FACT SHEET

Researching Implementation and Change While Improving Quality: Grant Awards

The mission of AHRQ is to improve the quality, safety, efficiency, and effectiveness of health care by:

- Using evidence to improve health care.
- Improving health care outcomes through research.
- Transforming research into practice.

Introduction

The mission of the Agency for Healthcare Research and Quality (AHRQ) is to improve the quality, safety, efficiency, and effectiveness of health care for all Americans. Encompassed within this mission is the need to rigorously assess not only the effectiveness of novel quality improvement interventions (QII), but also the actual implementation process and context of specific settings of evidence-based QII in order to provide scientific findings that are generalizable to other systems and settings.

Implementation of a QII results in a change in the way health care is paid for, organized, and/or delivered. In order to better understand the role of the implementation process in quality improvement, AHRQ published an ongoing Funding Opportunity Announcement (FOA) in FY 2009 to solicit demonstration grant applications focusing on the implementation of quality improvement strategies, related organizational changes, and the impact of these strategies and changes. This fact sheet describes the awards issued under this initiative.

Grants Awarded in FY 2009

Evaluation of an Evidence-Based Care Process Model for Febrile Infants. Principal Investigator: Carrie Byington, PhD, University of Utah, Department of Pediatrics, Salt Lake City, UT. AHRQ Grant R18 HS018034; project period July 1, 2009–June 30, 2012. The purpose of this project is to evaluate the implementation of the Evidence-Based Care Process Model (EB-CPM) for the care of febrile infants 1-90 days of age. The EB-CPM supports the identification of viral and bacterial causes of fever in infants and guides care based on infant risk status and pathogen identification. The EB-CPM was implemented in Intermountain Healthcare facilities in January 2008 and has been associated with significant and sustained improvement in six quality measures related to the care of febrile infants. The study population includes children in 18 rural and urban

Intermountain Healthcare hospitals in Utah and Idaho. The aims of this study are to identify the factors important in the implementation and uptake of the EB-CPM, examine the cost-effectiveness of the intervention, and assess whether integrating it into continuing educational requirements needed for maintenance of certification will increase EB-CPM use and ultimately lead to higher quality treatment of febrile infants.

Creating Healthy Workplaces: Improving Outcomes for Providers and Patients. Principal Investigator: Mark Linzer, MD, Hennepin County Medical Center and the Minnesota Medical Research Foundation, Minneapolis, MN. AHRQ grant R18 HS018160; project period September 30, 2009–July 31, 2012. This research builds on an earlier AHRQ-funded project that assessed the effect of primary care work conditions on providers and their patients. As part of this previous study, the research team developed the Office and Work Life (OWL) measurement tool, which provides a snapshot view of the work environment of clinicians and patient outcomes. Using the initial research and the plan-do-study-act cycle as theoretical frameworks, this study will use the OWL to develop setting-specific, tailor-made QII designed to improve the work environment and ultimately improve outcomes for providers (e.g., clinics) and patients. The focused QII will address factors such as time pressure during office visits, chaotic workplaces, low clinician work control, and unsupportive organizational cultures. The study is set in 34 ambulatory health care clinics in New York City that have rapid-paced environments and in sections of the upper Midwest (Chicago, IL, and statewide in Wisconsin). The study involves a diverse patient base, including inner city, rural, low-income, and chronic care populations.

Predicting Success in Implementing a Distance QI Intervention for Asthma. Principal Investigator: Rita Mangione-Smith, MD, MPH, Seattle Children's Hospital Research Institute, Center for Child Health, Behavior, and Development, Seattle, WA. AHRQ Grant R18 HS018156; project period September 20, 2009–July 31, 2012. The focus of this project is to develop and test a prediction tool called the Quality Improvement Intervention Implementation Success Scale (QII-ISS) to better understand practice-level predictors of successful implementation of spirometry in primary care settings after exposure to Spirometry 360, an online training program. Spirometry 360 has been shown to be effective in improving the quality of care processes provided in primary care settings for patients with asthma through enhancement of provider knowledge and self-efficacy related to the use and interpretation of spirometry. This complex intervention includes a training program, expert-led case studies, and monthly individualized feedback reports provided by clinical experts on spirometry tests performed.

