Introduction

Healthcare-associated infections (HAIs) are infections that patients get while receiving treatment for another condition in some type of health care facility. A study of patients in 2002 estimated that HAIs account for an estimated 1.7 million infections and 99,000 associated deaths annually, making them the most common complication of hospital care. The added financial burden attributable to HAIs is estimated to be between $28 billion to $33 billion each year.

To address this growing problem, the Agency for Healthcare Research and Quality (AHRQ) has funded and collaborated with other Federal agencies on projects that prevent and reduce HAIs. These projects are primarily funded through existing AHRQ mechanisms.

In addition to outlining AHRQ’s role in the U.S. Department of Health and Human Services’ (HHS) efforts to reduce and prevent HAIs, this fact sheet highlights the Agency’s plans for future HAI projects, provides a comprehensive overview of AHRQ’s initiatives, and

Acronyms

ACTION—Accelerating Change and Transformation in Organizations and Networks
AHRQ—Agency for Healthcare Research and Quality
BSI—blood stream infection
CAUTI—catheter-associated urinary tract infection
CDC—Centers for Disease Control and Prevention
CLABSI—central line-associated blood stream infection
CMS—Centers for Medicare & Medicaid Services
CUSP—Comprehensive Unit-based Safety Program
HAI—Healthcare-associated infection
HHS—U.S. Department of Health and Human Services
HCUP—Healthcare Cost and Utilization Project
ICU—intensive care unit
ICUSRS—Intensive Care Unit Safety Reporting System
KPC—Klebsiella pneumoniae Carbapenemase
MRSA—methicillin-resistant Staphylococcus aureus
PSO—Patient Safety Organization
SSI—surgical site infection
VAP—ventilator-associated pneumonia
includes specifics about programs addressing two important HAs: methicillin-resistant *Staphylococcus aureus* and central line-associated blood stream infections.

**Addressing Health Care-Associated Infections**

Serious HAs that lead to extended hospital stays, and ultimately increased cost and risk of mortality, include blood stream infections (BSIs), catheter-associated urinary tract infections (CAUTIs), surgical site infections (SSIs), and ventilator-associated pneumonia (VAP). These four infections account for more than 80 percent of all HAs. Preventing and reducing these infections can be a challenge for individuals who deliver care to patients. To address this issue, AHRQ supports many activities focused on HAs overall. Below are summaries of these projects.

**Barriers and Challenges for Preventing HAs in 34 Hospitals**

Multidisciplinary teams at 34 participating hospitals are using AHRQ-supported evidence-based tools for improving infection safety to facilitate changes in clinician behaviors and habits, care processes, and the safety culture. The goal of this project is to identify challenges to successfully preventing HAs at the point of care. Five partners are preparing case studies that examine how their hospitals are addressing infection prevention. These case studies analyze hospital staff opinions about the viability and success of activities; methods, interventions, and training that hospitals use to combat HAs; and hospitals’ successes at keeping patients infection free at the point of care. Responses from three common data collection forms (Patient Safety and Infection Catalog, Patient Safety and Infection Prevention Assessment, and the HAI Information Collection and Reporting Summary) will provide the basis for analysis across the partnerships about staff perceptions of safety activities and infection prevention, including facilitators, barriers, and challenges to reducing HAs.

**AHRQ Program:** Accelerating Change and Transformation in Organizations and Networks (ACTION)

**Institution(s):** Indiana University, Indianapolis, IN, with ACTION partners: American Institutes for Research, Washington, DC; Denver Health and Hospital Authority, Denver, CO; Health Research and Educational Trust, Chicago, IL; University of Iowa, Iowa City, IA; and Yale University, New Haven, CT.

**Project Nos.:** HHSA-290-2006-00019

**Total Funding:** $2,000,000

**Project Period:** 09/07-10/09

**Initiative Examines Tools and Interventions to Assist Hospitals in Reducing HAs**

To support the HAI project mentioned above, AHRQ funded an assessment program, led by Indiana University, to coordinate project tasks and activities, provide technical assistance to the hospitals, and examine information gleaned from the project. The assessment program is preparing manuscripts that synthesize and analyze findings across the case studies of the five partners to determine common barriers, challenges, and facilitators and to identify topics for further research.

