Efficacy/Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM) model. We were able to engage and train 80% of the community based change agents and alter the philosophy of care provided in these communities as demonstrated by changes in their environments and policies. Approximately 50% of the community based change agents have fully adopted the information provided and integrated this into their care activities. Maintenance of the intervention at 12 months was demonstrated by ongoing function focused care activities and enduring changes in service plans and marketing materials of the communities. Lessons learned included ways in which we would strengthen our use of the Evidence Integration Triangle with Brainstorming techniques to further engage our community based change agents in the implementation process.
Evaluating Healthcare Innovations in Real-Time: Lessons Learned from Implementing Six Pilot Programs at an Integrated Healthcare Delivery System

Chair: David Russell, PhD, Senior Evaluation Scientist, Visiting Nurse Service of New York
5 Penn Plaza, 12th Floor, New York, NY 10001
Tel: 212-609-6322 | Email: david.russell@vnsny.org

Problem Statement: Healthcare organizations routinely develop innovative pilot programs to promote workforce development, reduce costs, and improve patients’ overall health and experience with healthcare services. Evaluation research methods provide a useful framework for monitoring operations and assessing programmatic outcomes. However, the small size and rapid pace in which many pilot initiatives are deployed within an organization can present methodological and logistical challenges to the evaluator. In this presentation, we will synthesize several practical challenges and lessons learned from our experiences evaluating six pilot programs at a large home and community-based integrated healthcare delivery system in New York City. These pilot programs included workforce development initiatives to provide additional training and employment benefits to clinicians as well as technology-augmented care management programs and interventions for high-risk patients. The main features and evaluation approach of each pilot program will be briefly discussed, along with a description of the organization in which the programs were implemented.

Methods: Case studies of six pilot programs were conducted by a team of evaluation researchers and program stakeholders. The unique characteristics of each case were reviewed and discussed. Common themes in facilitators and barriers to effective program evaluation were synthesized into three overarching lessons learned. A literature review was conducted to situate our collective experiences in the context of other relevant research on program evaluation.

Summary of Findings: Three lessons learned were identified. These lessons included: 1) formative evaluation components are key to understanding the process of implementing a pilot program and interpreting summative evaluation findings; 2) mixed methods evaluation approaches yield complimentary findings that aid in strengthening recommendations for improving pilot program processes; 3) evaluators should conduct an extensive review of secondary and administrative data sources. Projects that integrate methods which address these lessons learned are likely to produce useful information that can be used to hasten program improvement and implementation within healthcare organizations.
Changing the Healthcare Landscape for Canadian First Nations, Inuit and Metis Communities: Bridging the Gap with Knowledge Translation and Exchange (K)

Chair: Mandy Sangha, B.HSc(OT), MBA Candidate, Specialist, Knowledge Management Methods and Adoption, Canadian Partnership Against Cancer
1 University Avenue, Toronto, ON M5J 2P1
Tel: 416-19-5767 | Email: mandy.sangha@partnershipagainstcancer.ca

Co-authors: Pamela Tobin, MA, First Nations, Inuit, Metis Strategy, Canadian Partnership Against Cancer; Jon Kerner, PhD, Canadian Partnership Against Cancer; Nadine Dunk, PhD, Canadian Partnership Against Cancer

Core to the Canadian Partnership Against Cancer’s (the Partnership) mandate is improving and accelerating the use of cancer knowledge to reduce the burden of cancer on Canadians. This presentation will illustrate the Partnership’s use of KTE as a mechanism to improve access to cancer-related knowledge across multiple sectors within the First Nations, Inuit and Métis initiative.

Approach: The Partnership launched a national, three year initiative with the goal to improve the quality of the cancer journey for First Nations, Inuit and Métis patients residing in rural, remote and isolated communities. With an investment of $10.5M (CND), nine jurisdictional initiatives address gaps in cancer care related to geographic isolation, lack of culturally appropriate care, financial burden and lack of trust. Specific work focuses on ensuring culturally relevant and safe cancer care through diagnosis to transfer of care back to the community after treatment. A KTE framework and supporting toolkit were implemented to facilitate uptake of effective programs developed by the initiatives.