Initially, the study will identify practice and participant characteristics associated with successful implementation of Spirometry 360 through qualitative interviews conducted in 24 pediatric practices that have already completed the intervention. Based on these results, the investigators will develop and validate a survey-based prediction tool, the QII-ISS, measuring contextual factors, facilitators, and barriers determined to be important in the uptake of the intervention. This will be done in a new set of 50 practices planning to implement the Spirometry 360 program.

Implementation of a Feedback System to Improve EBTs for Children in Mental Health. Principal Investigator: Kimberly Hoagwood, PhD, Research Foundation for Mental Hygiene, Inc, Department of Mental Health Services and Policy Research, New York, NY. AHRQ Grant R18 HS018036; project period July 1, 2009–June 30, 2012. This study addresses the gap between routine clinical practice in mental health systems and the adoption of effective clinical practice. The project will assess the feasibility of integrating a measurement feedback system and the impact of the system on therapist adherence to selected evidence-based treatment (EBT) protocols.

Clinicians will collect concurrent assessments of clinical process and changes in symptoms/functioning. Half of the clinicians will receive feedback from a measurement feedback system. The design will enable assessment of the impact of feedback on clinical processes, therapist behavior, and patient outcomes. The study will generate both quantitative and qualitative data focusing on factors that may facilitate or impede the implementation and dissemination of clinical practices across New York State.

The study will take place in urban and suburban community mental health centers in New York, which serve primarily low-income, racially and ethnically diverse children and families who need chronic care for disruptive behavior disorders.

Grants Awarded in FY 2010

Building Research Culture and Capacity with Quality Improvement Strategies. Principal Investigator: Anne V. Neale, PhD, MPH, Wayne State University, Detroit, MI. AHRQ Grant R18 HS19601; project period September 20, 2010—September 30, 2013. The goal of this project is to build research capacity within a practice-based research network (PBRN) using quality improvement strategies adapted from the patient safety field. In spite of the growing importance of PBRNs as research vehicles in real-world settings, there is little infrastructure—such as guidelines or standard operating procedures (SOPs)—to guide good research practice within a PBRN context. Building on recently completed work in which PBRN leaders identified a core set of research best practices, this project will engage PBRN interdisciplinary teams to develop and test SOPs that will define and streamline research processes and adapt quality improvement strategies well-known in health care settings to the primary care PBRN. The intervention will build research capacity by providing training, technical assistance, and mentoring to PBRN teams as they develop, implement, and test SOPs that operationalize high-priority PBRN research best practices.

Contextual Factors Associated with Implementation Effectiveness Within a QI Collaborative. Peter K. Lindenauer, MD, MSc, Baystate Medical Center, Springfield, MA. AHRQ Grant R18 HS18645; project period September 30, 1010—July 31, 2013. The principal aim of this research is to evaluate the effects of a large quality improvement collaborative focused on reducing hospital death rates. Forming a quality improvement collaborative, in which multidisciplinary teams from different hospitals unite around a common improvement goal, is a popular method for accelerating efforts to improve hospital care, both in the United States and abroad. Although this approach makes intuitive sense, such arrangements are costly, and evidence of their benefit remains limited. The Premier Alliance recently launched QUEST, a 3-year quality improvement collaborative that has enrolled more than 160 hospitals from a network of more than 550 hospitals nationwide. For this project, the researchers will evaluate the effects of the QUEST collaborative on changes in hospital mortality rates and investigate the sources of variation in the implementation of recommended clinical processes.

