

HQIC Patient Safety Network: C. diff and MRSA Prevention

Welcome!

- All lines are muted, so please ask your questions in Q&A.
- For technical issues, chat to the ‘Technical Support’ panelist.
- Please actively participate in polling questions that pop up on the lower right-hand side of your screen.

We will get started shortly!

HQIC Infection Prevention: C. diff and MRSA Prevention



Amy Ward, MS, BSN, RN, CIC

Rhonda Bowen, CIC, CPPS, CPHQ, CPHRM

February 10, 2022

 **ALLIANT**
HEALTH SOLUTIONS

HQIC
Hospital Quality Improvement Contractors
CENTERS FOR MEDICARE & MEDICAID SERVICES
EQUALITY IMPROVEMENT & INNOVATION GROUP

Making Health Care Better *Together*

COLLABORATORS:

Alabama Hospital Association
Alliant Health Solutions
Comagine Health
Georgia Hospital Association
KFMC Health Improvement Partners
Konza

Hospital Quality Improvement

Welcome from all of us!



HAI Reduction Co-Leads



Amy Ward, MS, BSN, RN, CIC **INFECTION PREVENTION SPECIALIST**

Amy is a registered nurse with a diverse background in acute care nursing, microbiology, epidemiology and infection control. She is passionate about leading and mentoring new and future infection preventionists in their career paths.

Contact: Amy.Ward@Allianthealth.org



Rhonda Bowen, BSHS, CIC, CPPS, CPHQ, CPHRM **SENIOR IMPROVEMENT ADVISOR, PATIENT SAFETY**

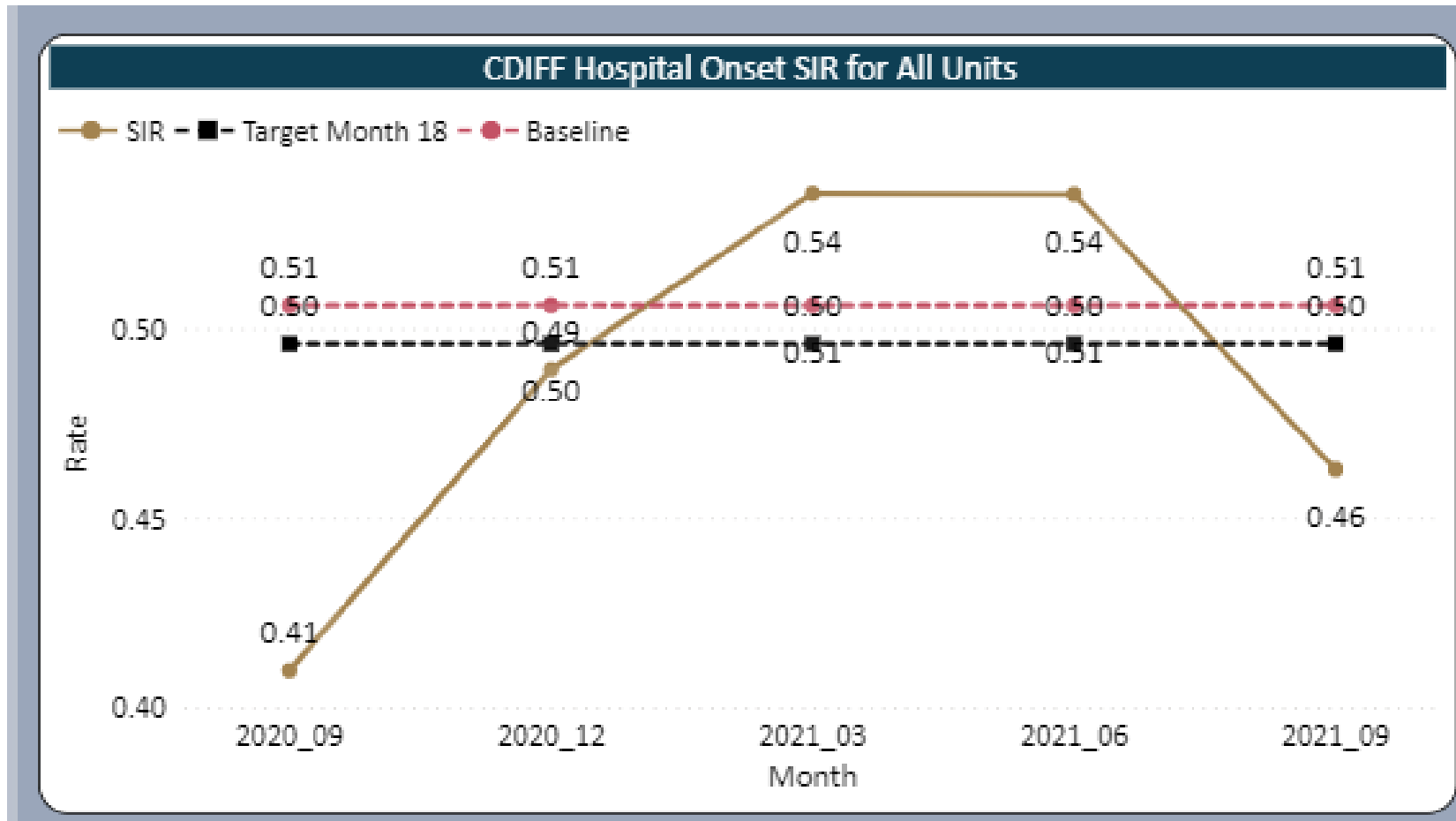
Rhonda has worked in rural and critical access hospitals for over 30 years and has directed patient safety, quality and infection prevention and control for the past 14 years. She is passionate about all aspects of patient safety and infection prevention and control, especially the effects of health literacy and organizational safety culture on patient outcomes.

