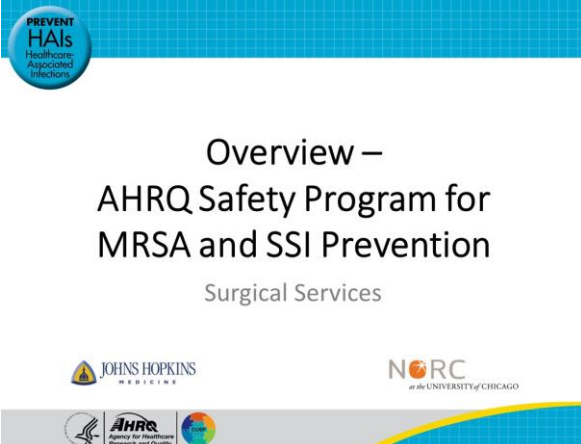

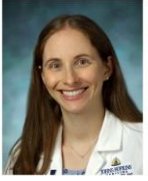





AHRQ Safety Program for MRSA and SSI Prevention

Overview – AHRQ Safety Program for MRSA and SSI Prevention

Slide Title and Commentary	Slide Number and Slide
<p>Overview – AHRQ Safety Program for MRSA and SSI Prevention</p> <p>SAY:</p> <p>Hello! Welcome to this brief presentation to inform you about the upcoming AHRQ Safety Program for methicillin-resistant <i>Staphylococcus aureus</i> (MRSA) and surgical site infection (SSI) Prevention. This program is funded and guided by the Agency for Healthcare Research and Quality (AHRQ) and led by Johns Hopkins Medicine and NORC at the University of Chicago.</p> <p>High-risk inpatient surgical services that conduct procedures with greater risk of MRSA invasive infection and SSI are eligible and encouraged to participate in the program. The targeted services and procedures will be shown later in this presentation.</p> <p>This program is designed to provide technical assistance and support for MRSA and SSI prevention, and we hope that you will consider joining the project to reduce infections and protect your patients.</p>	<p>Slide 1</p> 
<p>Presenters</p> <p>SAY:</p> <p>This slideshow is presented by the following three experts.</p> <p>Glenn Whitman is a Professor of Surgery and the Director of the Cardiovascular Surgical Intensive Care Unit at Johns Hopkins Hospital.</p> <p>Sara Karaba is an infectious diseases physician and assistant professor of medicine at the Johns Hopkins University School of Medicine.</p> <p>Sean Berenholtz is a professor of anesthesiology and critical care medicine with the Johns Hopkins University School of Medicine.</p>	<p>Slide 2</p> <p>Presenters</p> <div data-bbox="966 1396 1485 1575">    </div> <div data-bbox="966 1585 1485 1711"> <p>Glenn Whitman, M.D. Professor of Surgery & Director of Cardiovascular Surgical Intensive Care Unit, Johns Hopkins Hospital</p> <p>Sara Karaba, M.D., Ph.D., M.H.S. Assistant Professor of Medicine, Division of Infectious Diseases, Johns Hopkins School of Medicine</p> <p>Sean Berenholtz, M.D., M.H.S., FCCM Professor of Anesthesiology & Critical Care Medicine and Surgery, Johns Hopkins School of Medicine</p> </div> <p>• Program email address: MRSAprevention@norc.org</p>

Our presenters will be leading and presenting the content for this MRSA and SSI prevention program, along with colleagues at Johns Hopkins Medicine and NORC at the University of Chicago. We will provide a brief overview of the project today and then welcome your questions. The Safety Program's email address is MRSAPrevention@norc.org.

MRSA and Surgical Site Infections Are a Serious Threat

SAY:

Surgical site infections (SSI) pose a risk for all surgical patients. Cases can range from superficial to life-threatening – causing significant morbidity and mortality. SSIs account for at least 20 percent of all healthcare-associated infections (HAI), affecting 4 percent of hospitalized patients annually. They also contribute to increased length of hospital stay, increased readmission rates, cost, morbidity, and mortality.