Results: A multiple-methods design is used to monitor KTE effectiveness, including a standard tool to provide quantitative feedback on the delivery and uptake of KTE activities. In most cases, we measure intended uptake vs. actual uptake. This approach is based on the predictive link between beliefs and behaviour, allowing us to monitor and increase KTE effectiveness on a routine basis. KTE measurement for this population is typically qualitative in scope. Adding a multiple-methods approach speaks to the First Nations, Inuit and Métis way of knowing as well as the western medical system. Bridging this gap is paramount in improving the cancer system for this population.

Conclusion: While KTE is widespread in healthcare, the routine monitoring of these activities is rare. With the Partnership’s focus on outcomes and measurement, we can learn both how to improve the cancer journey for the First Nations, Inuit and Metis population and evaluate these efforts through a practical and standardized KTE methodology.
Distilling the Essential Components of Care Management: A Survey of Lessons Learned from the AHRQ Transforming Primary Care & ARRA Grantees

Chair: Andrada Tomoaia-Cotisel, MPH, MHA, Research Associate, University of Utah, School of Medicine, Department of Family and Preventive Medicine
375 Chipeta Way, Suite A, Salt Lake City, UT 84108
Tel: 801-587-1020 | Email: andradat@hsc.utah.edu

Co-authors: Timothy Farrell, MD, University of Utah School of Medicine and VA Salt Lake City; Leif Solberg, MD, HealthPartners Institute for Education and Research; Carolyn Berry, PhD, New York University School of Medicine; Neil Calman, MMS, MD, Institute for Family Health and Icahn School of Medicine at Mount Siani; Peter Cronholm, MD, MSCE, FAAF, University of Pennsylvania; Katrina Donahue, MD, MPH, University of North Carolina at Chapel Hill; David Driscoll, PhD, MPH, University of Alaska Anchorage; Diane Hauser, MPA, Institute for Family Health and Icahn School of Medicine at Mount Siani; Jeanne McAllister, BSN, MS, MHA, Indiana University School; Sanjeev Mehta, MD, MPH, Harvard Medical School; Robert Reid, MD, PhD, Group Health Cooperative; Ming Tai-Seale, PhD, MPH, Palo Alto Medical Foundation Research Institute; Christopher Wise, PhD, MHS, University of Michigan; Michael Fetters, MD, MPH, MA, University of Michigan; Jodi Summers Holtrop, PhD, MCHES, University of Colorado Denver School of Medicine; Hector Rodriguez, PhD, MPH, University of California Berkeley; Cherie Brunker, MD, University of Utah School of Medicine and Intermountain Healthcare; Rachel Day, University of Utah School of Medicine; Erin McGinley, Penn State College of Medicine; Debra Scammon, PhD, University of Utah; Michael Harrison, PhD, Agency for Healthcare Research and Quality; Janice Genevro, PhD, MSW, Agency for Healthcare Research and Quality; Robert Gabbay, MD, PhD, FACP, Harvard Medical School; Michael Magill, MD, University of Utah School of Medicine

Introduction & Objective: Care management (CM) is a common component of Patient Centered Medical Homes, but varies widely in practice, and effective strategies for implementing care management services have not been described. The objective of this study was to describe care management services and features impacting implementation, especially in relation to care coordination.

Methods: We surveyed 16 AHRQ grantees engaged in the development and implementation of care management services as part of the process of transforming primary care practices to medical homes. 12 of those 16 grantees provided data regarding care management within the practices they studied. Using an iterative process, key themes and sub-themes were generated and further refined to identify key contextual elements, as well as information about care management implementation and overall lessons learned.

Results: We identified three main conceptual elements – care management program characteristics, implementation process, and context – from our survey of the TPC and ARRA grantees. There was significant variation in CM program design and implementation. Grantees cited the central importance of CM training, a clear job description and a strong degree of integration of the care manager into the care team (embeddedness). Grantees also highlighted the influence of context in implementing CM, including a well-functioning and flexible electronic health record (EHR), financial sustainability, and learning collaboratives. Cases are provided to illustrate these findings.

