Project Summaries for ACTION III Projects Awarded in 2015

Title	Contractor	Amount	Page
Dissemination of AHRQ's Safety Program for Nursing Homes—On-Time Pressure Ulcer Prevention	NORC at the University of Chicago	$1,482,070	2
Measurement for Performance Improvement in Physician Practices	Westat	$717,872	6
Making It Easier for Patients To Understand Health Information and Navigate Health Care Systems: Developing Quality Improvement Measures	University of Colorado, Denver	$297,123	9
Guide to Improving Patient Safety in Primary Care Settings by Engaging Patients and Families	Medstar Health Research Institute	$1,964,408	12
The Re-Engineered Visit (REV) for Primary Care	John Snow, Inc.	$578,111	16
Quality Safety Review System Pilot Test in Non-Federal Hospitals	Johns Hopkins University, Armstrong Institute for Patient Safety and Quality	$677,809	19
Comprehensive Unit-based Safety Program To Reduce Central Line-Associated Blood Stream Infections and Catheter-Associated Urinary Tract Infections in Intensive Care Units With Persistently Elevated Infection Rates	Health Research and Education Trust	$4,322,216	23
Listening to the Field: Current State of the Science in Two Priority Areas—Shared Decision Making (SDM) and Practice Improvement (PI) in Ambulatory Settings	RTI International	$462,987	27

Current as of June 2016

Agency for Healthcare Research and Quality

ACTION III Project Summary: Dissemination of AHRQ's Safety Program for Nursing Homes—On-Time Pressure Ulcer Prevention

Prime Contractor: NORC at the University of Chicago
Subcontractor: Stratis Health
Principal Investigator: Tamara Konetzka, Ph.D., University of Chicago
Project Director: Laurie Imhof, M.P.P., NORC at the University of Chicago
Project Period: 9/28/2015-9/27/2017
Total Cost: $1,482,070
AHRQ Contact: Linda Bergofsky, M.S.W., M.B.A., PMP (linda.bergofsky@ahrq.hhs.gov)
Project Type: Dissemination and Implementation; Evaluation

Project Goals

The goals of this project are to disseminate the On-Time Pressure Ulcer Prevention (On-Time) program to 50 nursing homes and to assess the effect of the program on reducing pressure ulcers. In additional, the project seeks to provide AHRQ with information about recruitment, training, and implementation methodologies that may be useful to support future dissemination.

Background

Pressure ulcers occur in about 11 percent of long-term care residents and are associated with significant pain, disfigurement, and infection risk. Among long-term nursing home residents, pressure ulcers are also associated with higher costs and are a predictor of mortality. Most pressure ulcers are avoidable, and reducing them has been a focus of numerous quality improvement efforts in the past few decades, yet problems remain.

Often, nursing home staff lack timely information about residents' changes in risk, which limits their ability to prevent pressure ulcers or to provide early treatment. Electronic health records (EHRs) with clinical decision support systems provide an opportunity to quickly identify residents at increased risk of pressure ulcers; however, these systems are often underused in nursing home settings due to upfront costs and challenges in implementation.

AHRQ's Safety Program for Nursing Homes has developed a strategy for preventing pressure ulcers in nursing homes called the On-Time Pressure Ulcer Prevention Program (On-Time). This evidence-based program uses nursing homes' EHRs to generate electronic reports that identify patients with increased risk of pressure ulcers. A pilot study conducted with a small number of nursing homes in the State of New York suggested that the On-Time program significantly reduces the rates of pressure ulcers in nursing home residents. The focus of the current project is to disseminate On-Time in a larger sample of nursing homes.

Significance and Expected Impact

An evidence-based intervention such as On-Time can help staff in nursing homes with EHRs identify residents at risk of pressure ulcers as well as appropriate steps to take to prevent them. If the intervention is successfully implemented as intended, there is a significant potential for lower rates of pressure ulcers for residents in the 50 participating nursing homes. Successful implementation could also provide an opportunity to evaluate the impact of the intervention to see whether earlier findings of pressure ulcer reductions are replicated. (An outcome evaluation

of the On Time program in New York nursing homes showed a 59% reduction in the incidence of pressure ulcers when at least three "On-Time" reports were integrated into the care planning process.)

In addition to assessing the impact of the On-Time intervention in reducing pressure ulcer incidence, the quantitative analysis will assess nursing home efforts to sustain the intervention after the facilitation period. It also will measure the impact of training and other factors that influenced the implementation of the intervention. Qualitative analysis will also be used to learn about recruitment, training, and contextual factors affecting implementation, which can help inform future dissemination efforts. It is hoped that project success will lead to more widespread uptake of On-Time across the country and decreased rates of pressure ulcers among nursing home residents nationally.

Target Audiences

Target audiences include nursing homes with EHRs as well as their EHR vendors, and ultimately, the broader community of nursing home administrators nationwide. To reach those target audiences, the project team will disseminate research findings from the project to practitioner and research audiences through peer-reviewed journals, trade publications, and presentation results at conferences (e.g., Academy Health) and stakeholder meetings (e.g., Gerontological Society of America).

Methods

Recruitment; Selection; Enrollment: The prime contractor (NORC) has partnered with Stratis Health, a Quality Improvement Organization on this project. Stratis Health will leverage its expertise in nursing home operations and relationships with nursing homes and other QIOs to support recruitment for this project. Using an online application process, they will recruit nursing homes interested in implementing AHRQ's On Time intervention.

Using eligibility criteria developed at the start of the project, the implementation team will select 50 applicants to participate. All participating nursing homes must have EHRs. Nursing homes selected for participation will be asked to designate a change team to participate in extensive training and coaching, a 2-day site visit, and ongoing practice facilitation sessions. They will also be asked to document On-Time data elements in their EHR; generate On-Time Reports from their EHR; implement the On-Time Reports into their daily practice and workflow; develop and implement team-based interventions for residents who exhibit pressure ulcer risk factors; and submit requested data measurements and reporting requirements to help evaluate the impact of implementation on pressure ulcer rates.

Training: Using AHRQ's train-the-trainer materials, the team will train facilitators to assist nursing home staff in implementing the intervention and integrating electronic reports into their workflow. The project team will also provide technical assistance to facilitators and nursing homes to further support implementation. An in-person, 2-day On-Time facilitator training will be held, followed by regularly scheduled meetings with the master trainer as well as phone calls or one-on-one meetings to provide individual consultation.

Implementation: Facilitators will assist staff of the selected nursing homes in following the 16 steps needed to implement the On-Time intervention. The implementation period will range from 6 to 9 months for any individual nursing home. Integration of On-Time into the workflow will require data capture, data extraction and evaluation, clinical decisionmaking, and communication between care team members. Facilitators will continue to monitor progress on a monthly basis and to offer ongoing consultation and technical assistance.