SSIs represent one of the most common and most costly of all HAIs, estimated to account for nearly a million additional inpatient days and \$3.3 billion in healthcare expenditures every year. Up to 60 percent of SSIs are estimated to be preventable, using existing evidence-based strategies and guidelines.

Staphylococcus aureus represents a particularly critical threat, as it is the leading causative organism of SSIs. According to NHSN data, *Staph aureus* is the most reported causative organism among SSIs overall at 17.5 percent. *Staph aureus* is also the most common pathogen for SSIs in orthopedic and cardiac procedures, causing 38.6% and 27.0% respectively. Studies have shown that SSIs caused by methicillin-resistant *Staphylococcus aureus* (MRSA) are associated with higher mortality rates, longer lengths of stay, and elevated costs of hospitalization compared with SSIs caused by other organisms. Therefore, reducing SSIs including those caused by MRSA is an important patient safety goal with the potential to dramatically improve patient outcomes.

We are seeking inpatient surgical services that are at high risk for MRSA invasive infection and SSIs to enroll in the AHRQ Safety Program for MRSA and SSI Prevention. This is an opportunity to reduce MRSA and SSI infections in your facility and strengthen team-based infection prevention practices while fostering a culture of safety. We urge you to consider enrolling in the program. The cohort starts in January 2023, and the enrollment deadline is December 2022.

Slide 3

MRSA and Surgical Site Infections Are a Serious Threat



- Surgical site infections (SSIs) are one of the most common and most costly healthcare-associated infections (HAIs), accounting for nearly 1 million additional inpatient days, and \$3.3 billion in healthcare expenditures every year.¹⁻⁵
- *Staphylococcus aureus* is the leading causative organism of SSIs (17.5% of overall SSIs, 38.6% of orthopedic, 27.0% of cardiac).⁶
- SSIs caused by methicillin-resistant *Staph aureus* (MRSA) are associated with higher raw mortality rates, longer lengths of stay, and elevated costs of hospitalization compared with SSIs caused by other organisms.⁷

If you want to reduce MRSA and SSIs in your facility and strengthen team-based infection prevention practices, enroll in the AHRQ Safety Program for MRSA and SSI Prevention by December 2022.

AHRQ Safety Program Overview

SAY:

The overarching goal of this collaboration is to **prevent surgical site infections caused by MRSA and other organisms**.

Two additional goals of the program are to **strengthen the culture of safety and build capacity** for team-based quality improvement activities, and to provide technical assistance for the implementation of **evidence-based infection prevention practices** that help prevent surgical site infections.

Slide 4

AHRQ Safety Program Overview

Overarching Goal of the AHRQ Safety Program:

To prevent MRSA infections, including surgical site infections, among high-risk surgical patients.

Additional Goals:

- To **strengthen the culture of safety and build capacity** for team-based quality improvement activities.
- To provide technical assistance for the implementation of **evidence-based infection prevention practices** that help prevent surgical site infections

Funded and Guided by: AHRQ
Led by: • Johns Hopkins Medicine • NORC at the University of Chicago

AHRQ Safety Program Approach

SAY:

The approach of the AHRQ Safety Program focuses on two major domains of infection prevention strategies: technical interventions and adaptive interventions.

The technical interventions for MRSA and SSI prevention focus on evidence-based best practices to interrupt transmission and infection. These include basic infection prevention measures such as hand hygiene, preoperative chlorhexidine gluconate (CHG) treatment, and nasal decolonization treatment.

Adaptive interventions focus on enhancing a culture of safety, guiding and supporting behavioral changes that prevent infections, fostering teamwork, and improving communication. The core adaptive intervention framework that will be used is the Comprehensive Unit-based Safety Program or CUSP.