Conclusion: Variation exists in care management program characteristics among the grantees studied; grantees consistently cited clear delineation of care management function and high levels of integration of care managers into clinic care teams as key characteristics of successful care management programs.

Relevance to Dissemination and Implementation: This research focuses on the roles of variations in context and implementation processes in producing the heterogeneity observed in care management programs.

Funding Sources: Agency for Healthcare Research and Quality through a conference grant (R13HS0219933-01; PI: Gabbay) and a subcontract with Econometrica, Inc. (2235-000-UTAH; PI: Magill), which was operating under AHRQ contract HHSA2902007 TO No. 5.
3R’s Infrastructure for Improvement Research: Rapid, Relevant, Rigorous Studies

Chair: Kathleen Stevens, RN, EdD, Professor & Director, U Texas Health Science Center Academic Center for EBP, 7703 Floyd Curl Drive MC 7949, San Antonio, TX 78229
Tel: 210-567-3135 | Email: stevensk@uthscsa.edu

Health professionals are responding to demands for well-tested improvement strategies in healthcare. As scientists and clinicians deal with urgent issues, a multitude of improvement projects are being conducted. Yet this collective effort falls short of producing solid evidence about which improvement strategies work and how to scale up and spread the innovation in a systems context. The challenges are to connect local projects across multiple sites, align efforts with stakeholder priorities, ensure strong study designs and sufficient numbers of testing sites, and achieve timely completion. This 3Rs approach will produce a rapid learning health research enterprise that contributes to the National Quality Strategy.

The Improvement Science Research Network (ISRN) was developed in response to an NIH call for infrastructures to advance new fields of science. It is a virtual collaboratory to study systems improvement across multiple sites that evaluates strategies and contexts to gain understanding of implementation of improvement.

Effectiveness of ISRN was evaluated through the conduct of 2 landmark studies. National projects were connected virtually through the ISRN nexus to generate generalizable evidence-based solutions at an unprecedented speed.

Evaluation was accomplished across 2 Network Studies, involving 34 sites and over 70 members in research collaboratives. Regarding rapidness of the studies, over 24,000 data points were gathered in 9 months. Relevance was assured through national consensus on stakeholder priorities. Rigor was supported by the coordinating center, using well-developed strategies and tools. Members in the virtual research collaboratives indicated high satisfaction with collaboration including: Enthusiasm for engagement in rigorous research; broad national representation; clinical relevance; regulatory-IRB efficiency; rapid deployment & completion; and scale up and spread of the findings.

The research collaboratives confirmed that the ISRN is suitable for improvement studies, producing research that is rapid, relevant, and rigorous. The ISRN supports the 3R’s to produce high-impact evidence for transforming healthcare.
Developing a Quality Improvement Infrastructure for Primary Care Practice Transformation: Early Experiences of the Veterans Assessment and Improvement

Chair: Susan Stockdale, Ph.D., Research Health Scientist, Greater Los Angeles VA Healthcare System HSR&D COIN, 16111 Plummer St., Bldg 25, Rm A103, Sepulveda, CA 91343
Tel: 818-891-7711 | Email: susan.stockdale@va.gov

Co-authors: Alison B. Hamilton, PhD; Elizabeth M. Yano, PhD, MSPH; Jacqueline J. Fickel, PhD; Lisa Altman, MD, MPH; Negar C. Sapir, MPH; Lisa V. Rubenstein, MD, MSPH

Objective: Quality improvement infrastructure (QII) that facilitates cross-disciplinary local primary care practice engagement in improving care may enhance the success of transformation to new patient-centered care models. Yet QII is typically not well developed in primary care. Our objectives are to: 1) Present a conceptual model of QII as embedded within organizational context; 2) Describe implementation of a QII intervention that introduced Quality Councils (QCs) to enhance transformation in 3 multi-provider VA primary care practices; 3) Explore variations in Quality Council functioning related to local organizational context.

