

FACT SHEET

AHRQ Projects to Prevent Healthcare-Associated Infections, Fiscal Year 2011

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

Healthcare-associated infections (HAIs) are infections that people acquire while they are receiving treatment for another condition in a health care setting. They are costly, deadly, and largely preventable. A core part of the Agency for Healthcare Research and Quality's (AHRQ's) mission is to improve the safety of health care for all Americans. One way AHRQ is accomplishing this mission is by funding projects to prevent and reduce HAIs.

This fact sheet provides a listing of new and continuing HAI projects supported with Fiscal Year (FY) 2011 funding from AHRQ.¹

New Projects

Comprehensive Unit-based Safety Program for Ventilator-Associated Pneumonia Prevention

Funding Mechanism: Contract (ACTION II Task Order)

Contractor: Johns Hopkins University

Targeted HAI: Ventilator-associated pneumonia (VAP)

Setting: Hospitals

Acronyms

ACTION—Accelerating Change and Transformation in Organizations and Networks

CAUTI—Catheter-associated urinary tract infection

CDIs—*Clostridium difficile* infections

CUSP—Comprehensive Unit-based Safety Program

EHR—Electronic health record

ESRD—End-stage renal disease

HAIs—Healthcare-associated infections

KPC—*Klebsiella pneumoniae* carbapenemase

LTC—Long-term care

MRSA—Methicillin-resistant *Staphylococcus aureus*

NOTICE—National Opportunity to Improve Infection Control in ESRD

PEATOC—Program Evaluation and Analysis Task Order Contract

PHIS—Pediatric Health Information System

SAUL—Standardization of Antibiotic Use in Long-Term Care

SSIs—Surgical site infections

SUSP—Surgical Unit-based Safety Program

UTIs—Urinary tract infections

VAP—Ventilator-associated pneumonia

AHRQ's HAI projects funded in FY 2009, and FY 2008 and earlier can be found at the following links: FY 2010: <http://www.ahrq.gov/qual/haify10.htm>, FY 2009: <http://www.ahrq.gov/qual/haify09.htm>, FY 2008 and earlier: <http://www.ahrq.gov/qual/haifyer.htm>.



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Goals: This project will develop and test a Comprehensive Unit-based Safety Program (CUSP) to reduce VAP.

Objectives include—

- Identifying and selecting the CUSP-VAP intervention bundle
- Adapting CUSP for VAP prevention
- Demonstrating and field testing CUSP-VAP in two States

Development and Demonstration of a Surgical Unit-based Safety Program to Reduce Surgical Site Infections and Other Surgical Complications

Funding Mechanism: Contract (ACTION II Task Order)

Contractor: Johns Hopkins University

Targeted HAI: Surgical site infections (SSIs) and other surgical complications

Setting: Hospitals

Goals: The goal of this project is to develop a Surgical Unit-based Safety Program (SUSP), analogous to CUSP, to reduce SSIs and other major surgical complications. Objectives include—

- Developing SUSP as an adaptation of the CUSP protocol and developing materials to be applied to SSI and other surgical complications, including the use of teamwork assessment and the World Health Organization Safe Surgery Checklist
- Implementing SUSP in a phased manner beginning with 10 States and 10 hospitals in each State and then in subsequent option years expanding to all States, the District of Columbia, and Puerto Rico

Electronic Surveillance for Wound Infections After Ambulatory Pediatric Surgery

Funding Mechanism: Grant (R01 Mechanism)

Institution: Children's Hospital of Philadelphia

Targeted HAI: SSIs

Setting: Ambulatory surgery

Goals: The goals of this project are to determine the epidemiology and improve the surveillance of SSIs after ambulatory surgery in children. To accomplish these goals, the specific aims are to—

- Define the incidence of and risk factors for SSI after ambulatory pediatric surgery
- Identify the electronic health record (EHR) data elements required for the most sensitive and efficient identification of SSI after ambulatory pediatric surgery
- Create an EHR-based surveillance tool that will facilitate efficient and effective SSI surveillance after ambulatory pediatric surgery

An Environmental Disinfection Intervention to Control *C. difficile*

Funding Mechanism: Grant (R18 Mechanism)

Institution: Case Western

Targeted HAI: *Clostridium difficile* infection (CDIs)

Setting: Inpatient

Goals: The long-term goal for this project is to develop improved control measures for *Clostridium difficile*. The central hypothesis of this project is that an evidence-based intervention to improve environmental disinfection will reduce rates of healthcare-associated CDIs. The specific aims are to—

- Validate the effectiveness of the fluorescent marker method as a means to monitor disinfection of high-touch surfaces in rooms that have housed patients with CDIs
- Determine if daily disinfection of high-touch surfaces during treatment for CDIs will reduce health care workers' hand contamination
- Determine if an intervention to improve environmental disinfection by housekeeping staff will reduce rates of healthcare-associated CDI