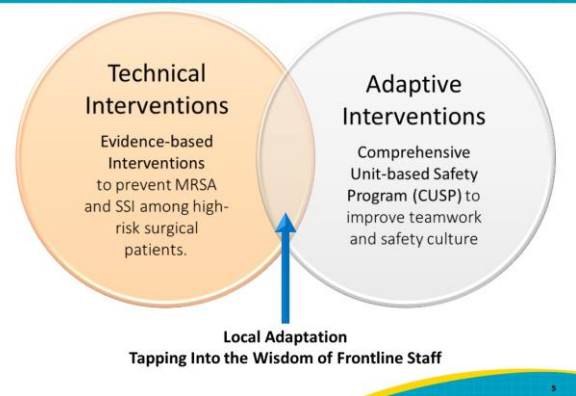
CUSP is a practical and proven approach to improve both teamwork and safety culture. The AHRQ MRSA Prevention program will help services establish and facilitate a CUSP team, if they do not already have one, and will support teams with the knowledge, strategies, and skills necessary. The CUSP team will be the backbone of improvement efforts in participating services.

The goal – or the “sweet spot” – is at the center of this diagram, when technical and adaptive interventions overlap. Both aspects are crucial for implementing evidence-based interventions and adapting them for the environment to maximize results.

The AHRQ Safety Program will provide tools to assist participating services to implement evidence-based MRSA prevention practices. I'll describe the program's key strategies in the next slide.

Slide 5

AHRQ Safety Program Approach



The Benefits of CUSP

SAY:

The CUSP model was originally developed with funding from AHRQ and is a tested approach to build capacity to improve patient safety and sustainable quality improvements across various clinical settings. CUSP dovetails with and supports a range of quality and safety improvement models.

The overall goals of the CUSP implementation projects are to promote the adoption of evidence-based practices to prevent HAIs and thereby improve the safety of healthcare.

Support from the top is crucial to the success of culture improvement efforts, but real, lasting change happens one unit or clinical area at a time when frontline staff own and address the problems they see. The CUSP framework accomplishes this through stressing the fact that patient harm is not an acceptable cost of doing business and that frontline staff have the wisdom and capacity to identify defects and work together to decrease harm.

The program will discuss each of the 5 steps of CUSP and help you implement them in your clinical areas. The purple puzzle piece in the graphic represents sustainment, which is a critical piece of the CUSP model that will also be discussed in the program.

Prevent SSI & MRSA Infections in Surgical Services

SAY:

There are four key strategies to “Target MRSA and Surgical Site Infections.” These strategies prevent MRSA and surgical site infection and transmission through decolonization of patients, preoperative chlorhexidine bathing, antimicrobial prophylaxis, and evidence-based infection prevention practices.

Slide 6

The Benefits of CUSP

- Facilitates communication and teamwork in the surgical environment
- Helps clinical teams improve patient safety
- Partners management and clinical staff efforts
- Implements clinical best practices

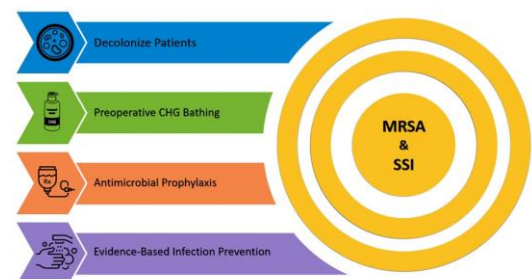


More info on CUSP is available here: <https://www.ahrq.gov/hai/cusp/index.html>

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Slide 7

Target MRSA and Surgical Site Infections



AHRQ Safety Program Details

SAY:

The AHRQ Safety Program for MRSA and SSI Prevention is a free 18-month program that will run from January 2023 to June 2024. The deadline for enrollment is December 2022. High-risk adult inpatient surgical services are eligible and encouraged to participate in the program. Participation in the program is free.

The surgical services that are eligible to participate are:

- Neurosurgical
- Orthopedic
- Cardiac

Within these specialties, the program will focus on the following procedures:

For Neurosurgical services:

- Spinal fusion

For Orthopedic services:

- Hip joint replacement
- Knee joint replacement
- Spinal fusion

For Cardiac services:

- Cardiac valve replacement
- Coronary artery bypass graft
- Any cardiac surgeries that involve a median sternotomy

Each participating service will form a multidisciplinary team, including leadership and frontline staff, to participate and lead the team-based intervention for the program. Program content is designed to be applicable to all of these high-risk surgical specialties.