Contact: RBowen@Comagine.org

Learning Objectives

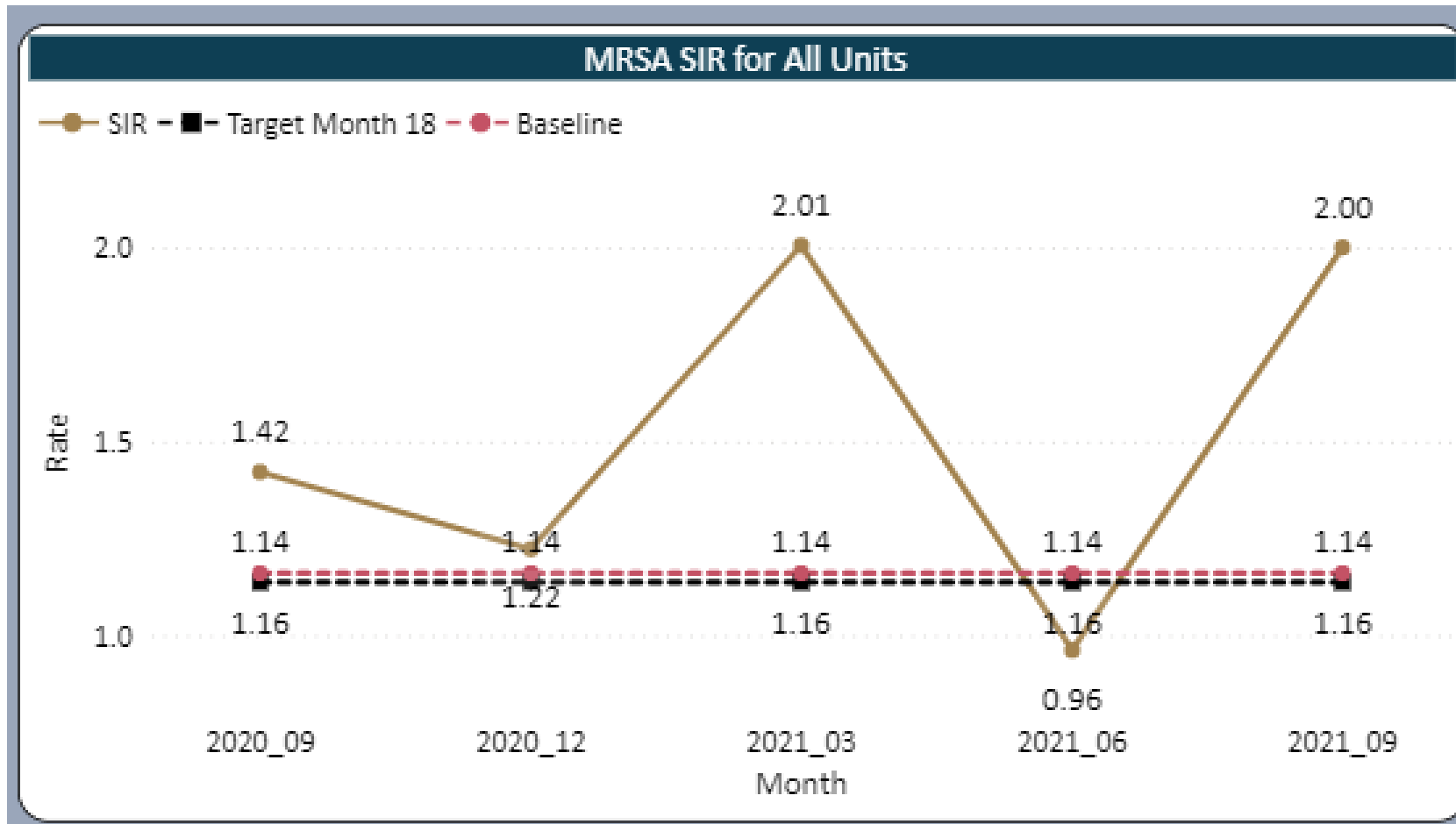
- Learn Today:
 - Review surveillance tools and techniques for MRSA and C. diff data.
 - Review reporting and benchmarking options for MRSA and C. diff data.
 - Discuss data analysis and how to inform infection prevention efforts.
- Use Tomorrow:
 - Develop a written surveillance and reporting plan that includes data entry to NHSN for standardized and comparable analysis options.
 - Use the CAD metric in facility TAP report to identify locations with excess MRSA infection burden to target your efforts.

