STAFF STEPPING UP TO FIGHT STAPH

Tennessee Hospital Association MRSA Reduction Campaign

TOOLKIT FOR IMPLEMENTATION

THA
TENNESSEE HOSPITAL ASSOCIATION

TENNESSEE
Center for Patient Safety

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GLOSSARY OF TERMS AND ABBREVIATIONS

AHRQ	Agency for Healthcare Research and Quality
CAUTI	Catheter-Associated Urinary Tract Infection
CDC	Centers for Disease Control and Prevention
CHG	Chlorhexidine
CLABSI	Central Line-Associated Bloodstream Infection
IDSA	Infectious Diseases Society of America
HAI	Healthcare-Associated Infections
HCW	Healthcare Worker
HRET	Health Research and Educational Trust
HICPAC	Healthcare Infection Control Practices Advisory Committee
ICU	Intensive Care Unit
IHI	Institute for Healthcare Improvement
MDRO	Multi-Drug Resistant Organisms
MRSA	Methicillin-Resistant *Staphylococcus Aureus*
MSSA	Methicillin-Susceptible *Staphylococcus Aureus*
NICU	Neonatal Intensive Care Unit
SSI	Surgical Site Infection
VAE	Ventilator-Associated Event
VAP	Ventilator-Acquired Pneumonia

OVERVIEW OF THE TOOLKIT

Purpose

The purpose of this toolkit is to provide a repository of tools and resources to support healthcare teams in implementing evidence-based strategies to prevent hospital-onset *Staphylococcus aureus*.

Sources of Materials

The materials and tools included and referenced are from national agencies, including the Centers for Disease Control and Prevention (CDC), Agency for Healthcare Research and Quality (AHRQ), Society for Healthcare Epidemiology of America (SHEA), Health Research and Educational Trust Fund (HRET) and Healthcare Infection Control Practice Advisory Committee (HICPAC).

Materials highlight practical implementation of evidence-based strategies by some healthcare organizations. Users of this toolkit are encouraged to contact other organizations that have implemented these strategies to learn from their practical implementation.

Supplemental Strategies

While this toolkit provides evidence-based strategies, it is important to stress that every healthcare organization is unique. Thus, it may be necessary to develop and implement other strategies to address unique needs. One of the first steps in using this toolkit is to conduct a risk assessment. This risk assessment should be used to develop strategies that meet the needs of the organization.

WHY IS THE WORK IMPORTANT?

Staphylococcus aureus infections, which include methicillin-resistant *Staphylococcus aureus* (MRSA) and methicillin-susceptible *Staphylococcus Aureus* (MSSA) are serious concerns in healthcare facilities and among patient populations. These infections can result in bacteremia or bloodstream infection, skin infection, surgical site infection, pneumonia, endocarditis and other serious infections.

Staphylococcus aureus infections can lead to increased length of hospital stay, increased morbidity and mortality, and increased use of hospital resources. In 2017, an estimated 19,832 patient deaths were linked to *Staphylococcus aureus* bloodstream infections (Kourtis, Hatfield, Baggs et al., 2019).

In the State of Tennessee, these infections continue to exert great burden on patients, healthcare facilities and resources. In 2018, the State reported 336 hospital-onset MRSA bloodstream infections with an estimated 77 deaths linked to this source of infection at an estimated cost of $11.64 million.

A chart review by the Tennessee Department of Health (TDH) and the Centers for Disease Control and Prevention (CDC) on some of these MRSA cases noted a propensity for these infections to be related to indwelling device, the presence of open wounds, and in patients who had undergone surgery, were on dialysis, who had a prior history of MRSA or had an in-patient stay on an intensive care unit (ICU) or step-down unit.

The CDC has provided guidance on strategies to prevent hospital-onset *Staphylococcus aureus* infections in acute-care facilities. These strategies may be useful not only in preventing *Staphylococcus aureus* but also other healthcare-associated infections.

