

Tools & Resources to Prevent Healthcare-Associated Infections

ahrq.gov/hai

Introduction

Healthcare-associated infections, or HAIs, are among the leading threats to patient safety. AHRQ's HAI Program supports projects to advance the science of HAI prevention, develop more effective approaches for reducing HAIs, and help clinicians apply proven methods to prevent HAIs on the front lines of care. Many HAIs are caused by antibiotic-resistant bacteria, and combating antibiotic-resistant bacteria (CARB) has become a national priority. A primary way to fight resistance is to stop infections from happening in the first place. The projects funded by AHRQ's HAI Program accelerate the implementation of evidence-based methods to reduce HAIs in all health care settings.

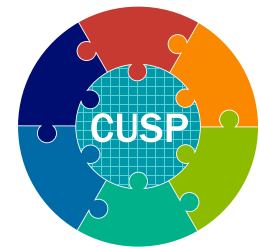
Every HAI prevented is one less episode of antibiotic use.

The tools and resources noted here are derived from AHRQ's research and implementation projects and are available at no cost. Physicians, nurses, infection control practitioners, quality improvement and other health care professionals can employ these tools in their facilities — including acute-care hospitals, nursing homes and other long-term care settings, doctors' offices, ambulatory surgery centers, or ASCs, and end-stage renal disease facilities—to prevent HAIs and keep patients safer.

Tools

CUSP

The Comprehensive Unit-based Safety Program, or CUSP, is a framework for patient safety improvement. CUSP combines improvement in safety culture, teamwork, and communications together with a checklist of proven practices for preventing patient harms. CUSP was developed at Johns Hopkins, with AHRQ support, to prevent HAIs. It was tested successfully in 100 Michigan intensive care units, or ICUs, and later spread nationwide, resulting in a 41 percent reduction in the rate of central line-associated bloodstream infections (CLABSI). Building on this success, AHRQ has expanded the application of CUSP to other HAIs, settings, and patient safety problems. More information about CUSP can be found at:



Web: ahrq.gov/cusp

CUSP Toolkit

The CUSP Toolkit helps professionals and facilities apply CUSP to make care safer. It includes checklists, PowerPoint slides, facilitator notes, instructional videos, education on the science of safety, and other resources. Created by clinicians for clinicians, the toolkit is modifiable to meet individual unit needs.

Web: ahrq.gov/cusptoolkit/



CLABSI tools: specifically developed to apply the CUSP framework to prevent CLABSIs.

Web: ahrq.gov/CLABSItools

CAUTI tools: specifically developed to apply the CUSP framework to prevent CAUTI in hospitals.

Web: ahrq.gov/CAUTItools

Additional CUSP tools are in development to address:

- CAUTI and other HAIs in long term care facilities

Web: ahrq.gov/cautitctools

- Surgical site infections and other surgical complications in hospitals

Web: ahrq.gov/haisurgery

- Surgical site infections and other surgical complications in ambulatory surgery

Web: ahrq.gov/haisamburgery

- Complications in mechanically ventilated patients, including ventilator-associated events and ventilator-associated pneumonia

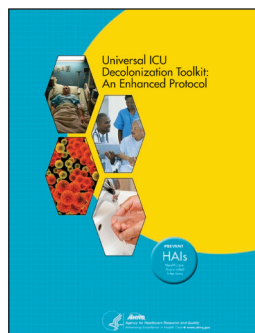
Web: ahrq.gov/haimvp

Universal ICU Decolonization: An Enhanced Protocol

This online protocol provides instructions for implementing universal decolonization in adult ICUs, as was done in the REDUCE MRSA Trial (Randomized Evaluation of Decolonization vs.

Universal Clearance to Eliminate Methicillin-Resistant *Staphylococcus aureus*). The trial found that universal decolonization reduced bloodstream infections and the presence of methicillin-resistant *Staphylococcus aureus* (MRSA) *New England Journal of Medicine*, May 29, 2013.

Web: ahrq.gov/universal_icu_decolonization



Reducing Infections in ESRD Facilities

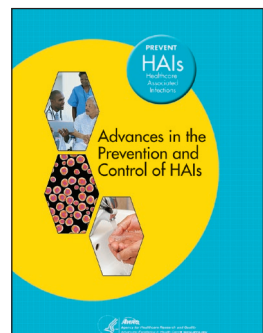
The AHRQ Safety Program for End-Stage Renal Disease Facilities Toolkit helps ESRD clinics prevent HAIs in dialysis patients. With four instructional modules, facilitators can teach dialysis center team members specific ways to create a culture of safety, follow clinical best practices, use checklists and other audit tools, and engage with patients and their families. These science-based, practical resources reflect the real-world experiences of the frontline providers who participated in the toolkit's development.