**AHRQ Program:** ACTION

**Institution(s):** Indiana University, Indianapolis, IN

**Project No.:** HHSA-290-2006-00013

**Total Funding:** $400,000

**Hand Hygiene is Important for Preventing HAs**

In AHRQ’s Evidence Report/Technology Assessment entitled *Prevention of Health Care-Associated Infections*, researchers reviewed 64 studies that reported either HAI rates or rates of adherence to target preventive quality improvement interventions for any of four HAs: SSI, BSI, VAP, and CAUTI. In this report, the sixth volume of the *Closing The Quality Gap: A Critical Analysis of Quality Improvement Strategies* series, the researchers target hand hygiene as an intervention for all HAs. Specific interventions for the individual HAs include appropriate perioperative antibiotic prophylaxis, perioperative glucose control, and decreased shaving of the operative site for SSIs; maximal sterile barrier precautions, use of chlorhexidine for skin antisepsis, and avoidance of femoral catheterization for BSIs; semirecumbent patient positioning and daily assessment of readiness for ventilator weaning for VAP; and reduction in unnecessary catheter use and adherence to aseptic catheter insertion and care for CAUTIs. Based on the limited data available and poor methodologic quality of the studies, the researchers recommend several strategies as worthy of future study and possibly wider implementation if an appropriate plan is in place to monitor their effectiveness and potential adverse effects. Strategies include:

- Printed or electronic reminders with use of automatic stop orders to reduce unnecessary urethral catheterization. This is the only strategy supported by multiple controlled trials.
• Printed or electronic reminders for improving adherence to recommendations for timing and duration of surgical antibiotic prophylaxis.
• Staff education, including use of video and Web-based interactive tutorials and checklists, to improve adherence to insertion practices for placement of central venous catheters.

**AHRQ Program:** Evidence-based Practice Centers

**Institution(s):** Stanford University-University of California, San Francisco

**Evidence-based Practice Center, Stanford, CA**

**Project No.:** AHRQ contract 290-02-0017 task order 3

**Project Period:** 10/1/05–9/30/06


**Total Funding:** $300,000

### Addressing Methicillin-Resistant Staphylococcus aureus

Many bacterial agents are responsible for HAIs, the most common of which is methicillin-resistant *Staphylococcus aureus* (MRSA). The number of MRSA-associated hospital stays more than tripled after 2000, reaching 368,600 in 2005, according to the AHRQ-sponsored Healthcare Cost and Utilization Project (HCUP) database (http://www.hcup-us.ahrq.gov/reports/statbriefs/sb35.pdf). Patients hospitalized for MRSA have longer hospital stays and are more likely to die than patients who do not have MRSA. These infections are especially common in hospital intensive care units (ICUs).

In October 2007, Congress appropriated $5 million to AHRQ to identify and help suppress the spread of MRSA and related HAIs. AHRQ is using the funds to collaborate with the Centers for Disease Control and Prevention (CDC) and the Centers for Medicare & Medicaid Services (CMS) to develop an action plan specifically aimed at reducing MRSA infections in health care settings. The projects in the plan use electronic and administrative data, surveillance, and implementation strategies to:

- Reduce the burden of MRSA infections by more than 30 percent via novel interventions aimed at critical control points in a community or region.
- Determine the scope, risk factors, and control measures for hospital-acquired community-onset MRSA infections.
- Test methods to reduce hospitalization from community-acquired MRSA.
- Understand the role of interfacility MRSA transmission on overall infection rates.
- Understand the role of nursing home transmission on overall rates and delineate interventions that are effective in reducing such transmission.

Details on seven MRSA collaborative projects that have resulted from this effort are below.

### Testing Spread and Implementation of MRSA-Reduction Practices

This project broadens use of an already-tested MRSA intervention bundle for ICUs to additional units in hospitals participating in an existing Indiana University ACTION project on MRSA. It is designed to spread successful MRSA reduction interventions to additional hospitals in the Indianapolis area and beyond. The participating health care settings will identify and monitor health care-associated community-onset MRSA cases and control who receives care in participating hospitals and affiliated settings, identify strategies to reduce health care-associated community-onset MRSA, and demonstrate reduction of health care-associated community-onset MRSA. The Indiana University-led team is evaluating the effectiveness of tested implementation strategies and innovations by applying information technology to enable consistent data collection, sharing, analysis, and reporting; capture hospital cost savings through participation in the project; and disseminate findings and promote outreach to target audiences and other stakeholders. Researchers will produce a final report summarizing findings and lessons learned and will include tools to help others implement the MRSA intervention bundle, a social network analysis, findings on cost savings, and a dissemination and outreach plan.