We anticipate that participating clinical staff will need to spend a minimum of 3 hours per month focusing on the AHRQ Safety Program for MRSA and SSI Prevention for the program to be successful.

Continuing medical education (CMEs) and continuing education unit (CEU) credits are available for participating physician and nursing personnel. To earn these credits, participants must attend live webinars, review recorded project webinars, or review the slides and script for the webinars. Participants requesting these credits will be directed to a separate website to answer a few content-related questions.

Please note that the Johns Hopkins Medicine institutional review board (IRB) reviewed the project and determined that it is not human subjects research. Individual sites are therefore not expected to obtain local IRB review unless required to do so by their home institution.

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AHRQ Safety Program Details

How Long Is the Program?

- 18-month program
- Begins January 2023
- Enrollment deadline is December 2022

Who Is Eligible To Participate?

- High-risk adult inpatient surgical services:
 - Neurosurgical
 - Orthopedic
 - Cardiac

How Much Does It Cost To Participate?

- Free

How Much Time Does It Require?

- Minimum of 3 hours per month

Will CME and CEU Credits Be Awarded for Participation?

- CME and CEU credits will be available for participating physicians and nursing staff

Procedure Types

- **Neurosurgical**
 - Spinal fusion
- **Orthopedic**
 - Hip joint replacement
 - Knee joint replacement
 - Spinal fusion
- **Cardiac**
 - Cardiac valve replacement
 - Coronary artery bypass graft
 - Surgeries that involve a median sternotomy

National IRB is acknowledged as Not Human Subjects Research. Individual sites are not expected to obtain local IRB review unless requested by their home institutions.

AHRQ Safety Program Timeline

SAY:

Between November and December 2022, participating services will assemble a multidisciplinary CUSP team within their service and ensure all members of the team have the opportunity to access the Safety Program website. This team will include a team leader, such as a surgeon or nursing leader, and another clinical staff member, such as an infection preventionist, to oversee the work in addition to the other front-line, multidisciplinary CUSP team members.

Participating services will be asked to sign a letter of commitment prior to participation. Between January 2023 and July 2024, enrolled services will participate in educational programs (including an orientation webinar and monthly to twice monthly educational webinars), meet regularly with their CUSP team, implement evidence-based interventions, and review and submit team-level data to the program, on a monthly or quarterly basis, in accordance with the schedule on the next slide. Participating services will receive support via Implementation Advisers (IAs), who will work directly with them, meeting at least once a month.

By May 2023, participating services will be asked to submit their baseline data, covering the 12 months preceding the start of the cohort (January 2022 to December 2022, organized monthly).

Data Collection for Neurosurgical and Orthopedic Surgeries

SAY:

During the project, participating neurosurgical and orthopedic surgeries will be asked to submit clinical outcomes data. Data collection from cardiac surgeries differs and will be discussed on the next slide.

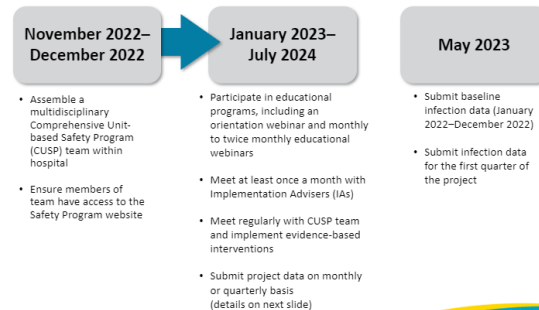
The clinical outcomes in the form of SSI events both overall and by severity and causative organism if available will be collected for each surgical procedure. Participating hospitals will be asked to submit these monthly service-level data to the AHRQ Safety Program on a quarterly basis. To submit these data, hospitals will have the opportunity to confer rights to the AHRQ program for extraction of NHSN data if the hospital submits data on these surgeries to NHSN. This would allow data elements to be submitted to the AHRQ Safety Program automatically. Alternatively, hospitals may choose to manually submit these data to the AHRQ Safety Program.