Research and Evaluation

- The team will identify a comparison group of nursing home facilities using secondary data sources such as the Long-Term Care Minimum Data Set (MDS), CASPER, and Nursing Home Compare, as well as facilities that applied for the project but were not included in the treatment group. The team will use a longitudinal design to evaluate rates of pressure ulcers in the period before and after implementation of the On-Time intervention. For the treatment group, NORC will obtain data from the nursing homes' EHRs to evaluate the effects of the intervention. They will link both treatment and control facilities to administrative and clinical data from MDS, CASPER, and Nursing Home Compare datasets. The data will be used to obtain additional information on facility characteristics, residents, and pressure ulcer rates to compare treatment and control outcomes using commonly defined metrics and to identify effects of the On-Time intervention.
- To evaluate the effectiveness of training on the intervention implementation, NORC will use a multipronged approach. First, they will examine findings from the training assessment to determine the extent to which both the content and pedagogical approach used during the training resonated with the facilitators. Second, they will assess the extent to which facilitators' performance comports with the technical specifications detailed in the implementation framework through findings from technical assistance reports, implementation progress reports, and technical assistance case notes. Finally, they will include facilitator effects in the impact analysis and further explore the factors that influence facilitators' performance, by comparing responses to training assessment, characteristics of the nursing homes each works with, and other factors.
- In addition to assessing the impact of On-Time on reducing rates of pressure ulcers in nursing facilities, NORC will examine information collected by the facilitators in progress reports and technical assistance case notes. This qualitative information will be analyzed to identify the factors that facilitate or hinder nursing home progress on implementing On-Time. It will also be used to identify the types of technical assistance facilitators and nursing homes need to implement On-Time. Data sources for the content analysis include nursing home recruitment status reports, implementation progress tracking reports, and technical assistance status reports and case notes. In addition, NORC will use information obtained through routine training and check-ins with facilitators.

Project Settings

Fifty nursing homes with EHRs that have received 3-5 star ratings from Nursing Home Compare.

Key Tasks/Activities

- Establish eligibility criteria and an online application process;
- Recruit and enroll 50 nursing homes to implement AHRQ's On-Time pressure ulcer prevention intervention.
- Using AHRQ's train-the-trainer materials, train a cadre of facilitators to assist the 50 nursing homes in implementing the On-Time intervention into workflow.
- Provide technical assistance and consultation to new facilitators and the 50 nursing homes as they implement the 16 steps associated with the On-Time intervention.
- Monitor the progress of participating nursing homes in implementing On-Time.
- Assess the impact of the intervention on reported pressure ulcer rates by analyzing claims and clinical data.
- Summarize lessons learned about nursing home recruitment, nursing home capacity to implement the On-Time intervention, and quantity and types of technical assistance needed for successful implementation.
- Disseminate findings.

Key Deliverables

- Management Plan
- Nursing Home Recruitment Plan
- Plan for (Recruiting and) Training Facilitators
- Analysis of Impact of Training
- Implementation and Monitoring Plan
- Technical Assistance Plan

Sources

Berlowitz DR, Brandeis GH, Anderson J, et. al. Effect of pressure ulcers on the survival of long-term care residents. J Gerontol A Biol Sci Med Sci 1997;52A:M106-10.

Lyder CH, Ayello EA. Pressure ulcers: a patient safety issue. In: Hughes RG, ed. Patient safety and quality: an evidence-based handbook for nurses. Chapter 12. Rockville, MD: Agency for Healthcare Research and Quality; 2008. http://www.ncbi.nlm.nih.gov/books/NBK2650/. Accessed June 17, 2016.

Black J, Edsberg L, Baharestani M, et. al. Pressure ulcers: avoidable or unavoidable? Results of the National Pressure Ulcer Advisory Panel Consensus Conference. Ostomy Wound Manage 2011;57(2):24-37.

Office of the National Coordinator for Health Information Technology. Health IT in long-term and post acute care. Issue Brief. Washington, DC: U.S. Department of Health and Human Services; March 2013. http://www.healthit.gov/sites/default/files/pdf/HIT_LTPAC_IssueBrief031513.pdf. Accessed June 17, 2016.

AHRQ's Safety Program for Nursing Homes: On-Time Prevention. Rockville, MD: Agency for Healthcare Research and Quality; May 2016.http://www.ahrq.gov/professionals/systems/long-term-care/resources/ontime/index.html. Accessed June 17, 2016.

ACTION III Project Summary: Measurement for Performance Improvement in Physician Practices

Prime Contractor: Westat
Subcontractor: RAND
Principal Investigator: Mark Friedberg, M.D. (RAND)
Project Director: Denise St. Clair, Ph.D. (Westat)
Project Period: 9/21/15-10/20/17
Cost: $717,872
AHRQ Contact: Linda Bergofsky, M.S.W., M.B.A., PMP (linda.bergofsky@ahrq.hhs.gov)
Project Type: Exploratory Research; Field-Based Qualitative Research

Project Goals

The overall goals of this project are to identify and begin to fill current gaps in our knowledge about how medical groups define and measure performance improvement. More specifically, the project seeks to:

- Identify specific measures and metrics used internally by medical groups to assess performance and support improvement activities.
- Describe how internal measurement activities and measures are used in medical groups to support improvement in individual, team, or organizational performance, including how these activities are tied to "internal" financial incentives.
- Identify types of costs and other types of burdens (e.g., staff resources, information technology resources) directly related to internal measurement and reporting activities. Assess the feasibility of capturing information on costs and burdens of internal and external performance measurement. If feasible, collect data on internal and external performance measurement's actual costs and other associated burdens.
- Based on the findings, identify implications, potential effects, and future research opportunities for payers, regulators, and medical groups regarding internal measurements for performance improvement.

Background

Efforts to improve performance among health care providers through measurement and reporting have evolved over time and have taken many forms and many names. Triple Aim, Public Reporting, Performance Measurement, Quality Improvement, and Pay for Performance are common concepts today. Most health care providers, including medical groups, are monitoring their own performance using a wide array of quality measures that reflect care processes, clinical outcomes, and patient experiences. Increasing numbers of providers are required to report their performance on quality measures by payers such as the Centers for Medicare & Medicaid Services (CMS) and external regulatory bodies such as the National Committee for Quality Assurance or the Joint Commission.

Little is known about how providers make use internally of measures that are required by external bodies for payment or reporting. Nor do we know what other measures providers collect and use to improve performance. This project aims to fill this knowledge gap. In doing so, it may also inform payment and reporting initiatives by providing indications of the degree to which

providers view externally mandated measures as valuable for their internal quality assessment and reporting efforts.

Significance and Expected Impact

This 2-year project is an important first step toward better understanding measurement for performance improvement in medical groups. This exploratory research is expected to set the stage for informing future research and policy discussions, both of which could ultimately have more direct impact on providers, payers, and patients. As a critical first step, however, this research breaks new ground in an important area of health care research.

Target Audiences

The intended target audiences expected to benefit most from the project include entities that develop performance measures used by medical groups, as well as the medical groups themselves, and organizations or agencies involved in the development of payment and reporting initiatives.

Methods

The project team will use a multifaceted approach to data collection and will leverage their past experience and extensive backgrounds with Physician Compare, qualitative research, and publication in the area of performance measurement. The team will develop and implement a research design to gather data from at least 45 group practices to ascertain more specifically what measures, processes, and tools they are using and the types of resources needed to support measurement. The research design will be informed by an environmental scan and by guidance from a technical expert panel. Findings will be disseminated in various innovative ways, including at least one manuscript.

Project Settings

At least 45 medical groups from across the United States will be recruited to participate in this research; up to 5 interviews will be conducted with each practice.