Method: 3 demonstration primary care practices located in 3 VHA Healthcare Systems (HCS) in one region received support for development of QCs. QC goals included: 1) foster interdisciplinary leadership for QI; 2) establish structured local QI process with oversight and accountability mechanisms; 3) facilitate bottom-up innovation. We conducted semi-structured interviews with 58 key stakeholders (October 2011 – April 2012), including regional, HCS, and practice site leadership. Interviews were coded and analyzed, focusing on codes related to how local QCs formed and evolved.

Results: Achievement of goals varied across sites, was shaped by organizational structure and leadership engagement, and required dedicated resources (protected time, administrative support, data for QI, and access to QI experts). Pre-existing interdisciplinary leadership structures and appropriate engagement of leadership (depending on role in the organizational hierarchy) facilitated QC goal achievement. Participants valued opportunities for cross-site sharing of best practices.

Conclusions and Implications: It is feasible to implement enhanced QII in local primary care practices through introduction of Quality Councils. Stakeholders highlighted both the desirability of QCs and the need for systematic support for them from leadership, including access to needed resources and expertise. Rapid and voluntary uptake of the new structures in practices governed by three different HCSs suggests a perceived need for forums for interdisciplinary QI management at the local level.

Funding: Data were collected under the Veterans Assessment and Improvement Laboratory (XVA 65-018), funded by VA Office of Primary Care Services.
Engaging Clients in Therapeutic Self-Care to Promote Home Care Safety

Chair: Winnie Sun, RN, MN, PhD candidate, University of Toronto
8 Lindway Place, Lindsay, ON K9V 5S8
Tel: 416-419-9238 | Email: winnie.sun@mail.utoronto.ca

Co-authors: Diane Doran, RN, PhD, University of Toronto

Purpose: In an era of a rapidly aging population who require home care services, clients must possess or develop therapeutic self-care ability in order to manage their health condition safely in their homes. The purpose of this study is to investigate the role of self-care in supporting home safety. The study was designed to address the research question: What is the relationship between home care clients’ therapeutic self-care ability and the occurrence of adverse events?

Method: This research used a retrospective cohort design and utilized secondary databases available for Canadian home care clients. The data were derived from the Institute of Clinical and Evaluative Sciences in Ontario: (1) Health Outcomes for Better Information and Care; (2) Resident Assessment Instrument-Home Care; (3) National Ambulatory Care Reporting System; and (4) Discharge Abstract Database. Logistic regression analysis was used to examine the association between therapeutic self-care and adverse events.

Results: There were a total of 1470 long-stay home care clients with therapeutic self-care scale between the periods of 04/2011 to 09/2012 were collected for the study cohort. Results indicated that the occurrence of unplanned hospitalizations (OR 0.74, CI 0.56, 0.96) was found to be significant with low therapeutic self-care scores. In particular, decline in activities of daily living (OR 0.58, CI 0.40, 0.84), falls (OR 0.67, CI 0.45, 1.00); unintended weight loss (OR 0.58, CI 0.34, 0.99); and non-compliance with medication (OR 0.45, CI 0.25, 0.78) were associated with low therapeutic self-care scores when comparing with high self-care group.

Conclusion: The study results provided a better understanding of the nature of relationships between self-care ability, and the prevalence of safety outcomes for geriatric home care clients. This study highlights the importance for health leaders to focus on home care delivery that supports older client’s self-care functioning to maintain health safety at home.
Implementation of Genomic Technology in a Large Health Care System: Views from decision-makers

Chair: Susan Trinidad, MA, Research Scientist, University of Washington
Box 357120, Seattle, WA 98195-7120
Tel: 206-543-2508 | Email: sbtrini@uw.edu

Co-authors: Stephanie M. Fullerton, DPhil, University of Washington; Deborah J. Bowen, PhD, University of Washington; Wylie Burke, MD, PhD, University of Washington; Gail P. Jarvik, MD, PhD, University of Washington; Eric B. Larson, MD, MPH, Group Health Research Institute