C. diff Lab ID Performance



C. diff Lab ID Target
SIR 0.495
Average SIR 0.50
Improving

MRSA Lab ID Performance



- Target SIR 1.137
- Average SIR 1.54
- Worsening from baseline rate

2020 National and State HAI Progress Report

- Between 2019 and 2020
- Overall, 11% decrease in CDI
- Overall, 15% increase in MRSA Bacteremia
- Overall, 24% increase in CLABSI
 - Largest increase in ICUs (50%)
- Overall, 35% increase in VAE
- Overall, no significant increase in CAUTI
 - 10% increase in ICU
- Overall, 5% decrease in SSI (10 select procedure types)
 - 8% decrease in HYST
 - 5% decrease in COLO
- Overall SUR for central lines was 0.901
- Overall SUR for urinary catheters was 0.835

MRSA and C. diff LabID Surveillance

- Essential component of an effective infection prevention program.
- Defined in the APIC Text as “a comprehensive method for measuring outcomes and related processes of care, analyzing the data, and providing information to members of the health care team to assist in improving those outcomes.”
- Should be based upon sound epidemiological and statistical principles.
- When properly collected, surveillance data can be used to improve quality of care and outcomes.

Surveillance Methods

- Targeted Surveillance
 - Focused on specific units, infection types, procedures or populations
 - Typically focuses on high-risk, high-volume procedures
 - Often aimed at HAIs that are preventable or with severe adverse outcomes
- Total House Surveillance
 - Monitors for all infection types among all populations
 - If total house surveillance is used, a total infection rate should not be calculated, but rather calculated for specific HAIs in defined populations (e.g., CLABSI in ICU)
 - Often not done due to personnel, technical or cost constraints
- Combination Surveillance
 - Example: Monitor for SSI secondary to all surgical procedure types rather than targeted high-risk, high-volume only, while monitoring CAUTI in the ICU only

Surveillance Plan

- Annual infection prevention plans should include a surveillance section describing:
 - Surveillance method (total/targeted/combination)
 - Populations (patient, resident, staff, those with specific risk factors, etc.)
 - Events monitored
 - In addition to other high-risk events, such as reprocessing failures or TST conversions, which HAIs will be monitored through the year?
- Surveillance plan should be evaluated regularly to ensure it meets organizational goals and objectives and to ensure methodologies are current.
- Efforts should be made to select event types that have standardized, validated and nationally recognized benchmarking data available.
 - Example: NHSN for HAI data or Vermont Oxford Network for newborn care

Data Collection

- Concurrent versus retrospective
- Data source examples
 - Medical records
 - Lab reports
 - List of admissions with diagnoses
 - Patient day reports/census data by unit
 - Isolation precautions report/list
 - Incident reports
 - Observations
 - Procedure or activity logs

NHSN

- Over 40,000 facilities nationwide are reporting data to NHSN (including ACH (includes CAH), LTACs, rehab hospitals, dialysis facilities, ASCs, nursing homes, etc.).
 - 8,000 hospitals, including LTACs and IRFs
- Provides web-based reporting and feedback of comparative data for performance improvement.
- Access to prevention tools and best practices.
- NHSN website offers protocols, data collection forms, calculators, training and other supporting materials.