Key Tasks/Activities

- **Convene and Support a Technical Expert Panel (TEP):** TEP members will be asked to contribute by identifying key informants; consulting on the environmental scan; identifying participating medical groups; providing input on the development of interview materials; providing input on the analysis plan and results; and assisting with disseminating findings.
- **Environmental Scan:** An environmental scan of the current state of internal performance measurement and what is known about associated costs and benefits will help identify sources of descriptive data and research on measurement for performance improvement (including grey literature and key informants) and medical groups that are undertaking measurement for performance improvement. The scan will seek to highlight experiences with measurement for performance improvement across primary and multispecialty medical groups. The team will also use the scan to identify gaps in the literature on use of internal measurement for performance improvement.
- **Pilot Interviews:** Findings from the environmental scan will inform the development of the pilot interview protocol. The project team will conduct nine semistructured indepth

interviews with staff in a range of medical group types to test possible instruments for the more extensive field data collection.

- **Research Design and Analysis Plan:** In total, data will be collected through up to 5 semistructured indepth interviews with staff from 45 medical groups. This plan will outline the collection, sampling, and analysis efforts.
- **Data Collection Instruments:** The project team will develop all data collection instruments, including interview and recruitment protocols and scripts, document requests, document review abstraction forms, site observation templates, and any instruments or tools available to obtain information on marginal costs of implementing internal performance measures.
- **OMB Clearance:** The project team will prepare all required documents to submit a clearance package to the Office of Management and Budget for the interview protocols and scripts.
- **Recruitment and Field Interviews:** The project team will recruit 45 medical groups and conduct interviews. When possible, interviews will be conducted in person.
- **Data Analysis and Synthesis:** The project team will use Dedoose qualitative analysis software (www.dedoose.com) to facilitate synthesis and analysis of the data and artifacts collected through the field study. All data will be coded, reviewed, and analyzed in this phase of the project.
- **Dissemination:** The project team will prepare at least one manuscript suitable for publication in a peer-reviewed journal; and produce a PowerPoint presentation of all research findings and implications for presentation to stakeholders, such as the ACTION III partners. We will submit abstracts to scientific conferences. Additional innovative approaches to dissemination will also be explored (e.g., collaborative learning circles of participating medical groups, podcasts, webcasts, and videos).

Key Deliverables

- Work Plan
- Environmental Scan Plan
- Environmental Scan Summary
- Pilot Interview Guide/Protocols
- Summary of Pilot Test Results
- Data Collection Instruments
- OMB Clearance Package
- Research Summary
- Final List of Medical Groups and Interviewees
- Analysis Report
- Dissemination

ACTION III Project Summary: Making It Easier for Patients To Understand Health Information and Navigate Health Care Systems: Developing Quality Improvement Measures

Prime Contractor: Regents of the University of Colorado
Principal Investigator: Mark Gritz, Ph.D., University of Colorado, Denver (UCD)
Project Director: Angela Brega, Ph.D. (UCD)
Subcontractors and Additional Key Personnel:

- Karen Albright, Ph.D., Assistant Professor at the University of Denver; Director of the Qualitative Research Methods Forum at the University of Colorado
- Debra Saliba, M.D., M.P.H., AGSF, University of California, Los Angeles (UCLA) Anna and Harry Borun Endowed Chair in Geriatrics; Director of the UCLA Borun Center for Gerontological Research; physician researcher at the Los Angeles Veterans Affairs Medical Center
- Ulfat Shaikh, M.D., M.P.H., Director for Healthcare Quality at UC Davis School of Medicine; Quality Improvement Project Leader for the American Academy of Pediatrics Council on Quality Improvement and Patient Safety

Project Period: 9/21/15-7/20/17
Total Cost: $297,123
AHRQ Contact: Cindy Brach (cindy.brach@ahrq.hhs.gov)
Project Type: Product Development

Project Goals

The goals of this project are to identify and conduct preliminary testing of quality measures that can be used by health care organizations to assess the impact of quality improvement activities aimed at:

- Improving patient understanding,
- Simplifying navigation of health care systems and facilities, and
- Enhancing patients' ability to manage their health.

More specifically, the project aims to:

- Identify existing measures that organizations may use to monitor progress related to these concepts and that are not generated from patient survey data; and
- Identify a set of measures that reflects patient priorities and has expert support that can be recommended for more formal measure development and validation.

Background

Numerous resources have been developed to support health care organizations in their attempts to help patients better understand health information, navigate the health care system, and manage their health. Little work has been done, however, to establish valid quality measures that organizations can use to monitor the impact of these efforts. While a recent literature review

identified numerous self-assessments and measures based on patient survey data, metrics that can be generated using data internal to the organization are lacking.

Significance and Expected Impact

The measures identified through this project, once they are further refined through a rigorous measurement validation process, will ultimately guide quality improvement activities. Health care organizations will be able to use these measures to identify the characteristics of their environment most in need of improvement. They also will be able to accurately assess whether their initiatives are effective in making it easier for patients to understand health information, manage their own care, and navigate our complex health care system.

Target Audiences

All organizations that deliver health care services or produce health information will be able to benefit from the quality measures identified and assessed as part of this project. Although some measures may be best suited for a particular type of health care delivery setting, others will apply across care settings. Patients are the ultimate beneficiaries of organizations using these measures.

Methods

The project is guided by a conceptual framework that builds from the 10 attributes of a health-literate organization offered by members of the Institute of Medicine's Roundtable on Health Literacy. The framework also builds from their definition of organizational health literacy as the "implementation and monitoring of organizational policies, practices, and structures that support patients in understanding health information, navigating the health care system, and managing their health."

The conceptual framework identifies four domains, and the quality measures identified as part of the project will assess key components of each domain. The four domains are:

1. Communication (i.e., the quality of verbal and written communication with patients).
2. Ease of Navigation (i.e., the degree to which an organization's physical environment and systems of care are designed in a way that simplifies navigation and use of services).
3. Patient Activation, Engagement, and Self-Management (i.e., the degree to which an organization provides support to enhance patients' ability to manage their health).
4. Organizational Structure and Policy (i.e., implementation of policies, procedures, and structures that improve communication with patients, simplify patient navigation, and enhance patient activation, engagement, and self-management).

The methods used in this project include:

- A technical expert panel to establish consensus on a conceptual framework and assist in measurement identification.
- An environmental scan, including a review of the grey and published literature using a MEDLINE standardized search, Internet search, outreach to State and regional health literacy-focused organizations, semistructured interviews with knowledgeable representatives from 25 organizations engaged in relevant quality improvement activities, and a Request for Information (RFI) published in the *Federal Register*.

- Focus groups in English and Spanish to learn what patients think are the most important changes organizations can make to enhance understanding, navigation, and self-care.
- A modified Delphi process involving a diverse panel of stakeholders and experts to conduct a systematic evaluation of identified measures, using assessment criteria recommended by the National Quality Forum (scientific acceptability, importance or meaningfulness, feasibility, usability or actionability, overlap with competing measures, and generalizability across health care settings).

Key Tasks/Activities

- Convene a technical expert panel.
- Conduct a literature review.
- Develop an RFI for publication in the *Federal Register*.
- Obtain clearance from the Office of Management and Budget for systematic data collection.
- Conduct an environmental scan of 25 health care organizations.
- Conduct two focus groups with a diverse sample of patients.
- Implement a modified Delphi process and establish a set of recommended measures.
- Draft a final report and a manuscript to be submitted to a peer-reviewed publication.