Genomic technology is advancing at a rapid rate, and its use holds promise for improving disease treatment and prevention. However, implementation of clinically relevant genomic tests into clinical care has not progressed as rapidly as predicted. We propose that the concerns and beliefs of health care decision-makers play an important role in this implementation process. We conducted semi-structured interviews with 13 decision-makers from a large health care system in the Pacific Northwest about their views on genomic technology, how it fits into current health care and specifically their health care system, and what factors they believe could support or hinder implementation. In general, decision-makers were open and positive about the eventual use of genetic technologies in clinical care. There was a strong commitment to evidence-driven practice and bringing proven advances into practice. Some interviewees expressed concern that the health care system’s commitment to waiting for high-quality evidence might be interpreted as positioning them behind the curve. Most expressed the view that caution is good, equating to a system with responsible clinicians and good stewards of shared resources. Many elements were cited as influencing uptake of genomics within this system: clinician factors, patient factors, evidentiary standards, impact on health outcomes, cost effectiveness, and competitive advantage and market positioning for the health plan. Clinical decision support discussions moved beyond pop-up reminders in the electronic medical record to issues of clinician education, access to detailed resources about evidence and use of test results, clinical practice guidelines, and referral guidelines. Taken together, these results identify important issues for the engagement of genomic technology in clinical care and the delivery of high-quality health care.
Adoption and Use of a Program to Provide Child Psychiatry Expertise to Primary Care Physicians

Chair: Jeanne Van Cleave, MD, Assistant Professor, MassGeneral Hospital for Children
15th Floor C100, 100 Cambridge St, Boston, MA 02114
Tel: 617-726-6653 | Email: jvancleave@partners.org

Co-authors: Chloe Holifield, MassGeneral Hospital for Children; James Perrin, MD, MassGeneral Hospital for Children and Harvard Medical School

Objective: Since 2005, the Massachusetts Child Psychiatry Access Project (MCPAP) has provided point-of-care psychiatry expertise and referral assistance by telephone to primary care providers (PCPs). We examined adoption and use of MCPAP using quantitative and qualitative methods.

Methods: We analyzed calls to MCPAP in 2005-2011 and practice data (enrollment year, panel size, regional team assignment). We categorized practices’ time from enrollment to first call (“adoption”) (0-100, 101-365, >365 days from enrollment) and call frequency (highest, middle, lowest quartiles of number of calls/1000 empanelled patients/year). We determined associations between adoption and call frequency and practice characteristics using multivariate models. We interviewed PCPs from practices with low and high call frequency, eliciting reasons to use (or not use) MCPAP.

Results: Among 285 practices, adoption and use varied: 55% called 0-100 days from enrollment and 16% called >365 days from enrollment. Practices in the highest quartile of call frequency made a mean 14.6 calls/1000 patients/year while the bottom quartile made 0.4 calls/1000 patients/year. Adoption within 0-100 days was associated with enrollment during or after 2007 (OR 4.07, 95% CI 2.23-7.47) and MCPAP regional team assignment (OR 4.44, 95% CI 2.17-9.08 for Central Massachusetts team, versus other). In interviews, PCPs report calling MCPAP because its guidance is accurate and timely and within their scope of their practice; MCPAP’s ability to connect patients to therapists/community psychiatrists exceeds that of practices; PCPs perceive families prefer receiving mental health care within primary care. Reasons for infrequent calling included: PCPs have other sources for advice/consultation, fear being asked to manage something they are uncomfortable with, or have inaccurate perceptions of what MCPAP offered.

Conclusion: Adoption and use of MCPAP varied widely. Timing of enrollment and team assignment were associated with different adoption patterns. Efforts to explain program components through outreach and tailor guidance to PCPs may enhance use.