Identifying and Aligning Work System Risk Factors to Reduce Healthcare-Associated Infections

Funding Mechanism: Contract (ACTION II Task Order)

Contractor: CNA

Targeted HAI: Multiple

Setting: Multiple

Goals: The goal of this project is to focus on aligning and bundling work system, environmental, and contextual factors that can serve as a standalone intervention or that can facilitate the successful implementation of a HAI control method or tool whose effectiveness holds promise or has been previously demonstrated. Objectives include—

- Performing an in-depth and comprehensive review of the literature that examines factors that must be aligned for successful implementation of an HAI-reduction intervention
- Designing and conducting an evaluation of the intervention that purposefully aligns selected work system factors to reduce HAIs
- Preparing and disseminating a toolkit that enables other organizations to implement the HAI reduction strategy

Impact of Methicillin-resistant *Staphylococcus aureus* Decolonization Therapy on MRSA Infection and Transmission

Funding Mechanism: Grant (R01 Mechanism)

Institution: Medical University of South Carolina

Targeted HAI: Methicillin-resistant *Staphylococcus aureus* (MRSA)

Setting: Inpatient

Goals: This project will compare the effectiveness of a standard patient isolation strategy with placebo decolonization with a strategy of isolation and active decolonization for hospital inpatients colonized with

MRSA with respect to the following endpoints—

- Reducing infection rates pre-discharge from the hospital among the index patients
- Reducing subsequent infections post-discharge among those without an infection in the index hospitalization
- Reducing transmission of MRSA to household members post-discharge

Modifying Contact Precautions for Methicillin-resistant *Staphylococcus aureus* in Extended Care

Funding Mechanism: Grant (R18 Mechanism)

Institution: University of Maryland

Targeted HAI: MRSA

Setting: Long-term care (LTC) facilities

Goals: The goal of this project is to determine the optimal use of contact precautions for community-based LTC facilities. The specific aims of this project are to—

- Estimate the frequency of MRSA transmission and risk factors for MRSA transmission to protective gowns worn by health care workers interacting with MRSA-colonized LTC residents
- Use activity-based costing to estimate the costs of gown use in LTC facilities for the different options from Centers for Disease Control and Prevention guidelines in different types of LTC facilities

National Implementation of Comprehensive Unit-based Safety Program to Reduce Catheter-Associated Urinary Tract Infections

Funding Mechanism: Contract (ACTION II Task Order)

Contractor: Health Research & Educational Trust

Targeted HAI: Catheter-associated urinary tract infection (CAUTI)

Setting: Hospitals

Goals: This project expands the

previously funded CUSP to reduce CAUTIs from a 12-State pilot effort to allow participation by more States.

Objectives include—

- Expanding the CUSP-CAUTI initiative to 15 more States and providing funding for coordination and data analysis. Option years 1, 2, and 3 would expand the initiative to all 50 States, the District of Columbia, and Puerto Rico.
- Expanding or enhancing existing statewide consortium efforts to reduce HAIs including CAUTIs.

Risk Factors for Community-Onset Healthcare-Acquired Urinary Tract Infections

Funding Mechanism: Grant (R03 Mechanism)

Institution: Oregon State University

Targeted HAI: Healthcare-associated urinary tract infections (UTIs)

Setting: Multiple

Goals: The long-term goal of this project is to utilize epidemiologic data to develop interventions aimed at reducing the incidence of healthcare-associated UTIs. The objective of this research is to collect preliminary data that can guide future epidemiologic studies of community-onset, healthcare-associated UTIs. To accomplish this objective, the aims of the project are to—

- Estimate the incidence of community-onset, hospital-acquired UTIs diagnosed among patients hospitalized on the family medicine service at Oregon Health & Science University
- Identify potential risk factors for the development of community-onset, hospital-acquired UTIs

Synthesis of Results of AHRQ-Funded Healthcare-Associated Infection Projects: Fiscal Year 2007 Through Fiscal Year 2010

Funding Mechanism: Contract (PEATOC Task Order)

Contractor: IMPAQ/RAND

Targeted HAI: Multiple

Setting: Multiple

Goals: The goal of this project is to develop and disseminate a synthesis of results of AHRQ's HAI projects that were funded in FY 2007 through FY 2010. Objectives include—

- Identifying and promoting application of effective HAI prevention approaches
- Identifying gaps in the HAI science base
- Identifying opportunities to further fund projects of knowledge generation and implementation to prevent HAIs

Understanding the Role of Health Care Facility Design in the Acquisition and Prevention of Healthcare-Associated Infections

Funding Mechanism: Contract (ACTION II Task Order)