Key Deliverables

- Final Measurement Identification and Validation Plan
- Final Measurement Identification Report
- Final Measurement Set Report
- Final Report
- Manuscript for Peer-Reviewed Journal

ACTION III Project Summary: Guide to Improving Patient Safety in Primary Care Settings by Engaging Patients and Families

Prime Contractor: MedStar Health Research Institute
Principal Investigator: Kelly M. Smith, Ph.D., Scientific Director, Quality and Safety Research, MedStar
Project Director: Martin J. Hatlie, J.D., Project Patient Care
Subcontractors and Additional Key Personnel:

- Clinical Directors Network
- Iowa Healthcare Collaborative
- Prince George's County Health Department
- Christine Goeschel, Sc.D., Assistant Vice President, Quality, MedStar
- Michael Stoto, Ph.D., Professor of Health Systems Administration and Population Health, Georgetown University
- Raj Ratwani, Ph.D., Scientific Director, National Center for Human Factors in Healthcare, MedStar
- Knitasha Washington, Ph.D., Executive Director, Consumers Advancing Patient Safety
- Helen Haskell, M.A., President, Consumers Advancing Patient Safety

Project Period: 9/25/15-11/24/18
Total Cost: $1,964,408
AHRQ Contact: Margie Shofer, B.S.N., M.B.A. (margie.shofer@ahrq.hhs.gov)
Project Type: Product Development; Implementation; Evaluation; Dissemination

Project Goal

The goal of this project is to develop a robust, scalable, and influential guide to engage patients and their families in primary care settings in ways that improve patient safety. The guide will be composed of interventions designed to develop, enhance, and bring together:

- Meaningful relationship-based engagement for patients and families and primary care providers;
- Innovation and enabling technologies to support engagement, shared decisionmaking, and patient safety;
- Workable processes yielding sustainable engagement opportunities for patients, families, providers, and practice staff.

The guide will principally (but not exclusively) focus on meeting the needs of practices that have not already implemented effective patient and family engagement (PFE) structures or processes.

Background

Substantial evidence shows that engaging patients and families in their care can improve patient safety. Potential threats to safety that are amenable to change by promoting PFE include: communication breakdowns between patients and providers or among practice staff; errors in

prescribing and use of medications; fragmentation of the care system, including management of test results and breakdowns in transitions of care; antibiotic and opioid overuse; and diagnostic errors.

Although the field of PFE in acute care settings, such as hospitals, is maturing, leveraging PFE to improve patient safety in non-acute care settings is in its infancy. PFE strategies for acute care settings include:

- Patient and family advisory committees;
- Membership on patient safety oversight bodies at both operations and governance levels;
- Consultation in the development of patient information material;
- Engagement of patients in process improvement or redesign projects;
- Rounding with patients and families;
- Patient and family participation in clinical education programs; and
- Invitations to patients and families to work with providers and health system employees on transparency, culture change, and high-reliability organization initiatives.

Building similar sustainable processes and practice-based infrastructure are crucial to improving patient safety by PFE in primary care.

Significance and Expected Impact

The *Guide to Improving Patient Safety in Primary Care Settings by Engaging Patients and Families* will have the potential to affect every patient receiving primary care in the United States. Research conducted under this project will provide important insights into how to achieve enhanced safety and engagement within primary care. It also will yield scalable and sustainable improvements in engagement and patient safety both individually and as part of a bundle within the completed guide.

Target Audiences

The guide will be designed for use by primary care practices. The ultimate beneficiaries of the work are patients and families served by these primary care providers.

Methods

The conceptual framework that will be used for guide development, implementation, and evaluation is Translating Evidence into Practice (TRiP). TRiP was selected because it emphasizes intervention adoption and sustainability. TRiP includes four discrete stages bundled together to:

1. Review the latest evidence;
2. Identify potentially effective and feasible interventions, test and refine practices with multidisciplinary team input, and implement interventions;
3. Measure performance, here to be assessed through feasibility evaluations (i.e., identifying barriers and facilitators of uptake) of the guide's adoption in primary care practices; and
4. Spread and embed interventions into routine practice to meet the needs of all patients.

More specifically, the team will conduct an environmental scan and case studies to identify interventions for inclusion in the guide and will use a mixed methods approach to field testing

the interventions individually, and the guide as a whole, in selected primary care sites. After the testing phases, the guide will be disseminated broadly to promote uptake among at least 100 additional primary care practices nationwide.

Project Settings

- **The MedStar Health Network** consists of approximately 1,040 primary and specialty care practices in Maryland, Virginia, and the District of Columbia. The practices represent diverse patient, provider, and geographic practice populations, including rural, urban, inner city, and suburban. Of these, 70 primary care practices meet the criteria for inclusion as medium or large and may serve as demonstration sites for field testing of the guide.
- **The CAPRICORN Practice-Based Research Network** (PBRN) consists of 100 providers from the Washington, DC, metropolitan area serving a wide variety of patient populations with high minority representation. CAPRICORN primary care practices are available to serve in guide development, field testing, implementation, and evaluation activities.
- **The Prince George's County Health Department** operates two main family health centers serving children and young adults. Providers supported by the health department also support a network of 12 Federally Qualified Health Centers across the county. These practices and providers may serve as key informants and cognitive interview respondents throughout the project.
- **Clinical Directors Network (CDN)** is a not-for-profit clinician membership organization and PBRN with 230 member practices across 17 States. This clinician training organization was founded to provide peer-initiated activities for clinicians practicing in low-income, minority, and other underserved communities. CDN will be engaged in guide development, field testing, evaluation, and dissemination activities. Their partnership will ensure that the guide is field tested within communities that serve AHRQ priority populations and reach a diverse target audience for guide dissemination. CDN members will also serve as key informants during the environmental scan and will participate on the technical expert panel (TEP).
- **The Iowa Healthcare Collaborative** (IHC) is a provider-led and patient-focused nonprofit organization dedicated to promoting a culture of continuous improvement in health care. IHC was created in 2004 through a partnership between the Iowa Hospital Association and the Iowa Medical Society. IHC uses a "multi-stakeholder" approach to engage physicians, hospitals, insurers, employers, and consumers to share data and rapidly deploy best practices. IHC will be a key partner in dissemination activities. IHC will work with our team to promote guide products, including case studies, interventions, and the completed guide, to a diverse audience of health care providers and a network of patient and family advocates. IHC members will also serve as key informants on the environmental scan and will serve on the TEP.

Key Tasks/Activities

- **Conduct Environmental Scan:** The environmental scan will: (1) synthesize the evidence on improving patient safety through PFE in primary care; (2) identify, evaluate, and prioritize interventions with demonstrated impact on PFE and patient safety in primary care; and (3) identify any gaps that would require further intervention development.
- **Conduct Case Studies:** Based on findings from the scan, four leading primary care practices with experience in effective engagement of patients and families will be identified to serve as case study sites.