QUICK GUIDE TO THE TOOLKIT

1. Implement basic infection control strategies throughout your facility.
    - Hand hygiene
    - Standard precautions for all patient care
    - Transmission-based precautions for patients infected or colonized with certain infectious agents
    - Environmental infection control and cleaning and disinfection practices
    - Antimicrobial stewardship program
2. Conduct a facility risk assessment for MDROs with focus on MRSA.
3. Share risk assessment findings and surveillance data with stakeholders within your facility: hospital leadership, including board of directors, chief executive officer, physician leaders, nursing leaders, front-line nursing staff, pharmacy, laboratory and environmental services.
4. Engage a multidisciplinary MRSA (MDRO) prevention team. Identify and engage executive sponsor, physician, nursing and other front-line champions.
5. Implement evidence-based strategies to prevent device and procedure-related healthcare-associated infections.
6. Implement core strategies based on CDC's Strategies to Prevent Hospital-Onset *Staphylococcus aureus* Bloodstream Infections in Acute Care Facilities.
7. Engage patients and family members in implementation.
8. Audit practices.
9. Evaluate and share data with key stakeholders.

IMPLEMENT BASIC INFECTION PREVENTION PRACTICES

Every healthcare facility should have an infection control program that is designed to prevent the spread of infections within the facility. The program should focus on basic practices that have been proven to reduce the risk of transmission of infections to patients and healthcare workers. Elements of the program include:

- Hand hygiene
- Standard precautions for all patient care
- Transmission-based precautions for patients infected or colonized with certain infectious agents
- Environmental infection control, cleaning and disinfection practices
- Antimicrobial stewardship program

A CDC webpage has information on how infections spread, infection control guidelines and recommendations for healthcare settings, training and education resources and tools for implementing basic infection control practices. Individual sections are identified as links below:

- Standard Precautions
- Guidelines for Hand Hygiene
- Promotional Materials for Hand Hygiene
- Guidelines for Isolation Precaution
- Sequence for Donning and Doffing PPE
- Guidelines for Environmental Infection Control
- Options for Evaluating Environmental Cleaning
- Environmental Monitoring Checklist
- Guidelines for Disinfection and Sterilization
- Core Elements of Hospital Antibiotic Stewardship Program
- The Core Elements of Outpatient Antibiotic Stewardship
- CDC Antibiotic Awareness

CONDUCT FACILITY-SPECIFIC MULTI-DRUG RESISTANT ORGANISM (MDRO) RISK ASSESSMENT

A successful prevention program is dependent on conducting a facility-specific assessment to review the current program, identify gaps and highlight areas that should be targeted. The following tools can be used to assess the program in place in acute-care hospitals to control the transmission of MDROs.

- CDC Acute Care Facility MDRO Assessment Tool*
- HRET MRDO Infections Top Ten Checklist

**An adapted version of this CDC tool that is focused on MRSA is available upon request.*

SHARE DATA

It's important to share risk assessment findings and surveillance data with hospital leadership within your facility, including the board of directors, chief executive officer, physician leaders, nursing leaders, front-line nursing staff, pharmacy, laboratory and environmental services. By sharing data with appropriate stakeholders, the infection preventionist (IP) can garner support for the interventions that will be implemented.

To get leadership commitment and to request needed resources, the IP should be ready to present a business case. An example of how to develop a business case can be found on pages 17-18 of AHRQ Universal ICU Decolonization Toolkit.

ENGAGE A MULTIDISCIPLINARY MRSA (MDRO) PREVENTION TEAM

Identify and engage a multidisciplinary team to promote the prevention effort. Members of the team should include an executive sponsor, a physician champion, infectious disease doctor, front-line champions (including nursing and environmental services champions), wound care team, marketing, education, microbiologist, informatics team and other staff based on the peculiarity of each facility. Multidisciplinary teams have been found to improve patient outcomes and healthcare workers satisfaction (Epstein, 2014; Sopirala, Yahle-Dunbar, Smyer, 2014).