Data Analysis

- Internal benchmarking – use of your own historical data to monitor for changes over time.
- External benchmarking – comparing your data to that of others with similar characteristics and risks.
- Use of statistical methods to compare differences.

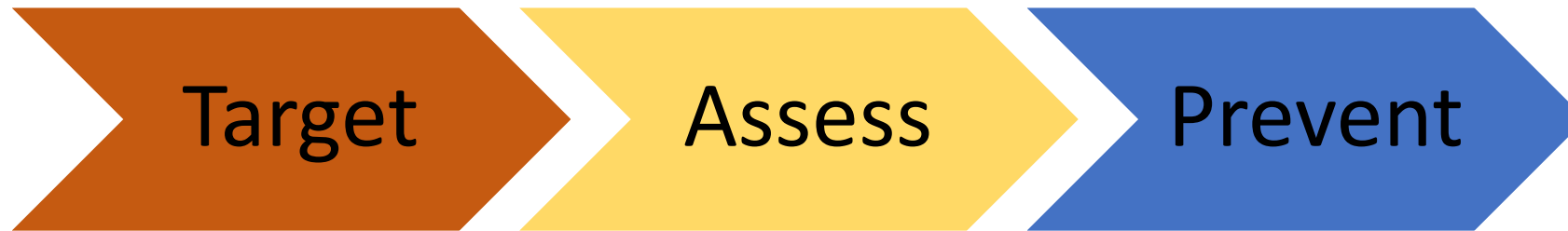
NHSN Data Analysis Options

- Eliminates need to manually calculate and ensures data are comparative over time
- Standardized Infection Ratio (SIR)
- Standardized Utilization Ratio (SUR)
- Rate Tables
- TAP Reports
- Frequency Tables
- Rate Tables
- Pie Chars
- Bar Charts
- Run Charts
- Line Lists – event and summary data options

MRSA Prevention Basics - Data Review

- Create a line listing of recent episodes of MRSA Bacteremia to identify common risk factors that can aid in identifying populations to target.
 - Syndromes - e.g., wound infections or pneumonia
 - Unit types - e.g., ICU or acute care
 - Presence of indwelling devices such as central lines or indwelling urinary catheters
 - Prior invasive procedures or surgeries
- From this review, you can target specific strategies for prevention.

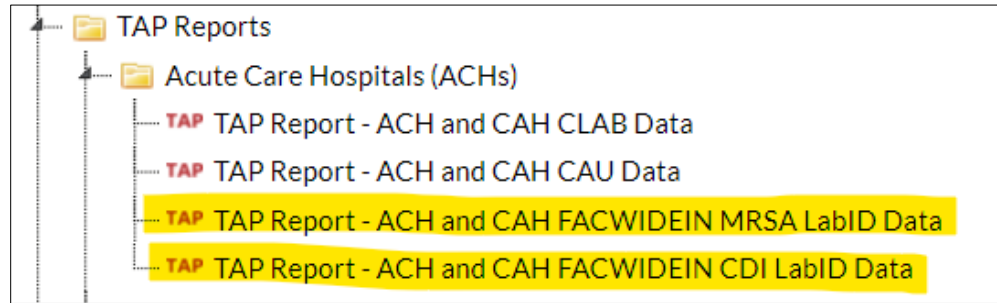
TAP Strategy



Leverage data for action to:

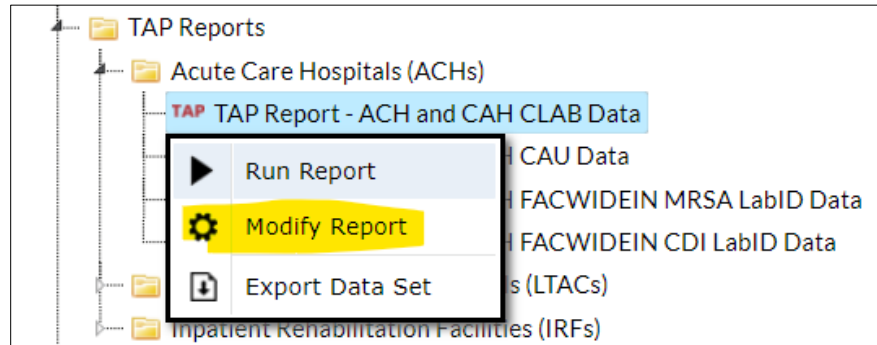
- Target locations and units with excess infection burden.
- Assess for gaps in practice.
- Implement interventions for prevention.