- **Convene Technical Expert Panel:** A TEP of nationally recognized patient advocates, experts in PFE, and patient safety will provide critical input on tasks related to guide development and dissemination, including providing input on the environmental scan findings.
- **Develop Guide:** Based on the available evidence from the scan and case studies, the team will propose four interventions for incorporation into the guide that medium and large primary care practices can implement and sustain. These interventions or bundles of interventions are expected to focus on: developing and maintaining meaningful relationships between patients, families, and providers; using innovative enabling technologies to support engagement and shared decisionmaking; and identifying and describing workable processes for creating sustainable engagement opportunities for patients, families, providers, and practice staff.
- **Seek OMB Clearance:** We will seek Office of Management and Budget approval for data collection activities as required by the Paperwork Reduction Act.
- **Conduct Testing and Evaluation:** This project includes two sets of testing and evaluation activities. Each *individual intervention* will undergo two rounds of formative evaluation and refinement with individuals or focus groups from our partnering organizations. The guide will be pilot tested in 10 primary care sites recruited from our partnering organizations.
- **Revise Guide:** Revisions to the interventions and the completed guide will focus on overcoming barriers and challenges to implementation and other commonly reported obstacles to adoption revealed during pilot testing of the full guide in the 10 primary care practice sites.
- **Disseminate Guide:** The project team will undertake three sets of dissemination activities during this project using dissemination materials appropriate for patients and families, primary care providers, and primary care practice staff. Findings from the case studies will be disseminated to broad audiences in partnership with AHRQ. Our plan is to disseminate case studies, individual interventions, and the completed guide through various mechanisms, including webinars, Web sites, email discussion lists, and direct marketing through our dissemination partners and patient communities. Once tested and refined, the guide will be disseminated to at least 100 primary care practices.

Key Deliverables

- Environmental Scan and Case Study Report
- TEP Composition and Management Plan
- PFE Guide Development Plan
- OMB Clearance Package
- Evaluation Plan
- Four Draft Interventions
- Four Intervention Evaluation Reports
- PFE Guide
- Primary Care Site Recruitment Material
- Guide Evaluation Report
- Plans for Dissemination of Case Studies, Interventions, Completed Guide
- Dissemination Reports

ACTION III Project Summary: The Re-Engineered Visit (REV) for Primary Care

Prime Contractor: John Snow, Inc. (JSI)
Principal Investigator: James Maxwell, Ph.D., JSI
Project Manager: Angel Bourgoin, Ph.D., and Julie Hook, M.P.H. (Alternate), JSI
Subcontractors and Additional Key Personnel:

- Amy Boutwell, M.D., M.P.P., President, Collaborative Healthcare Strategies
- Richard Balaban, M.D., Medical Director, Department of Care Integration, Cambridge Health Alliance

Project Period: 9/25/2015-3/24/2018
Total Cost: $578,111
AHRQ Contact: Irim Azam, M.P.H. (irim.azam@ahrq.hhs.gov)
Project Type: Exploratory Research

Project Goal

The goal of this project is to identify the key components that should be included in a re-engineered primary care visit (REV) to improve the safety of care for recently discharged patients.

Background

High rates of hospital readmissions are a major patient safety problem. Since the passage of the Affordable Care Act, payer and provider efforts to reduce hospital readmissions have proliferated nationwide. Many of these programs have largely focused on enhancing practices and processes within the hospital setting, including the discharge process and handoffs to receiving providers or settings of care. Evidence-based toolkits and guidance to support these efforts include Project RED (Re-Engineered Discharge), STAAR (STate Action on Avoidable Readmission), and Project BOOST (Better Outcomes by Optimizing Safe Transitions).

Many of these models and approaches have recognized the critical role of primary care in managing care transitions, but they have not explicitly focused on enhancing primary care with the aim of reducing avoidable readmissions. Thus, while primary care is increasingly called to serve the key integrator role across the health system as part of payment and delivery system reforms, there has been no rigorous, systematic effort to investigate or identify specific primary care processes or practices that can enable providers to play this role effectively.

Although specific evidence-based guidance for the primary care setting to help reduce readmissions is comparatively lacking, significant transformations of primary care are occurring that can support such efforts and promote associated improvements in patient safety. These transformations take many forms, including:

- Enhanced care coordination services (e.g., embedded nurse care managers);
- Delivery of care through multidisciplinary care teams operating on a single care plan;

- Redesigned clinic workflow to ensure that the right staff member gets to the right patient in the most efficient manner;
- Patient engagement strategies for working collaboratively with patients and their family members;
- Integrated behavioral health services; and
- Referral to social services.

This research project will examine these and other process changes in the primary care setting to identify the most critical elements to incorporate in a re-engineered primary care visit specifically designed to improve patient safety and reduce avoidable readmissions.

Significance and Expected Impact

This exploratory project represents a critical interim step toward reducing avoidable hospital readmissions and other related threats to patient safety. It is now well understood that hospitals alone cannot solve this problem; support from the primary care setting is critically needed as well. Information garnered through this project will increase understanding of current challenges and best practices associated with enhancing primary care to reduce avoidable hospital readmissions.

Target Audiences

The intended target audiences include primary care providers, their staff, and community partners who seek to improve quality of care and reduce readmissions; researchers who seek to better understand primary care and readmissions; and future developers, implementers, and testers of the REV. The ultimate beneficiaries will be patients, their families, and caregivers.

Project Settings

The project team has partnered with three primary care organizations: Cambridge Health Alliance in Massachusetts, Kaiser Permanente in Colorado, and AltaMed Health Services in California. The analysis of primary care processes will be conducted in two primary care practices in each of these organizations, as well as an independent primary practice site in each of these geographic areas, for a total of nine sites.

Methods

The overall technical approach will combine formative qualitative research with quality improvement techniques to identify key principles for re-engineering the primary care visit. The project team will conduct an environmental scan and key informant interviews to understand and synthesize what is already known about the barriers to improving care coordination. The team will also identify current strategies and emerging best practices for enhancing primary care-based care transitions. They will then conduct root cause analyses, workflow mapping, and failure mode effects analysis at nine primary care sites to analyze the workflow process across a diverse range of primary care practices.

The recruitment and analysis of these primary care sites will be led by the primary care physicians on the project team. Based on these investigations, the team will identify the key components for a REV that AHRQ can further develop and test.

Key Tasks/Activities

- **Convene a Technical Expert Panel (TEP)** of seven to nine members to offer expertise in different areas related to the REV, such as primary care transformation, human factors, and patient safety. The TEP members will be engaged through three meetings and via phone and email as needed.
- **Conduct an Environmental Scan** of published literature, case study, and experiential knowledge from AHRQ, the Department of Health and Human Services, and other initiatives on primary care and readmissions. The scan will be guided by a set of key questions that will improve understanding of the current context of primary care and readmissions (e.g., "What factors in the primary care setting contribute to potentially avoidable readmissions among recently discharged patients?").
- **Conduct 10-15 Key Informant Interviews.** Key informants may include primary care providers, their staff, and community partners, as well as patients, their families, and caregivers.
- **Analyze Primary Care Processes** at nine different primary care sites with a multidisciplinary group of staff, including physicians, nurses, medical assistants, social workers, care managers, administrators, and others. The analysis will include a root cause analysis, workflow mapping, and failure mode effects analysis.
- **Develop an Outline and Summary of Proposed REV Components** by distilling the key themes and principles that emerged from the analytic work. Compare and contrast the components across sites to explore the generalizability of these components to different settings.
- **Ensure Compliance With the Paperwork Reduction Act** by submitting a clearance package to the Office of Management and Budget for approval.
- **Develop a Manuscript, Webinar Presentation, and Final Report.**

Key Deliverables

- Final Environmental Scan
- Final Key Informant Interview Summary
- Final Summary of Analysis of Primary Care Processes
- Final REV Component Summary
- Final Presentation
- Final Manuscript
- Final Task Order Report

ACTION III Project Summary: Quality Safety Review System Pilot Test in Non-Federal Hospitals

Prime Contractor: Johns Hopkins University (JHU), Armstrong Institute for Patient Safety and Quality
Principal Investigators: Bradford Winters, M.D., Ph.D., and Michael Rosen, Ph.D.
Additional JHU Key Personnel:

- Matthew Austin, Ph.D. (Co-Investigator)
- Chris Halligan
- Erin Kirley

Project Period: 9/25/15-7/24/16
Total Cost: $677,809
AHRQ Contact: Tahleah Chappel, M.S. (Tahleah.Chappel@ahrq.hhs.gov)
Project Type: Pilot Test; Product Development

Project Goal

The goal of this project is to assess the accuracy, efficiency, and usability of the Quality Safety Review System (QSRS) in identifying adverse events documented in non-Federal hospital medical records.