Web: ahrq.gov/esrdinfections

Advances in the Prevention and Control of Healthcare-Associated Infections (HAIs)

Includes 19 original articles featuring methodological insights from AHRQ-funded HAI research. These articles cover the development and implementation of HAI prevention practices and HAI risk identification for quality improvement, advancing current professional knowledge about preventing HAIs.

Web: go.usa.gov/V3GY



Special supplements of original articles by AHRQ-funded HAI researchers:

- *American Journal of Infection Control*

Web: [ajicjournal.org/issue/S0196-6553\(14\)X0013-1](http://ajicjournal.org/issue/S0196-6553(14)X0013-1)

- *Infection Control & Hospital Epidemiology*

Web: jstor.org/stable/10.1086/677906

Fighting Antibiotic-Resistant Infections

Carbapenem-Resistant Enterobacteriaceae (CRE) Control and Prevention Toolkit

Carbapenem-resistant Enterobacteriaceae, or CRE, are a family of germs that are highly resistant to antibiotics. KPC (Klebsiella pneumoniae carbapenemase) is a dangerous type of CRE that is resistant to known treatments and kills more than half of patients who become infected with it. Hospitals can use this toolkit to control and prevent KPC outbreaks in their facilities.

Web: ahrq.gov/cretoolkit

Toolkit for Reduction of Clostridium difficile Infections Through Antimicrobial Stewardship

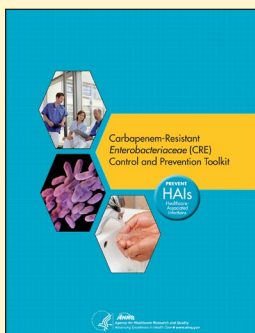
This online toolkit includes resources to help hospitals implement an antimicrobial stewardship program, or ASP, to specifically target C. difficile in their facility. Use the toolkit to find out “Is my organization ready?” and “How do I select the right intervention?” It is based on the “Antimicrobial Stewardship Toolkit,” which includes best practices from the Greater New York Hospital Association/United Hospital Fund Antimicrobial Stewardship Collaborative.

Web: ahrq.gov/cdifftoolkit/

Nursing Home Antimicrobial Stewardship Modules

These field-tested, evidence-based modules help nursing homes develop ASPs to use and prescribe antibiotics appropriately to reduce resistance and retain the effectiveness of antimicrobials.

Web: ahrq.gov/nh-aspguide



Resources

Eliminating CLABSI, A National Patient Safety Imperative: Final Report

More than 1,000 hospital units participating in this national implementation project used CUSP to reduce central-line bloodstream infections by 41 percent.

Web: ahrq.gov/clabsi-final

Companion Guide to the Final Report:

Web: ahrq.gov/clabsi-companion

Eliminating CLABSI, A National Patient Safety Imperative: Neonatal CLABSI Prevention

One hundred neonatal intensive care units used CUSP to reduce CLABSIs by 58 percent.

Web: ahrq.gov/clabsi-neonatal

High-Performance Work Practices in CLABSI Prevention Interventions: Final Report

An analysis of case studies from participants in AHRQ’s CUSP national implementation project describes specific practices and “success factors” for reducing and eliminating CLABSIs in health care facilities.

Web: ahrq.gov/professionals/quality-patient-safety/cusp/clabsi-hpwpreport/index.html

Targeted versus Universal Decolonization to Prevent ICU Infection

A peer reviewed article appearing in the June 2013 issue of *New England Journal of Medicine* reports the results of the Randomized Evaluation of Decolonization versus Universal Clearance to Eliminate MRSA (REDUCE MRSA) trial, a three-arm, cluster-randomized trial, to compare strategies for preventing ICU infections. The study was funded by AHRQ and conducted in collaboration with CDC. The trial found that universal decolonization was more effective in reducing bloodstream infections and the presence of MRSA.

Web: nejm.org/doi/full/10.1056/NEJMoa1207290

Universal Glove and Gown Use and Acquisition of Antibiotic-Resistant Bacteria in the ICU, A Randomized Trial

A peer reviewed article appearing in the October 2013 issue of JAMA reports the result of an AHRQ-funded cluster-randomized trial in 20 medical and surgical ICUs in 20 hospitals to test the impact of universal glove and gown use on acquisition of MRSA or Vancomycin-resistant Enterococcus

Web: jama.jamanetwork.com/article.aspx?articleID=1752753

Clostridium difficile Infections: Diagnosis, Treatment, and Prevention

A newly updated summary for clinicians of findings from a systematic review that examined the evidence on effectiveness of diagnostic tests, treatments, and prevention strategies for Clostridium difficile infections in adults.

Web: effectivehealthcare.ahrq.gov/c-difficile-update-report

Interventions to Improve Antibiotic Prescribing for Uncomplicated Acute Respiratory Tract Infections

This summary for clinicians highlights interventions that have evidence for improving or reducing antibiotic prescribing and not causing adverse consequences.

Web: effectivehealthcare.ahrq.gov/antibiotics-RTI-clinician/

For more information on any of these products, please contact:

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