Factors Associated with Effective Implementation of a Surgical Safety Checklist. Sara Jean Singer, PhD, MBA, Harvard University School of Public Health, Boston, MA. AHRQ Grant R18 HS19631; project period September 30, 2010—July 31, 2013. The goal of this research is to identify specific contextual factors and activities that lead to effective implementation of the WHO Surgical Safety Checklist and similar innovations. In 2009, strict adherence to the WHO Checklist, an inexpensive and easy-to-use tool, was found to reduce 30-day mortality from 1.5 percent to 0.8 percent and overall complications from 11 percent to 7 percent in eight diverse hospitals from Tanzania to the United States. Since then, the Checklist has been adopted by 3,200 hospitals in 93 countries. The benefits of the Checklist, however, depend upon the individual hospitals' ability to implement it effectively. This study will examine implementation processes in a large group of U.S. and international hospitals to identify factors supportive of effective implementation. In addition, the researchers will assess the relationship of effective implementation to teamwork, as an explanation for how the Checklist improves outcomes.

Improving Implementation and QI Research with Regression Risk Analysis. Principal Investigator: Lawrence Kleinman, MD, MPH, Mount Sinai School of Medicine of NYU, Department of Health Evidence & Policy, New York, NY. AHRQ Grant R18 HS18032; project period April 1, 2010–March 31, 2012. The investigators will extend their previous work on regression risk analysis (RRA) to make it more useful for study designs that are frequently encountered in quality improvement research. RRA is an analytical method that produces valid estimates of risk ratios and risk differences from logistic regressions and other nonlinear models. The project will demonstrate and validate RRA in situations involving complex sampling strategies, when interaction effects are prominent in analysis, and when multinomial regression is employed. The project will refine the method of estimating risk measures and their standard errors from logistic regression, validate estimates using Monte Carlo simulations, and develop both SAS and STATA code with teaching samples to make these techniques accessible to typical health services/quality improvement researchers. The researchers will create a Web site and an online community to help advance the use of RRA by the research community.

Organizational Factors Associated with Improved Inpatient Pediatric Asthma Care. Flory L. Nkoy, MD, MS, MPH, University of Utah, Salt Lake City, UT. AHRQ Grant R18 HS18166; project period September 1, 2010—June 30, 2013. A significant gap exists between the evidence for best asthma care practices and the care provided to hospitalized children. Readmission rates remain high and are associated with multiple factors, including provider non-compliance with evidence-based asthma preventive measures, poorly executed post-hospital care transitions, and patient noncompliance with asthma home therapy. This study will evaluate the implementation of a successful pediatric asthma evidence-based care process model (EB-CPM) as the EB-CPM is disseminated from an academic medical facility to Utah hospitals in urban and rural communities. By implementing the EB-CPM in different hospital settings (types, size, location, population served, etc.), the researchers hope to identify critical organizational factors associated with successful implementation of the EB-CPM that can be generalized to other facilities nationwide. Broad implementation of the EB-CPM could result in major improvement in asthma care delivery and outcomes, including reduced readmissions for children hospitalized with asthma.

Grant Awarded in FY 2011

Improving Emergency Department Management of Adults with Sickle Cell Disease. Principal Investigator: Paula Tanabe, PhD, Duke University School of Nursing, Durham, NC. AHRQ Grant R18 HS19646; project period September 30, 2011–July 31, 2014. Adult patients with sickle cell disease often present to the emergency department (ED) with life-threatening complications. It is critically important to provide these patients with consistent, best-practice care, yet clinical management of adults with sickle cell disease presents unique challenges. The goal of this project is to implement and evaluate an innovative, validated, and practical decision-support tool, the Emergency Department Sickle Cell Assessment of Needs and Strengths, in two EDs. The two centers will form quality improvement teams and design interventions targeted to assign correct triage scores; improve rapid, aggressive pain management; identify patients at high risk for severe disease; and identify medical and psychosocial referral needs of patients seen in the ED. The researchers will conduct a formal evaluation of the intervention. Ultimately, their goal is to develop a toolbox of protocols, educational tools, and other materials that will facilitate optimal implementation of the intervention in EDs at other U.S. hospitals.

For More Information

For more information about the Agency for Healthcare Research and Quality, including information on funding opportunities and priorities, please visit the AHRQ Web site at www.ahrq.gov.

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