More specifically, this project aims to:

- Optimize the validity and precision of the QSRS.
- Establish the foundation and "gold standard" for potential future development steps with automation using structured electronic health record (EHR) data, natural language processing, and predictive analytics.
- Assess the usability of the QSRS.

Background

The Department of Health and Human Services currently has a surveillance system called the Medicare Patient Safety Monitoring System (MPSMS) that benchmarks national rates for 21 types of adverse events. MPSMS is maintained by the Agency for Healthcare Research and Quality (AHRQ) and uses the same charts as those submitted for the Centers for Medicare & Medicaid Services (CMS) quality review and audit process required in Medicare Conditions of Participation. Now more than 10 years old, MPSMS is in need of updating and synchronization, where appropriate, with definitions with AHRQ's Common Formats for patient safety event reporting.

AHRQ has developed the QSRS to replace MPSMS. QSRS is designed to allow collection of comparable performance data over time and across settings using standard definitions and algorithms to identify events, generate adverse event rates, trend performance over time, and benchmark performance across institutions. For the most frequently occurring events, QSRS provides additional detail beyond occurrence of the event (e.g., not just fall rates in a specific hospital over a given time period, but also the percentage of falls that resulted in injury and the

percentage of each specific type of injury). Most importantly, the standardized definitions and algorithms provide the ability to measure all-cause harm, and the standard specifications ensure that an event identified at one institution (or one department of a hospital) is the same as one identified elsewhere.

Although QSRS will be more efficient than MPSMS, the current specifications are for a manual system. As EHRs evolve, it is anticipated that QSRS will increasingly be automated to further decrease manual abstraction time to identify adverse events. AHRQ envisions a stepwise development process for QSRS to reach a future, more automated patient safety surveillance system seamlessly integrated into the EHRs.

This project represents the first step in this process, which is to conduct a demonstration "in the field" using human abstractors, in order to test the standardized definitions, algorithms, and generation of reports to optimize their validity and precision.

Significance and Expected Impact

This pilot test is critical to achieving the goal of a patient safety surveillance system that can be implemented in any hospital. In particular, thorough testing in the field and use of human abstractors from within a hospital system will provide essential information needed to support further refinement, development, and automation.

Testing of QSRS in private sector hospitals will provide an opportunity to evaluate QSRS in ways not available within the CMS environment. Since the personnel involved in the care of patients whose medical records are reviewed will be available to validate results of QSRS review, they will be able to suggest changes that would improve the accuracy and efficiency of the system. Feedback from private sector hospital testing will provide AHRQ with information on the local value of the surveillance data and feedback on how these data can be acted on at the hospital level to prevent adverse events.

Target Audiences

The preliminary target audience for the findings from this research project is AHRQ, which will use what is learned to refine and improve the QSRS. The audience for the QSRS is any individual, department, or committee with an interest in data about adverse events within a hospital in order to improve health care safety and reduce harm to patients in the hospital environment.

Methods

Sampling: The project team will select and review a random sample of at least 2,400 medical records from four hospitals in the Johns Hopkins Health System (JHHS): Johns Hopkins Hospital, Johns Hopkins Bayview Medical Center, Suburban Hospital, and Sibley Memorial Hospital. Records will be drawn from a retrospective 12-month period (September 1, 2014, through August 31, 2015). At each participating hospital, the team will approximate the number of admissions over that 1-year period.

The team will divide the records into two main groups. Fifty percent will be randomly selected and 50 percent will come from patients screened for length of stay greater than or equal to 3

days. The total approximate charts in the two groups will each be divided by 300 to generate a number (N). Then for each group, every "Nth" chart will be selected for review. (For example, if the hospital has 6,000 admissions with length of stay greater than or equal to 3 days, we will sample every 20th chart [6,000/300]).

The PATCOMM numbers, which are unique for each inpatient admission, will be pooled into one large group of 600 per hospital. A PATCOMM number is used rather than a medical record number since the QSRS is to be evaluated for individual inpatient admissions. There is a unique PATCOMM number for each admission while a medical record number may have multiple admissions associated with it. This list will be stored on the server where the QSRS is housed and accessed by the reviewers for QSRS abstraction.

In addition to the 2,400 total general review charts, an additional set of "enriched" records will be reviewed (enriched in that they focus on specific populations instead of just being randomly selected). These enriched charts will include:

- 100 obstetric records.
- 25 neonatal intensive care unit records.
- 50 pediatric intensive care unit records.
- 50 records with a length of stay over 7 days.
- 50 records with a diagnosis of sepsis, severe sepsis, or septic shock.
- 25 records with an emergency department admission.

These will be sequentially selected as they appear in the EHR during the timeframe previously specified. The reason for selecting these enriched charts is that the QSRS seeks adverse events that tend to occur or exclusively occur in these patient populations (for example, obstetric injuries would only occur in pregnant women during delivery). There may be insufficient numbers of these types of admissions sampled in the initial random sampling process; thus, the "enriched" chart process.

Chart Abstraction: Registered health information technician and registered health information administrator personnel from JHHS will perform the abstractions. These abstractors will be trained on the QSRS and will use the Web-based QSRS software. Reviewers will follow the QSRS prompts to review the record and answer the QSRS queries. Duplicate reviews will be performed on a subset of 300 records per facility to determine interrater reliability and for peer review panels to examine the clinical validity of the QSRS output.

Peer Review Panels: Peer review panels will be convened to review the results of the medical coders' abstractions against the actual EHR chart for clinical accuracy of the coding relative to the clinical record. This will be based on a subset of 100 abstracted records from each hospital.

Analysis: The data collected will be analyzed for true positive and false positive adverse events, interrater reliability, and qualitative feedback for improving the QSRS algorithm queries.

(A note about privacy protections: The QSRS algorithm/software will be on a secure server behind the Johns Hopkins Medicine firewall. This will be housed at the Johns Hopkins server warehouse. Edaptive, Inc. [the QSRS software developer] will maintain access to the server only

for the purposes of software maintenance. Edaptive will not receive or retain any private health information [PHI]. All access to the server by the coders will use their Johns Hopkins IDs and passwords to ensure security of PHI.)

Project Settings

The Armstrong Institute has recruited four JHHS locations to participate in the pilot test: The Johns Hopkins Hospital in Baltimore, MD; Johns Hopkins Bayview Medical Center in Baltimore, MD; Suburban Hospital in Bethesda, MD; and Sibley Memorial Hospital in Washington, DC.

JHHS hospitals are gradually converting to a single EHR system, EPIC, but only two of the hospitals participating in the project have fully converted to EPIC. This provides the opportunity to test the applicability of the QSRS software with three different EHR systems (EPIC, Meditech, Eclipsys Sunrise Clinical Manager).