Funding: All phases of this study were supported by NIMH grants K23MH083885 and R25MH080916.
Adopt, Adapt or Invent? A Meta-analysis of Outcomes of Interventions in Two National Samples

Chair: Ulrica Von Thiele Schwarz, PhD, Senior Researcher, Medical Management Centre, LIIME, Karolinska Institutet
Tomtebodavägen 18A, Stockholm, 17177
Tel: +46707553191 | Email: ulrica.schwarz@ki.se

Co-authors: Henna Hasson, PhD, Medical Management Centre, Karolinska institutet, Stockholm County Council; Knut Sundell, PhD, National Board of Health and Welfare; Andreas Beelmann, PhD, Department of Research Synthesis, Intervention, and Evaluation, Institute of Psychology, Friedrich-Schiller-University, Jena

The problem: One issue that remains to be solved in implementation research is the adherence/adaptation dilemma (1). This dilemma concerns the impact of intervention adaptations on implementation outcomes such as reach, adoption and sustainability and the impact of the intervention on client outcomes. This study compares the effectiveness between different types of program constructions (i.e., novel programs and programs adopted from other contexts, with or without adaptations) in two meta-analytic data sets in two European countries.

Method: Results are based on meta-analytic samples of intervention studies: 1) German child and youth preventive interventions (n=158), and 2) Swedish psychological and social interventions (n=139). Interventions were categorized with three broad-band categories (novel programs, international adoption, and adaptation) and six sub-categories (innovation, conceptually new, adoption, cultural adaptation, pragmatic adaptation, and eclectic adaptation). All studies were coded by a trained coder followed by a second independent coding.

Results: Comparing the effect size of the outcomes of the different program types showed that novel programs, i.e. completely or conceptually new national programs, were the program type with the highest effect size in the German sample and among the highest in the Swedish sample. In both samples, international programs adopted without any adaptations were the least effective, even after controlling for crucial methodological aspects (design, sample size). Although adoptions proved to be effective (significantly different from zero), they were not as effective as the adapted or novel programs.

Conclusions: With results backing novel and adapted programs over un-adapted adoption of international programs, this meta-analytical study adds to the prior literature where the effect of cultural adaptations have been contradictory (2). It underlines the importance of the unanswered question on how adaptations influence the effectiveness of an intervention.

The study was funded by grants from Vinnvård, Sweden.
Leveraging Information Technologies and Multiple Online Platforms to Disseminate HIV/AIDS Clinical Evidences to Community Healthcare Providers

Chair: Dongwen Wang, PhD, Associate Professor, University of Rochester Medical Center
601 Elmwood Ave., Box 630, Rochester, NY 14642
Tel: 585-275-0319 | Email: dwang@bst.rochester.edu

Co-authors: Xuan Hung Le, PhD, University of Rochester Medical Center; Amneris Luque, MD, University of Rochester Medical Center

Introduction: HIV/AIDS research advances very rapidly. Timely dissemination of the latest clinical evidence to a wide audience of community clinicians poses significant challenges. Information technology is increasingly becoming an inseparable part of clinician’s daily work and healthcare organization’s routine operation. Here we report six years’ findings from a study to leverage the various technologies and online platforms to disseminate HIV/AIDS clinical evidences to community healthcare providers.

Methods: Through collaborations with New York State HIV Clinical Education Initiative (CEI) and other statewide networks for HIV/AIDS quality improvement, we developed/organized multimedia learning modules, interactive case simulation tools (ICSTs), practice guidelines, and other types digital resources. We disseminated these resources through websites, mobile apps, and online social networks. We proactively promoted the latest clinical evidences through email newsletters, automatic information feeds, references/recommendations from colleagues/friends, and keywords search advertisement with search engines.

Results: From 07/01/2008 to 06/30/2014, we built 206 multimedia learning modules, 74 online CME/CNE courses, 20 ICSTs, 20 clinical guidelines, and cross-linkages among these resources. We recorded 113,715 visits and 548,186 pageviews to the CEI websites from 171 countries and all US states/territories. We awarded 5,628 CME/CNE credits to those who completed online courses. We logged 5,310 downloads of mobile apps and 49,314 rounds of user interactions with ICSTs. 92% students had a positive evaluation of online courses. 75% audiences thought the ICSTs were easy to use, and 68% believed they had the potential to be adapted for clinical use. Promotional activities were positively correlated to resource usage (Pearson correlation coefficient \( r=0.500, p=0.015 \)). CEI is now consistently ranked by Google and other search engines as a top site for HIV/AIDS clinical education.