IHI Open School Online Courses

The following courses from the Institute for Healthcare Improvement (IHI) can be used to guide the team in its improvement effort.

Q1 102: How to improve with the Model for Improvement

Q1 103: Testing and Measuring Changes with PDSA Cycles

Q1 105: Leading Quality Improvement

Q1 201: Planning for Spread: From Local Improvements to System-Wide Change

Contact Teresa Benedetti at THA, tbenedetti@tha.com, for access to the IHI Open School Online Courses.

IMPLEMENT EVIDENCE-BASED STRATEGIES TO PREVENT DEVICE-RELATED, PROCEDURE-RELATED AND OTHER HAIS

The infection prevention and control program of every organization should work proactively to prevent all HAIs. Such HAIs include, but are not limited, to CLABSI, CAUTI, SSI, dialysis-related infections, VAEs, including VAP, and MDROs. The following are examples of evidence-based strategies to prevent some of these infections.

Preventing CLABSI

- CDC Vital Signs
- CDC Guidelines for Preventing CLABSI
- SHEA Strategies to Prevent CLABSI in Acute Care Hospitals
- Agency for Healthcare Research and Quality (AHRQ) CLABSI Toolkit

Preventing CAUTI

- HICPAC Guidelines for Prevention of CAUTI
- AHRQ CAUTI Toolkit
- SHEA Strategies to Prevent CAUTI in Acute Care Hospitals

Preventing Surgical Site Infection

- CDC Guidelines for Prevention of Surgical Site Infection

Preventing Infections in Hemodialysis

- Preventing Infections in Hemodialysis Patients

Preventing Ventilator-associated Pneumonia (VAP)

- SHEA Strategies to Prevent VAP in Acute Care Hospitals

IMPLEMENTING THE MRSA ACTION PLAN

Facilities should determine whether to implement their MRSA action plan by developing policies, procedures, protocols or guidelines to support the implementation of the MRSA prevention strategies.

Implement core strategies based on CDC's Strategies to Prevent Hospital-Onset *Staphylococcus aureus* Bloodstream Infections in Acute Care Facilities.

The following tools can be used to guide implementation. Some of the tools provide examples of how to perform CHG bathing and apply antiseptic/antibiotics to the nares.

- SHIELD Hospital Decolonization Toolkit
- SHIELD Protocol Training Module
- HRET Preventing MDRO Infections Change Package
- SHEA Strategies to Prevent MRSA Transmission and Infection
- Patient Bathing Video from the Abate Infection Project
- Strive MRSA Guide to Patient Safety Tool

ENGAGE PATIENTS AND FAMILIES

Engage patient and family in implementation. Patients and their families play pivotal role in ensuring success of safety processes. Engage them by giving them information on what is being done, why it is important and how they can participate in improving the care that they receive. Use appropriate scripting to gain buy-in and compliance. The following sources can help in developing appropriate patient and family focus for your plan.

- HRET Patient and Family Engagement Resource Compendium

PATIENT STORIES

Patient stories are powerful in viewing the effect of harm from the patient's perspective. The following are some stories from patients who have had MRSA.

- Viewing Infection Data from the Patient's Perspective – Rosie Bartel Story
- Connie's Story: A Nurse's Personal Experience with MRSA | AHRQ Patient Safety Network

AUDIT PRACTICES

Engage in regular monitoring/auditing of completion and competency of implementation practices. Feedback should be provided to all audited personnel and relevant staff. Regular monitoring of compliance and practice/competency of the healthcare worker should be considered as key indicators of performance.

EVALUATION

Evaluate the overall program at regular intervals to assess progress, identify gaps and challenges, and develop strategies in meeting challenges.

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For more information on using this toolkit, contact Lizzy Adeyemi at THA, ladeyemi@tha.com, 615-401-7465.