Key Tasks/Activities

- **Test the Clinical Accuracy of the QSRS Software:** The JHHS coders will randomly review and abstract a sample of 2,400 medical records from the four participating hospitals. An additional set of enriched records will be randomly selected for abstraction from patient populations at highest risk for adverse events.
- **Prepare and Evaluate Population Reports and Case Summaries:** The Armstrong Institute project team will run and review for accuracy the generic and event-specific population reports and will produce case summaries for each record reviewed. The project team will evaluate the value of QSRS reports and case summaries for supporting peer review and quality/safety improvement within participating hospitals, primarily thorough qualitative analysis of the output of the peer review panels and the documented observations of the abstractor staff. Their feedback will be used to generate concrete suggestions for improving the QSRS, as well as determining its strengths.
- **Evaluate the Usability of the QSRS Software:** The Armstrong Institute project team will employ a usability framework to evaluate the QSRS and associated training materials, including an assessment of learnability, efficiency, memorability, errors, and satisfaction. Johns Hopkins will also assess stakeholder perceptions of feasibility, utility, and perceived barriers to implementation of the QSRS. The average abstraction time will be calculated for all cases, cases with no identified adverse events, and cases with identified adverse events. Johns Hopkins will develop an assessment tool to collect observations and feedback from the abstractors. The tool will use a Likert rating scale to assess clarity of QSRS questions, difficulty in finding the required data elements in the chart, need for abstractors to make subjective judgments while performing chart review, quality of available help text, ease of use of the abstracting module, and ease of use of the report module.

Key Deliverables

- Work Plan
- Final Report

ACTION III Project Summary: Comprehensive Unit-based Safety Program To Reduce Central Line-Associated Blood Stream Infections and Catheter-Associated Urinary Tract Infections in Intensive Care Units With Persistently Elevated Infection Rates

Prime Contractor: Health Research and Educational Trust (HRET)
Principal Investigator: Barb Edson, RN, M.B.A., M.H.A., Vice President, Clinical Quality, HRET
Subcontractors and Additional Key Personnel:

- American Nurses Association
- Association for Professionals in Infection Control and Epidemiology
- HealthInsight Quality Improvement Network
- Michigan Health and Hospital Association Keystone Center
- Society of Critical Care Medicine
- Society of Hospital Medicine
- University of Michigan
- Marcia Cooke, DNP, RN-BC, Director, Clinical Quality, HRET
- Mariana Lesher, M.S., Data Director, HRET

Project Period: 9/14/15-3/13/17
Total Cost: $4,322,216
AHRQ Contact: Dale Burwen, M.D., M.P.H. (dale.burwen@ahrq.hhs.gov)
Project Type: Product Development; Implementation; Dissemination

Project Goal

The goal of this project is to reduce the rate of central line-associated blood stream infections (CLABSIs) and catheter-associated urinary tract infections (CAUTIs) in adult intensive care units (ICUs) with elevated rates of these infections. This project is intended to help make progress toward achieving the stated aims of the Department of Health and Human Services National Action Plan to Prevent Health Care-Associated Infections (HAIs).

Background

At any time, HAIs affect 1 in 25 hospitalized patients.[1] While some HAIs are unavoidable in some patients, many of these infections are preventable. CAUTIs alone account for 9 to 30

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[1] Magill SS, Edwards JR, Bamberg W, et al. Multistate point-prevalence survey of health care-associated infections. N Engl J Med. 2014;370:1198-208. http://www.ncbi.nlm.nih.gov/pubmed/24670166. Accessed June 20, 2016.

percent of all HAIs.[2,3] It is estimated that about 250,000 CAUTI cases occur each year[4] and each episode of symptomatic CAUTI costs hospitals between $862 and $1,007, resulting in total costs of about $250 million dollars in the United States each year.[5,6] About 65 to 70 percent of cases of CAUTI may be preventable using current evidence-based strategies.[7] In addition, bacteriuria frequently leads to unnecessary antimicrobial use, and urinary drainage systems are often reservoirs for multidrug-resistant bacteria and a source of transmission to other patients.[8]

CLABSI is another HAI that is thought to be highly preventable. It has been estimated that CLABSIs have a 12 to 25 percent mortality rate.[9]

This project is a followup to previous AHRQ-funded projects that used the Comprehensive Unit-based Safety Program (CUSP) model to reduce CLABSI and CAUTI in hospitals. These projects were associated with significant improvement, but there was variation among hospitals and units. Because opportunity for improvement remains, especially among some ICUs, the current project focuses on ICUs.

The CUSP model uses evidence-based strategies to target technical and adaptive components of change.[10] CUSP technical components standardize processes of appropriate indication, insertion, maintenance, and daily review, if necessary. Adaptive work includes using CUSP to educate, identifying and learning from defects, collaborating with senior executives, implementing teamwork and communication, shaping attitudes and beliefs related to patient safety, valuing clinicians in the workplace, and holding each other accountable.

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[2] Harbarth S, Sax H, Gastmeier P. The preventable proportion of nosocomial infections: an overview of published reports. J Hosp Infect 2003;54(4):258-66. http://www.sciencedirect.com/science/article/pii/S0195670103001506. Accessed June 20, 2016.

[3] Pronovost P, Needham D, Berenholtz S, et al. An intervention to decrease catheter-related bloodstream infections in the ICU. New Engl J Med 2006;355(26):2725-32. Erratum in: N Engl J Med. 2007 Jun 21;356(25):2660. http://www.nejm.org/doi/full/10.1056/NEJMoa061115. Accessed June 20, 2016.

[4] Agency for Healthcare Research and Quality. Saving Lives and Saving Money: Hospital-Acquired Conditions Update, Interim Data From National Efforts To Make Care Safer, 2010-2014. http://www.ahrq.gov/sites/default/files/wysiwyg/professionals/quality-patient-safety/pfp/interimhacrate2014.pdf. Accessed June 20, 2016.

[5] Klevens RM, Edwards JR, Richards CL, Jr., et al. Estimating health care-associated infections and deaths in U.S. hospitals, 2002. Public Health Rep 2007;122(2):160-6. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1820440/. Accessed June 20, 2016.

[6] Scott RD II. The direct medical costs of healthcare-associated infections in U.S. hospitals and the benefits of prevention. Atlanta, GA: Centers for Disease Control and Prevention; March 2009. http://www.cdc.gov/HAI/pdfs/hai/Scott_CostPaper.pdf. Accessed June 20, 2016.

[7] Umscheid CA, Mitchell MD, Doshi JA, et al. Estimating the proportion of healthcare-associated infections that are reasonably preventable and the related mortality and costs. Infect Control Hosp Epidemiol 2011;32(2):101-14. PMID: 21460463.

[8] Tambyah PA, Knasinski V, Maki DG. The direct costs of nosocomial catheter-associated urinary tract infection in the era of managed care. Infect Control Hosp Epidemiol 2002 Jan;23(1):27-31. PMID: 11868889.

[9] Liang SY, Marschall J. Update on emerging infections: news from the Centers for Disease Control and Prevention. Vital signs: Central line-associated blood stream infections—United States, 2001, 2008, and 2009. Ann Emerg Med 2011 Nov;58(5):447-50. http://www.sciencedirect.com/science/article/pii/S0196064411014077. Accessed June 20, 2016.