**AHRQ Program:** ACTION

**Institution(s):** Indiana University, Indianapolis, IN

**Project No.:** HHSA-290-2006-00013 task order 5

**Project Period:** 9/08-9/11

**Total Funding:** $1,800,000 (includes $300,000 from CDC)

### Optimizing the Initial Evaluation and Treatment of Suspected Community-Acquired MRSA Infections in Primary Care Practice

This project uses AHRQ’s primary care Practice-Based Research Networks to engage primary care clinicians in identifying barriers likely to limit or prevent their ability to adhere to CDC-supported guidelines and in suggesting methods for overcoming specific challenges. Researchers are developing and assessing strategies for ensuring that primary care clinicians and practices adhere to feasible portions of the guidelines in managing patients with suspected community-acquired MRSA infections. Researchers will then work
to disseminate these strategies while increasing efforts to implement those that have been proven to be effective as a result of their findings.

**AHRRQ Program:** Practice-Based Research Networks  
**Institution(s):** University of Colorado, Aurora, CO; University of North Carolina, Chapel Hill, NC; and University of Iowa, Iowa City, IA.  
**Project No:** HHSA-290-2007-10008; HHSA-290-2007-10014; HHSA-290-2007-10012  
**Project Period:** 9/08-9/10  
**Total Funding:** $1,200,000  

**Identifying Potentially Modifiable Factors Associated With Hospitalization for Community-Acquired MRSA**

This project augments AHRQ's State and regional demonstration projects in health information technology to identify which, if any, ambulatory-related factors are highly associated with subsequent hospitalization for community-acquired MRSA infections. Findings are used to develop and evaluate strategies to intervene in the ambulatory setting and thereby decrease hospitalizations. Researchers are: 1) defining community-acquired MRSA cases by identifying patients within the Indiana Network for Patient Care health information exchange who have skin, soft tissue, and wound infections; 2) identifying patients from this group who have been hospitalized for MRSA treatment; 3) documenting what, if any, ambulatory care each patient received (emergency department, medical office, etc.); and 4) analyzing data to identify events in which interventions could have been implemented in the ambulatory setting, preventing the need for hospitalization.

**AHRRQ Program:** State and Regional Demonstrations in Health Information Technology  
**Institution(s):** Indiana University/Regenstrief Institute, Indianapolis, IN  
**Project No:** 290-04-0015  
**Project Period:** 9/30/08-3/31/10  
**Total Funding:** $750,000  

**Determining the Contribution of MRSA Originating in the Community and Long-Term Care Facilities to the Rapidly Rising Occurrence of MRSA in Hospitalized Patients**

This project analyzes comprehensive State hospital discharge data from AHRQ's HCUP data to determine the epidemiology of hospitalized MRSA. Researchers use robust variables available in the State databases (present on admission, readmission indicators, and admit from and discharge to long-term care) to determine, first, the attributable contribution of community-acquired MRSA, health care-associated community-onset MRSA, health care-associated hospital-onset MRSA, and admission from long-term care to the increase in MRSA hospitalizations and, second, the associated risks that can be addressed to reduce infections from MRSA.

**AHRRQ Program:** HCUP  
**Institution(s):** Social and Scientific Systems, Silver Spring, MD  
**Project No:** 290-04-0005  
**Project Period:** 9/08-9/10  
**Total Funding:** $75,000  

**Producing Rapid Cycle State and National Estimates to Support and Evaluate the MRSA Initiative**

This project uses AHRQ's HCUP data to establish a baseline infection rate for MRSA at national, regional, State, community, and hospital levels. Researchers are developing and implementing a method for generating rapid cycle national and regional estimates of MRSA for the inpatient setting that can be used to evaluate interventions implemented to reduce MRSA in the hospital and community; develop and implement a method for generating rapid national estimates of MRSA for the emergency department.
setting to provide a window for community-acquired and health-care-acquired MRSA; and evaluate the inclusion of quarterly data submissions from HCUP State partners that could support same-year evaluations of impact from MRSA interventions at the community and hospital level.