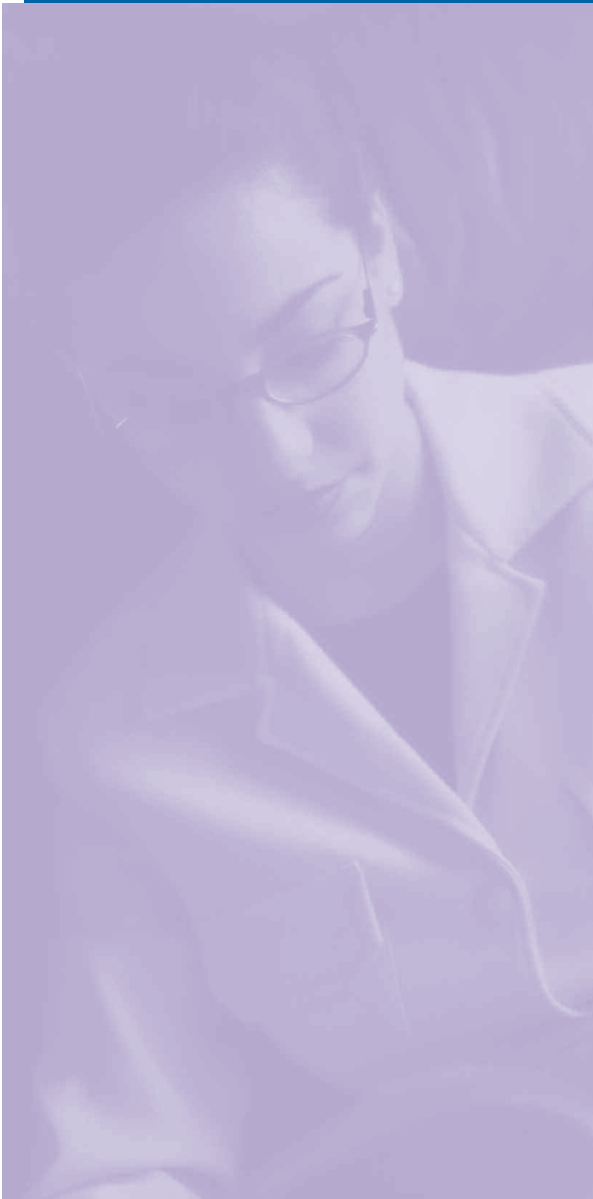
Contractor: RTI International

Targeted HAI: Multiple

Setting: Multiple

Goals: The overall goal of this project is to better understand and describe the role of health care facility design in the acquisition and prevention of HAIs. Objectives include—

- Developing a conceptual framework that describes the relationship between the built environment of health care facilities and the acquisition and prevention of HAIs and that can be used to guide and assess future research
- Conducting an environmental scan to understand the current state of knowledge of HAI prevention through the use of the built environment



Continuing Projects—Contracts

Cluster Randomized Trial of Hospitals to Assess the Impact of Targeted vs. Universal Strategies to Reduce MRSA in Intensive Care Units

Do High-Performance Work Practices Facilitate Healthcare-Associated Infection Interventions?

Healthcare Cost and Utilization Project: National and Regional Projections of HAIs in the Acute Care Setting

Longitudinal Evaluation of the U.S. Department of Health and Human Services Action Plan to Reduce Healthcare-Associated Infections

National Implementation of Comprehensive Unit-based Safety Program to Reduce Central Line-Associated Blood Stream Infections

National Opportunity to Improve Infection Control in ESRD (NOTICE) Initiative (Previous name: Improving Infection Control in Practices in End-Stage Renal Disease Facilities)

Optimizing Pre-Operative Surgical Antibiotic Prophylaxis for the 21st Century

Reducing Infections Caused by Carbapenem-Resistant *Enterobacteriaceae* (KPC-Producing Organisms) through Application of Recently Developed Recommendations

Standardization of Antibiotic Use in Long-Term Care (SAUL)

Supporting AHRQ Projects on Reducing HAIs with Market Research and Dissemination

Continuing Projects—Grants

Central Venous Catheter-Related Blood Stream Infections in Pediatric Cancer

Detection, Education, Research, and Decolonization Without Isolation in Long-Term Care

Emergency Department Best Practices to Reduce Healthcare-Associated Infections

Epidemiology of Rural MRSA: Is Livestock Contact a Risk Factor?

Evaluating *Clostridium difficile* Infection in Hospitalized Patients

Multidrug-Resistant Urinary Tract Infections in Ambulatory Settings

PHIS+: Augmenting the Pediatric Health Information System with Clinical Data

Preventing/Managing *Clostridium difficile* for Nursing Home Residents, Admissions and Discharges

Project CLEAR—Changing Lives by Eradicating Antibiotic Resistance

Quality of Care and Outcomes of Health Care-Associated Pneumonia

Reducing Healthcare-Associated Infections Using an Infection Control Network

Surgical Site and *Clostridium difficile* Infections after Ambulatory Surgery

Targeting Hospital-Acquired Complications: Impact on the Care of Complex Patients

Translating Comparative Effectiveness Research Results from Intensive Care Unit Study to Improve Outcomes in Cardiac Surgery