In addition to clinical outcomes data, hospitals will be asked to collect and submit additional implementation data. The Hospital

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AHRQ Safety Program Timeline

Participation Timeline



Slide 10

Data Collection for Neurosurgical & Orthopedic Surgeries

Monthly Neurosurgical and Orthopedic Surgeries Data Submission	
Electronic data pulls of monthly data on a quarterly basis from January 2023 to June 2024	
Clinical Outcomes Data	Data Source
<p>Number of surgical procedures performed for the following surgical procedure types:</p> <ul style="list-style-type: none">Spinal fusionHip joint replacementKnee joint replacement <p>Service-level clinical outcomes for the above surgical procedure types</p> <ul style="list-style-type: none">SSI events, overall and by severity (deep/organ space or superficial)SSI events by MRSA and by <i>Staphylococcus aureus</i> (if available)	<p>For these data points, your hospital will have the opportunity to confer NHSN data rights to the AHRQ Safety Program.</p>
Implementation Data Collected	
<ul style="list-style-type: none">Hospital Survey on Patient Safety Culture (HSOPS) – baseline and at end of projectInfrastructure Assessment (Gap Analysis Tool) – baseline and at end of projectImplementation Assessment (Team Checkup Tool) – monthly	

Survey on Patient Safety Culture (HSOPS) and an infrastructure assessment (gap analysis) at baseline and at the end of the project. Teams will also be asked to complete the Team Checkup Tool, a brief implementation assessment, on a monthly basis.

We recognize that data collection can be viewed as an added burden on already busy clinicians. The AHRQ Safety Program will provide assistance to simplify and ease the process, including Implementation Advisers who will work individually with sites. Teams can still participate while the data collection process is being set up.

Data Collection for Cardiac Surgeries

SAY:

For cardiac surgery data, other outcomes data will be requested. These outcomes are as defined according to the Society of Thoracic Surgeons (STS) National Database. You will be provided with clear instructions on how to reuse the data submitted to STS for purposes of data collection submission to the AHRQ Safety Program. These clinical outcomes data also include SSI events overall and by severity as well as hospital readmission for infection.

If your cardiac surgery service also reports SSI data to the National Healthcare Safety Network (NHSN), we will ask you to submit certain NHSN data related to coronary artery bypass surgery. This data can be automatically routed to the AHRQ Safety Program by conferring NHSN data rights.

Specific and clear instructions for these data outcomes will be provided.

Similar to the neurosurgical and orthopedic surgical services, in addition to clinical outcomes data, hospitals will be asked to collect and submit additional implementation data. The Hospital Survey on Patient Safety Culture (HSOPS) and an infrastructure assessment (gap analysis) at baseline and at the end of the project. Teams will also be asked to complete the Team Checkup Tool, a brief implementation assessment, on a monthly basis.

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Data Collection for Cardiac Surgeries

Monthly Cardiac Surgery Data Submission

Electronic data pulls of monthly data on a quarterly basis from January 2023 to June 2024

Clinical Outcomes Data	Data Source
Number of sternotomy procedures performed and surgical site infections following sternotomy procedures, as reported to the Society of Thoracic Surgeons (STS) and available through the STS National Database: <ul style="list-style-type: none">SSI events, overall and by severity (deep/organ space or superficial)Hospital readmission for infection and other select reasons	Your hospital will be provided clear instruction for how to reuse data submitted to STS and generate queries for outcomes used in this evaluation.
If you also report SSIs to NHSN, please submit NHSN data regarding the number of cardiac bypass graft surgeries (CABG) and for SSI events following CABG: <ul style="list-style-type: none">SSI events, overall and by severity (deep/organ space or superficial)Organisms causing each SSI following CABG (MRSA, MSSA or other)	Your hospital will have the opportunity to confer NHSN data rights to the AHRQ Safety Program for these data points.