**AHRRQ Program:** HCUP  
**Institution(s):** Thomson Reuters, Santa Barbara, CA  
**Project No:** HHSA-290-2006-00009C  
**Project Period:** 9/06-3/08  
**Total Funding:** $375,000

**Understanding MRSA Reservoirs in Assessing MRSA Solutions**

This project involves collecting data on the burden of MRSA from a sample of hospitals and nursing homes within a single region. Information collected will include MRSA total and admission prevalence in acute, subacute, and chronic care facilities to assess the range of MRSA in these facilities, stratified by level of care (ICU, non-ICU, post-acute/rehabilitation care, and long-term care). Results from this data collection will be used to inform the development of mathematical models to evaluate methods to control MRSA in nursing homes and other medical care facilities.

**AHRRQ Program:** Developing Evidence to Inform Decisions about Effectiveness  
**Institution(s):** Harvard Pilgrim Health Care, Boston, MA  
**Project No:** HHSA-290-2005-00331  
**Project Period:** 9/08-9/11  
**Total Funding:** $1,100,000

**Testing MRSA Reduction Techniques**

This project, led by Indiana University, tested techniques aimed at radically reducing MRSA infections. The project’s purpose was to measurably reduce hospital-acquired MRSA infections in ICUs and document how this was done to help others achieve success in similar settings. Results indicate that MRSA infections were reduced by 60 percent in the intervention ICUs and 20 percent in control units.

**AHRRQ Program:** ACTION  
**Institution(s):** Indiana University, Indianapolis, IN  
**Project No:** HHSA-209-2006-00013  
**Period:** 9/06-3/08  
**Total Funding:** $433,000

**Addressing Central Line-Associated Blood Stream Infections**

Often referred to as central venous catheters, central line catheters are tubes placed into a large vein in a patient’s neck, chest, or groin to administer medication or fluids or to collect blood samples. Each year, an estimated 250,000 cases of central line-associated blood stream infection (CLABSI) occur in U.S. hospitals, and an estimated 30,000 to 62,000 patients who get the infections die as a result, according to CDC. Highlights of AHRQ-funded CLABSI research are below.

**Use of Safety Reporting System Helps Identify Errors in Intensive Care Units**

This project’s goal was to improve patient safety in ICUs by identifying and eliminating system failures that lead to errors in care and increase the risk of harm to patients. As a result of this project, researchers developed the Intensive Care Unit Safety Reporting System (ICUSRS), a Web-based, anonymous, and confidential form for ICU staff to report adverse events and near misses. Modeled after the Aviation Safety Reporting System that has been highly successful in identifying and correcting safety problems in aviation, the ICUSRS helps identify rare events and lessons learned that can be shared among ICUs. The system collects a narrative description of the incident, the type of event, contextual information about the patient and staff without identifiers, predisposing and limiting factors, specific system factors, and what measures could be taken to prevent similar incidents in the future. Lessons learned are shared with collaborating ICUs in a monthly report and case discussions.

**AHRRQ Program:** Patient Safety  
**Institution(s):** Johns Hopkins University, Baltimore, MD  
**Project No:** HS11902  
**Project Period:** 9/01-8/05  
**References:** [http://www.safetyresearch.jhu.edu](http://www.safetyresearch.jhu.edu)  
**Total Funding:** $3,057,989

**Reducing Central Line-Associated Blood Stream Infections in ICUs—The Keystone Project**

This project, which built on the ICUSRS project, reduced the rate of blood stream infections from intravenous lines by two-thirds within 3 months in more than 100 ICUs in Michigan. Known as the “Keystone Project,” the initiative also helped the average ICU decrease its infection rate from 4 percent to 0. Over 18 months, the program saved more than 1,500 lives and nearly $200 million. The project, a partnership between the Johns Hopkins University School of Medicine and the Michigan Health & Hospital Association Keystone Center and its member hospitals, resulted in a large and sustained reduction in rates of catheter-related BSIs. These reductions were a result of applying a Comprehensive Unit-based Safety Program (CUSP), including a simple five-step checklist designed to prevent certain hospital infections and the ICUSRS. The study targeted clinicians’ use of five evidence-based procedures recommended by CDC: hand hygiene, using full-barrier precautions during the insertion of central venous catheters, cleaning the skin with chlorhexidine, avoiding the femoral site when possible, and removing unnecessary catheters.
Findings of the study were published in the December 28, 2006, issue of the New England Journal of Medicine.