NHSN Data Reporting and Analysis Options - TAP

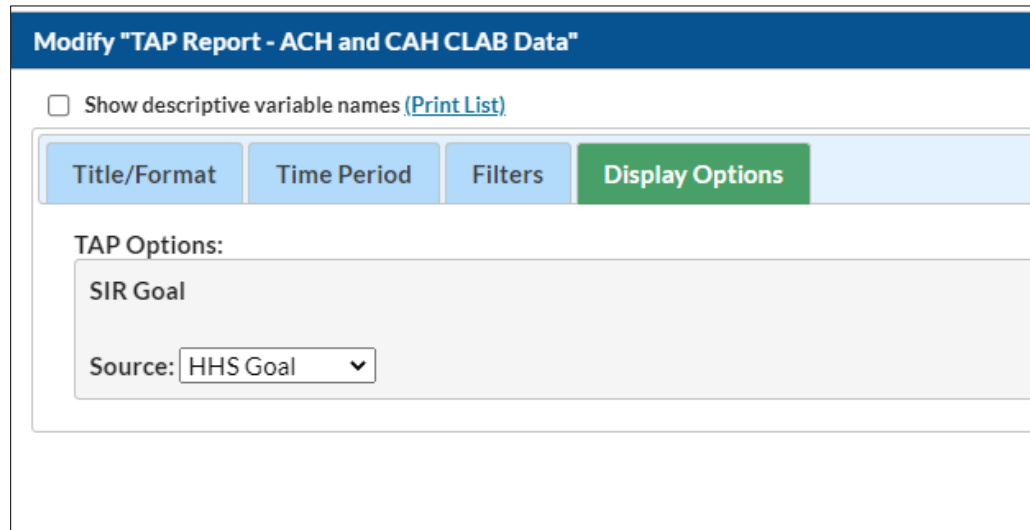


- Using the TAP Reports, you can target specific units with excess or higher-than-expected infection burden.
- Cumulative Attributable Difference (CAD) metric
 - The number of infections that must be prevented to reach HAI reduction goal.
 - Allows for ranking of facilities or locations within facilities to target areas where prevention efforts will have the greatest impact.

Modifying the HAI Goal for Your Organization



1. Click “TAP Report – ACH and CAH”
2. Select “Modify Report”
3. Select “Display Options”
4. Enter your organization SIR goal
5. Run the report – CAD will show you how many events need to be prevented to meet your target

A screenshot of a web application form titled 'Modify "TAP Report - ACH and CAH CLAB Data"'. The form has a checkbox for 'Show descriptive variable names (Print List)'. Below this is a tabbed interface with four tabs: 'Title/Format', 'Time Period', 'Filters', and 'Display Options' (which is active and highlighted in green). Under the 'Display Options' tab, there is a section labeled 'TAP Options:' containing a text input field for 'SIR Goal' and a dropdown menu for 'Source' with 'HHS Goal' selected.

**National Healthcare Safety Network
TAP Report for FACWIDEIN MRSA LabID data for Acute Care and Critical Access Hospitals (2015 Baseline)
Totals for all Facilities in Group
SIR Goal: HHS Goal = 0.5**

As of: February 3, 2022 at 11:58 AM
Date Range: All BS2_MRSA_TAP



faccount	numbeds	numpatdays	MRSA_bldIncCount	numPred	grpCAD	SIR	SIRtest
134	13,387	5045229	468	312.06	311.970	1.500	SIG

1. This report includes facility-wide inpatient data from acute care hospitals for 2015 and forward.
 2. Facility Rank = Priority ranking for Targeted Assessment of Prevention by CAD in descending order
 3. CAD = Observed - Predicted*SIR Goal
 4. SIR is set to '.' when predicted number of events is <1.0. SIR TEST = 'SIG' means SIR > SIR Goal significantly
- Source of aggregate data: 2015 NHSN MRSA Blood LabID Data
Data contained in this report were last generated on February 2, 2022 at 10:06 AM to include data beginning January 2020 .