Implementation Data Collected

- Hospital Survey on Patient Safety Culture (HSOPS) – baseline and at end of project
- Infrastructure Assessment (Gap Analysis Tool) – baseline and at end of project
- Implementation Assessment (Team Checkup Tool) – monthly

Benefits of Participating

SAY:

There are many benefits to participating in the AHRQ Safety Program. Participants will have access to experts in infection prevention and CUSP. These experts will coach the teams and help them troubleshoot issues as they set up and maintain an SSI and MRSA prevention program in the participating services. Support will also be provided for building capacity and infrastructure for data collection, reporting, analysis, and feedback. This will help you gain a detailed picture of your MRSA and SSI prevention performance and the effectiveness of interventions. You will also have close access to implementation advisers and the opportunity to participate in monthly office hours and peer-to-peer learning with other participating facilities to assist cross-learning from shared experiences.

Interactive webinars will be held one to two times per month, covering both adaptive and technical approaches to various aspects of MRSA and SSI prevention. These webinars will be 60 minutes in length, with time for presentation of educational information, as well as for questions and answers. They will be recorded and available on the project website for 24/7 access following each live webinar. The webinar reference materials, slides, and facilitator guides will also be available on the website. In addition to the webinars, you will also have access to a variety of tools on the project website to assist with developing and sustaining protocols and quality improvement for participating services. These tools include but are not limited to posters, one-page summary sheets, and videos, as well as educational materials for patients and families.

Anticipated Outcomes of Participation

SAY:

The anticipated outcomes of participation include:

- Reduced MRSA SSIs
- Reduced overall SSIs
- Improved team-based infection prevention practices, including decolonization, CHG bathing, and antimicrobial prophylaxis
- Enhanced communication and teamwork regarding prevention of MRSA and surgical site infections and improved teamwork and patient safety culture

Thank You

SAY:

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Benefits of Participating

- Expert coaching in MRSA SSI prevention and CUSP
- Support for data collection, reporting, analysis, and feedback
- Access to Implementation Advisors
- Teamwork tools and guides
- Monthly office hours
- Peer-to-peer learning with other participating facilities
- Monthly/twice monthly webinars
- Facilitator guides
- Posters
- Summary sheets
- Educational material for patients and families



Slide 13

Anticipated Outcomes of Participation

- Reduced MRSA infections
- Reduced overall SSIs
- Improved team-based infection prevention practices (decolonization, CHG bathing, and antimicrobial prophylaxis)
- Enhanced communication and teamwork regarding prevention of MRSA infections and SSIs
- Improved teamwork and patient safety culture



Slide 14

Thank you for your time today and for attending this webinar on the AHRQ Safety Program for MRSA and SSI Prevention. As you know, SSIs and MRSA infections pose serious threats to patient safety, causing thousands of infections and deaths each year in the United States. The AHRQ Safety Program for MRSA and SSI Prevention can help you and your surgical services redouble your efforts to combat these threats.

We understand that in the current climate, committing to such a program may be a difficult choice. However, during the COVID-19 pandemic, MRSA rates have risen significantly nationwide. If you choose to join our program, we will ensure you have access to tools that will assist and support you and your teams in your implementation efforts to prevent MRSA and SSIs. We will also be here for you should there be another COVID-19 surge, and we will help you overcome any barriers you may encounter.

We hope that this presentation has convinced you of the value of this program and the importance of MRSA and SSI prevention for patient safety. We look forward to working with you on improving the delivery of high-quality care for patients across the United States.

To learn more and enroll, visit:
<https://safetyprogram4mrsaprevention.org>
 or email MRSAPrevention@norc.org.

The deadline to enroll is December 2022.

Thank you. I will be happy to answer any questions you might have at this time.

References

Thank you.

We look forward to working with you on improving the delivery of high-quality care for all patients across the United States.

To learn more and enroll, visit:

<http://safetyprogram4mrsaprevention.org>

Or email: MRSAPrevention@norc.org

The deadline to enroll is
December 2022

This program is funded and guided by the Agency for Healthcare Research and Quality and led by Johns Hopkins Armstrong Institute for Patient Safety and Quality and NORC at the University of Chicago.

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