AHRQ Program: Patient Safety Institution(s): Johns Hopkins University, Baltimore, MD Project No.: HS14246 Project Period: 9/03-9/05 References: http://www.mhakeystonecenter.org/ Total Funding: $454,590

State Project for Implementing Infection Reduction Program in Hospital ICUs

This project continues the Keystone Project's work by helping States apply and beta test a CUSP as a strategy for reducing CLABSIs in 100 hospital ICUs from 10 States over a 3-year period. Specifically, new partners or existing statewide cooperatives of stakeholders, including State hospital associations, quality improvement organizations, public health agencies, and health care purchasers, will work to help reduce these infections in ICUs. Participating hospitals will implement a checklist to ensure compliance with safety practices, educate staff on evidence-based practices to reduce BSIs, educate staff on team training, provide feedback on infection rates to hospitals and hospital units, and implement monthly team meetings to assess progress. Thus far, State hospital associations and patient safety groups from more than two dozen States have been selected to participate in the project. Participation is based on capability and infrastructure to implement the safety protocols being tested in the project in addition to providing broad geographic representation.

AHRQ Program: ACTION Institution(s): Health Research & Educational Trust, Chicago, IL Project No.: HHSA-290-2006-00022 task order 7 Project Period: 9/08-9/11 References: http://www.hret.org/hret/programs/cusp.html, Total Funding: $2,999,963

Upcoming Projects to Reduce and Eliminate HAIs

In October 2008, Congress appropriated $17 million to AHRQ for projects that will help further reduce and eliminate HAIs. Brief overviews of these projects are outlined below, and final details will be made available in late fall 2009.

Expanding Infection Reduction Toolkit on a National Scale

To reach its goal of reducing the average rate of CLABSIs by 80 percent in the United States, AHRQ received an additional $8 million in October 2008 to expand on the current project for implementing a CUSP. Plans are underway to increase efforts on a national scale, including adding hospitals in currently participating States, adding other settings in addition to ICUs, and adapting the program to address additional bacterial agents.

Increasing Efforts to Reduce MRSA and other Types of HAIs

AHRQ received $9 million to support 9 projects focused on reducing MRSA, Clostridium difficile, Klebsiella pneumoniae Carabpenemase (KPC), and addressing the issue of antibiotic overuse. Brief descriptions of these projects, which will expand on currently existing efforts supported by AHRQ, are below.

- Randomizing evaluation of decolonization versus universal clearance to eliminate MRSA.
- Improving the measurement of SSI risk stratification and outcome detection.
- Producing rapid national-, regional-, and State-level estimates of HAIs to evaluate the impact of interagency HAI initiatives.
- Reducing infections caused by KPC-producing organisms by applying recently developed recommendations from CDC and the Healthcare Infection Control Practices Advisory Committee.
- Standardizing antibiotic use in long-term care settings (two projects).
• Implementing teamwork principles for frontline health care providers.

Collaborating on HHS’ Cross-Agency Initiatives

HHS has begun several cross-agency initiatives to improve and expand HAI prevention efforts to bolster patient safety and reduce unnecessary health care costs. AHRQ is one of the lead agencies involved in a new planning effort to develop comprehensive short- and long-term goals to reduce HAI nation-wide. This effort addresses and expands on issues highlighted by a March 2008 Government Accounting Office review of HAI in hospitals that underscored the depth of the problem.

The Deputy Secretary of HHS tasked the Office of Public Health and Science to convene an interagency Steering Committee for the Prevention of HAI to develop and implement a national action plan that aims to significantly reduce HAI within 5 years. The Steering Committee includes representatives from AHRQ, CDC, CMS, the Food and Drug Administration, the National Institutes of Health, the Office of the National Coordinator for Health Information Technology, other HHS offices, and the Department of Veterans Affairs.

In January 2009, HHS released the Action Plan to Prevent Healthcare-Associated Infections, which establishes national goals and outlines key actions for enhancing and coordinating HHS-supported efforts. These include development of national benchmarks, prioritized recommended clinical practices, a coordinated research agenda, an integrated information systems strategy, and a national messaging plan. The steering committee will establish national targets for HAI reduction over the next 5 to 10 years.

HHS’ Action Plan for reducing HAI is found on the HHS Web site at http://www.hhs.gov/ophs/initiatives/hai/infection.html and will be implemented in stages. Stage one will focus on hospitals and address CAUTIs, BSIs, SSIs, VAP, Clostridium difficile, and MRSA. Stage two will address infections occurring in ambulatory surgical and hemodialysis centers.

Aligning AHRQ’s Efforts With Other Federal Agencies

All of AHRQ’s efforts regarding HAI have been tightly aligned with CDC’s definitions of and protocols for reducing HAI. For example, the Keystone ICU Project employed CDC techniques with great success. AHRQ’s experience in translating research into practice thus fosters more rapid adoption of evidence-based practices to reduce HAI.