[10] AHRQ's Healthcare Associated Infections Program, Tools & Resources to Prevent HAIs: CUSP. http://www.ahrq.gov/professionals/quality-patient-safety/hais/index.html. Accessed June 20, 2016.

Significance and Expected Impact

This project will affect the harmful, costly, and persistent problem of CLABSI and CAUTI in ICUs. If current evidence-based strategies were routinely used and adopted, it is estimated that episodes of CLABSI could be significantly reduced each year.[11] Assessment of actual impact within ICUs is a key component of the project. It will include measurement of the level of reduction in CAUTI and CLABSI rates in participating ICUs over the project time period (and testing for statistical significance of reduction), after appropriate adjustment.

Additional assessment of project impact will include:

- Measurement of processes (including device utilization, clinical practices, and culture of safety),
- Project engagement (such as data submission and educational intervention participation), and
- Environmental characteristics (such as hospital type, size, and location).

Target Audiences

Key beneficiaries of this project are the approximately 400 hospitals that will receive guidance and support in their HAI reduction efforts and the patients they serve. The project will also serve to more broadly inform the industry of the efforts required to make improvements in ICUs for these two infections.

Methods

This project will use a regionally based implementation approach to deliver targeted resources to interested ICUs. Central to the success in this CAUTI-CLABSI intervention project is a well-defined project structure and strong relationships with partners. HRET will use a regional approach to recruit and disseminate project components. Interested ICUs will be required to register for the program. State hospital associations (SHAs) will serve as intermediary organizations due to their close working relationships with their member hospitals. An SHA quality improvement/patient safety staff member will serve as the State lead and will coordinate the program in his or her State.

A new CUSP for CLABSI/CAUTI Module to support the unique needs of targeted ICUs will be developed for this project and will be informed by baseline unit-level assessment of existing policies, practices, procedures, and outcomes. Hospitals will access a combination of on-demand content and live webinars throughout the project. To support the facilities throughout the intervention, regional-level coaching will be facilitated by experts in critical care to talk through barriers, challenges, and successes individual units are encountering.

Assessment of the impact of the improvement efforts will be conducted for purposes of accountability and continuous improvement. Diverse outcome, process, cultural, and descriptive measures will be collected.

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[11] Mermel LA. Prevention of intravascular catheter-related infections. Ann Intern Med 2000 Mar 7;132(5):391-402. Erratum in: Ann Intern Med. 2000 Sep 5;133(5):395. PMID:10691590.

Project Settings

Hospitals with one or more ICUs with persistently elevated rates or relatively higher numbers of CLABSI and/or CAUTI in the following HHS regions:

- Region 2 (NJ, NY, PR),
- Region 4 (AL, FL, GA, KY, MS, NC, SC, TN),
- Region 6 (AR, LA, NM, OK, TX), and
- Region 9 (AZ, CA, HI, NV).

Key Tasks/Activities

- **Design CUSP for CLABSI/CAUTI Module** to support the unique needs of targeted ICUs.
- **Conduct Key Informant Interviews** with the project team and partners, who represent a broad cross-section of professional societies and academic experts with extensive knowledge of HAI reduction, quality improvement, and ICUs.
- **Recruit Hospitals.** AHRQ is coordinating with the Centers for Disease Control and Prevention (CDC) to facilitate sharing information about the program opportunity with potentially eligible hospitals. CDC will use its National Healthcare Safety Network data to facilitate this work. In addition, HRET analyzed the publicly available Hospital Compare data using a similar methodology to identify potential participants. Participating State hospital associations will also help inform eligible hospitals about the program opportunity.
- **Identify Subject Matter Experts.** Subject matter experts will be identified to develop educational materials to support the ICUs in their improvement efforts. The subject matter experts may serve as faculty and coaches as well.
- **Use Nurse/Physician Dyads.** In collaboration with project faculty, coaches, and State leads, the ICU staff will be supported by a nurse/physician dyad from within their State/region. The dyad will act as a coach and mentor to ICUs implementing the program's clinical and cultural interventions.
- **Evaluate Implementation** by collecting key outcome, process, cultural, and descriptive measures related to CAUTI and CLABSI to assess current participating unit status and to quantify improvements over time among participating units.

Key Deliverables

- Data Collection Protocol
- Consortia Plan
- Course Design Guide
- Evaluation Plan
- Resource Kit (Toolkit)—Prototype and Final
- Regional Operating Plan
- Annual Report
- State Sustainability Plan

ACTION III Project Summary: Listening to the Field: Current State of the Science in Two Priority Areas—Shared Decision Making (SDM) and Practice Improvement (PI) in Ambulatory Settings

Prime Contractor: RTI International
PI and Project Director: Pamela Williams, Ph.D.
Subcontractor and Other Key Personnel:

- Stacey Sheridan, M.D., M.P.H., University of North Carolina-Chapel Hill
- Katrina Donahue, M.D., M.P.H., University of North Carolina-Chapel Hill

Project Period: 09/18/2015-09/17/2016
Cost: $462,987
AHRQ Contact: Janice Genevro, Ph.D. (Janice.genevro@ahrq.hhs.gov)
Project Type: Exploratory Research (locating and synthesizing evidence and identifying research gaps)

Project Goal

The goal of this project is to support the development of a strategic approach for advancing research and implementation of shared decision-making (SDM) interventions in clinical settings and practice improvement (PI) in ambulatory care settings. Project deliverables will inform internal discussions regarding the scope of future research activities for AHRQ's Center for Evidence in Practice Improvement. More specifically, the contractor on this project will:

- Conduct rapid, sophisticated assessments and analyses of the "state of the science" in research on SDM in clinical encounters and PI in ambulatory care settings.
- Consult with key informants and engage expert working groups to identify areas of work they believe would advance the fields of SDM and PI as a whole, including key research gaps and priorities.
- Combine information from the literature and expert input to provide AHRQ with two thorough, concise analyses and syntheses of research, one on SDM and one on PI. Syntheses will summarize research that has been conducted in these fields, identifying key gaps in the research and potential priorities for areas of future research.

Significance and Expected Impact

The findings of this project will help AHRQ identify promising areas for research and innovation in SDM and PI over the next 5 years. This project will inform discussions within AHRQ regarding the scope and nature of future research activities to be conducted or supported by the Division of Decision Science and Patient Engagement and the Division of Practice Improvement, both within AHRQ's Center for Evidence in Practice Improvement. The anticipated long-term impact of the project is research that produces evidence that will improve SDM in clinical settings and PI approaches in ambulatory settings.

Target Audience

The target audience is AHRQ.

Key Tasks/Activities

This process starts by building on the specific knowledge and expertise in research on SDM and PI brought by the RTI-UNC team. For this project, this team will:

- Develop two workplans, one each for SDM and PI, that will outline approaches, activities, and timelines for achieving project goals.
- Conduct high-level scans and analyses of the SDM and PI research and implementation literature.
- Conduct 18 key informant interviews (9 each for SDM and PI).
- Convene two technical expert panels (one for SDM, one for PI) for 1-day meetings.
- Produce summary reports on the state of the science in SDM and PI.

Key Deliverables

- Summary Report on the State of the Science in Shared Decision Making in Clinical Settings
- Summary Report on the State of the Science in Practice Improvement in Ambulatory Settings

Each report will:

- Provide an overview of the current status of the research,
- Identify critical gaps,
- Specify priority areas for potentially productive research, and
- Draw out implications of these findings.