Conclusion: Usage and evaluation data have shown that information technologies and online platforms can be effectively used to disseminate HIV/AIDS clinical evidence to a large audience of community healthcare providers.

Acknowledgement: This work is supported by contracts #C023557 and #C024882 from New York State Department of Health AIDS Institute, and by grant #R24HS022057 from the Agency for Healthcare Research and Quality. The content is solely the responsibility of the authors and does not necessarily represent the official views of the sponsors.
Sustaining Gains Achieved through a National Surgical Unit-based Safety Program (SUSP) to Reduce Surgical Site Infections

Chair: Kristina Weeks, MHS, DRPH(C), Research Associate Faculty, Johns Hopkins Armstrong Institute For Patient Safety And Quality
750 E Pratt Street, 15th Flr, Baltimore, MD 21202
Tel: 410-258-1064 | Email: kweeks2@jhmi.edu

Co-authors: Mary Twomley; Michael Rosen; Bradford Winters; Deb Hobson; Charles Bosk; Ksenia Gorbenko; Catherine Van de Ruit; Elizabeth Wick

Introduction: A total of 195 hospitals in 37 states were recruited to implement the Comprehensive Unit-based Safety Program (CUSP) aimed at reducing surgical site infections (SSIs) and improving safety culture, called CUSP for Safe Surgery (SUSP). Team feedback gathered during a project implementation webinar and ethnography team visits to 16 hospitals in 2012-2014 reveal lessons learned from program implementation and which improvements might continue beyond the project period.

Many quality improvement projects fail to meet intended goals and fewer still sustain gains achieved during implementation. Through continuous data management (that is fed back to providers on a regular basis), regular interdisciplinary team meetings, and executive partnership, SUSP aims to reduce SSI rates and build capacity for improving unit safety culture. However, the large scale of the national project makes it difficult to know program uptake and likelihood of sustained progress.

Methods: Sources of data were 16 ethnographic site visits and interactive webinars with front-line teams in January 2014 whereby participants were queried about their implementation experience and anticipated barriers to sustaining QI progress.

Results: Hospital teams self-identified that the most critical components to sustain are also the most difficult to control: retaining executive partnership and continued Learning From Defects (CUSP Steps 2 & 3). Teams also identified sharing and learning with peers as crucial to sustaining surgical safety improvement work. Additionally, observations from site visits suggest that teams have a tendency not to move on from initial project aims because of competing priorities. Hospital size and significant amounts of staff and executive turnover observed in some hospitals are significant variables as to an organization’s capacity to keep quality efforts going.

Conclusion: The major challenges that teams have are executive partnership and continuous learning from mistakes. Horizontal learning is important but sustained peer-to-peer interactions depend on sources external to the project.
Institutionalizing Support for Implementation Science: UNC’s Dissemination and Implementation Unit

Chair: Bryan Weiner, PhD, Professor, University of North Carolina at Chapel Hill
Health Policy and Management, CB 7411, Chapel Hill, NC 27599
Tel: 919-966-7375 | Email: bryan_weiner2001@yahoo.com

Co-authors: Catherine Rohweder, DrPH; Jennifer Scott, BA; Randall Teal, MA; Mimi Kim, PhD; Zoe Enga, MPH; Jennifer Leeman, DrPH; Sandra Diehl, MPH; Lori Carter-Edwards, PhD

Problem: Dissemination and implementation (D&I) science is critical to closing the gap between research and practice, yet most universities have limited capacity to advance D&I science.