Two recent activities underscore the productive working relationship between AHRQ, CDC, and CMS:

• CDC and CMS scientists worked with AHRQ researchers to develop project plans for the $5 million (fiscal year 2008) and $17 million (fiscal year 2009) initiatives to reduce MRSA, CLABSI, and other HAI.

• The Agencies jointly developed HAI data collection instruments to support new Patient Safety Organizations (PSOs). PSOs are new entities in which clinicians and health care providers can work to collect, aggregate, and analyze data within a legally secure environment of privilege and confidentiality protections to identify and reduce the risks and hazards associated with patient care. See below for additional information on this effort.

Collecting HAI Data Through Patient Safety Organizations

The Patient Safety and Quality Improvement Act of 2005 (Patient Safety Act) authorized the creation of PSOs to improve the quality and safety of U.S. health care delivery. Organizations that are eligible to become PSOs include public or private entities, profit or not-for-profit entities, provider entities such as hospital chains, and other entities that establish special components to serve as PSOs. By providing both privilege and confidentiality, PSOs create a secure environment where clinicians and health care organizations can collect, aggregate, and analyze data, thereby improving quality by identifying and reducing the risks and hazards associated with patient care.

In January 2009, HHS issued a final rule for PSOs, which provides final requirements and procedures for PSOs. As outlined in the Patient Safety Act, AHRQ administers provisions governing PSO operations, and HHS’ Office for Civil Rights enforces the confidentiality provisions of the Patient Safety Act. This legislation authorizes the formation of PSOs, which are voluntary organizations that work with clinicians and provider organizations to identify, analyze, and reduce the risks and hazards associated with patient care. PSOs provide Federal privilege and confidentiality protections to clinicians and provider organizations for all information they create, collect, or use for patient safety activities. In this way, PSOs promote collection and analysis of information on patient safety events. In order for data collected by PSOs to be harmonized and aggregated across organizations, AHRQ has recently made available common definitions and reporting formats, known as Common Formats, for collecting, reporting, and analyzing information on patient safety events.
With respect to HAI s, AHRQ worked with CDC personnel to ensure that data collected by PSOs will be consistent with that reported to CDC in its National Healthcare Safety Network program. To access AHRQ’s press release, go to http://www.ahrq.gov/news/press/pr2008/psorulepr.htm. The November 21, 2008, Federal Register notice, is at http://edocket.access.gpo.gov/2008/E8-27475.htm.

For More Information

For more information about AHRQ’s HAI initiatives, visit http://www.ahrq.gov/qual/hais.htm or contact:

William B. Munier, M.D., M.B.A.
Director
AHRQ’s Center for Quality Improvement and Patient Safety
540 Gaither Road
Rockville, MD 20850
Phone: 301-427-1327
E-mail: william.munier@ahrq.hhs.gov

AHRQ Programs and Funding Mechanisms

Accelerating Change and Transformation in Organizations and Networks (ACTION)—A model of field-based research designed to promote innovation in health care delivery by accelerating the diffusion of research into practice. ACTION includes 15 large partnerships and collaborating organizations that provide health care to more than 100 million Americans.

Developing Evidence to Inform Decisions about Effectiveness (DEcIDE)—A network of research centers that conduct accelerated practical studies about the outcomes, comparative clinical effectiveness, safety, and appropriateness of health care items and services. The network is composed of research-based health organizations with access to electronic health information databases and the capacity to conduct rapid turnaround research.

Evidence-Based Practice Centers (EPCs)—AHRQ-funded entities that review all relevant scientific literature on clinical, behavioral, and organization and financing topics to produce evidence reports and technology assessments. These reports are used for informing and developing coverage decisions, quality measures, educational materials and tools, guidelines, and research agendas.

Healthcare Cost and Utilization Project (HCUP)—Health care databases and related software tools and products that bring together the data collection efforts of State data organizations, hospital associations, private data organizations, and the Federal government to create a national information resource of patient-level health care data. It includes the largest collection of longitudinal hospital care data in the United States with all-payer, encounter-level information beginning in 1988.

State and Regional Demonstrations (SRDs) in Health Information Technology—Projects that identify and support statewide data sharing and interoperability activities aimed at improving the quality, safety, efficiency, and effectiveness of health care for patients and populations on a State or regional level.