Methods: As part of its CTSA, UNC-Chapel Hill created a dedicated D&I Unit that provides consultations, supports pilot studies, conducts research and creates resources to advance innovative measures, methods and approaches for D&I research. Since 2012, a cadre of implementation, practice improvement and community engagement experts within the D&I Unit delivered consultations to over 55 UNC investigators. We support competitively awarded D&I projects covering such topics as developing a theory-based measure of practitioner capacity to plan and implement environmental policy change. We conduct research to produce unique, stand-alone D&I products such as a new measure of organizational readiness for implementing change. The D&I Unit is working with the Society for Implementation Research Collaboration to assess the psychometric properties of 117 measures in the inner setting domain of the CFIR. The D&I Portal (www.tracs.unc.edu/diportal) provides resources, tools and tutorials for investigators to support their D&I research agendas. The website, which has drawn over 1,700 visitors, includes sample grant proposals, grant writing resources, presentations on D&I methods, and measures/theories/frameworks commonly used in the field.

Conclusions: The impact of the D&I Unit is reflected in the following: 1) our consultations have led to 7 internally funded D&I pilots and 5 externally funded research studies; 2) our Implementation Science article on organizational readiness was accessed 1,200 times in the first 10 days; and 3) our unit Director leads the newly created Consortium for Implementation Science, a joint endeavor of UNC Gillings School of Global Public Health and RTI International. By integrating multiple strategies, we provide the comprehensive services required to advance the number and quality of D&I research studies and thereby reduce the gap between research and practice.

Funding: The D&I Unit is supported by the National Center for Advancing Translational Sciences (NCATS), National Institutes of Health, through Grant Award Number 1UL1TR001111.
Development and Demonstration of a National Surgical Unit-based Safety Program (SUSP) to Reduce Surgical-Site Infections

Chair: Tim Xu, BA, Medical Student, Armstrong Institute for Patient Safety and Quality, Johns Hopkins School of Medicine
929 N. Wolfe St., Apt. 1110, Baltimore, MD 21205
Tel: 703-628-8681 | Email: tim.xu@jhmi.edu

Co-authors: Erin Hanahan, MPH; Ting Yang, PhD; Thomas A. Louis, PhD; Laura Vail, MS; Kristina Weeks, MHS; Bradford D. Winters, PhD, MD; Elizabeth C. Wick, MD; Julius C. Pham, MD, PhD; Sean M. Berenholtz, MD, MHS, on behalf of the national SUSP team

Introduction: Surgical-site infections (SSIs) lead to excess morbidity, mortality, and costs. We report preliminary results of the AHRQ-funded Surgical Unit-based Safety Program (SUSP), now implemented in 195 hospitals across 37 states.

Methods: We conducted a collaborative, stepped-wedge design study to evaluate the impact of SUSP. SUSP is a multifaceted intervention to help frontline providers surface and address local defects that may be leading to SSIs. SSIs were recorded using ACS NSQIP and CDC NHSN standardized definitions. We analyzed the association between intervention status (pre-intervention/post-intervention) and SSIs using the Fisher’s exact test and Poisson regression modeling. A difference-in-differences regression model was also used to compare SSI rates to those of a concurrent, non-intervention cohort. Regression models were adjusted for hospital characteristics, calendar year, and multilevel random effects.

Results: Through the first 12 quarters, SSI data were available for 56,116 procedures (39% colon surgeries).

NHSN colon surgery SSI rates declined from 4.5% in the last three pre-intervention quarters to 3.8% in the first three post-intervention quarters (P=0.15); considering all quarters, rates declined from 5.3% pre-intervention to 3.5% post-intervention (P=0.001). In regression analysis, the intervention was associated with a 20% decrease in relative risk (RR=0.8, P=0.005), but not for colon surgeries independently (RR=0.85, P=0.16). In the difference-in-differences model, the post-intervention RR was lower, though not significant (RR=0.62-0.72, P=0.08).

NSQIP colectomy SSI rates declined from 12.4% in the last three pre-intervention quarters to 9.0% in the first three post-intervention quarters (P=0.001). In regression analysis, the intervention was associated with a 27% decrease in RR (RR=0.73, P=0.03), but not for colectomies independently (RR=0.75, P=0.13). In the difference-in-differences model, there was no reduction in RR post-intervention (RR=0.84-1.18, P=0.45).

Conclusions: Preliminary analysis suggests that implementation of SUSP was associated with lower SSI rates, but not after accounting for concurrent controls. Further analysis is needed after additional data collection through August 2015.