**National Healthcare Safety Network
TAP Report for FACWIDEIN MRSA LabID data for Acute Care and Critical Access Hospitals (2015 Baseline)
Facilities Ranked by CAD 'Cumulative Attributable Difference'
SIR Goal: HHS Goal = 0.5**

A TAP Report is the first step in the CDC TAP Strategy. For more information on the TAP strategy, please visit: <http://www.cdc.gov/hai/prevent/tap.html>
As of: February 3, 2022 at 11:58 AM
Date Range: All BS2_MRSA_TAP



facRank	facType	medType	numBeds	numpatdays	MRSA_bldIncCount	numPred	facCAD	SIR	SIRtest
1	HOSP-GEN	M				35.194	58.40	2.159	SIG
2	HOSP-GEN	M				15.147	44.43	3.433	SIG
3	HOSP-GEN	M				35.354	35.32	1.499	SIG
4	HOSP-GEN					9.133	17.43	2.409	SIG
5	HOSP-GEN	M				10.977	15.51	1.913	SIG
6	HOSP-GEN	U				3.881	13.06	3.865	SIG
7	HOSP-GEN	M				21.190	12.40	1.085	
8	HOSP-GEN	U				7.598	11.20	1.974	SIG
9	HOSP-GEN	G				7.620	11.19	1.968	SIG
10	HOSP-GEN					17.352	10.32	1.095	
11	HOSP-GEN					2.845	8.58	3.515	SIG
12	HOSP-GEN	U				8.504	7.75	1.411	
13	HOSP-GEN	U				5.158	7.42	1.939	
14	HOSP-GEN	M				1.317	7.34	6.072	SIG
15	HOSP-GEN	U				1.919	5.04	3.127	SIG

AHRQ Universal Decolonization Protocol

REDUCE MRSA Trial

- Randomized evaluation of decolonization versus universal clearance to eliminate MRSA.
- Found that universal decolonization was the most effective intervention.
- Universal decolonization led to a 37% reduction in MRSA clinical cultures and 44% reduction in all cause BSI.

Protocol Provides:

- Information to help prepare for launch
- Information on decision making and implementation readiness
- Overview and information on universal decolonization in adult ICUs
- A nursing protocol
- Training and educational materials
- Protocol skills assessment
- Product safety information

<https://www.ahrq.gov/hai/universal-icu-decolonization/universal-icu-intro.html>

Patient and Family Education

MRSA

FAQs

(frequently asked questions)

about
"MRSA"
(Methicillin-Resistant *Staphylococcus aureus*)

What is MRSA?
Staphylococcus aureus (pronounced staff-ill-oh-KOK-us AW-ree-us), or "Staph" is a very common germ that about 1 out of every 3 people have on their skin or in their nose. This germ does not cause any problems for most people who have it on their skin. But sometimes it can cause serious infections such as skin or wound infections, pneumonia, or infections of the blood.

Antibiotics are given to kill Staph germs when they cause infections. Some Staph are resistant, meaning they cannot be killed by some antibiotics. "Methicillin-resistant *Staphylococcus aureus*" or "MRSA" is a type of Staph that is resistant to some of the antibiotics that are often used to treat Staph infections.

Who is most likely to get an MRSA infection?
 In the hospital, people who are more likely to get an MRSA infection are people who:

- have other health conditions making them sick
- have been in the hospital or a nursing home
- have been treated with antibiotics.

People who are healthy and who have not been in the hospital or a nursing home can also get MRSA infections. These infections usually involve the skin. More information about this type of MRSA infection, known as "community-associated MRSA" infection, is available from the Centers for Disease Control and Prevention (CDC). <http://www.cdc.gov/mrsa>

How do I get an MRSA infection?
 People who have MRSA germs on their skin or who are infected with MRSA may be able to spread the germ to other people. MRSA can be passed on to bed linens, bed rails, bathroom fixtures, and medical equipment. It can spread to other people on contaminated equipment and on the hands of doctors, nurses, other healthcare providers and visitors.

Can MRSA infections be treated?
 Yes, there are antibiotics that can kill MRSA germs. Some patients with MRSA abscesses may need surgery to drain the infection. Your healthcare provider will determine which treatments are best for you.

What are some of the things that hospitals are doing to prevent MRSA infections?
 To prevent MRSA infections, doctors, nurses, and other healthcare providers:

- Clean their hands with soap and water or an alcohol-based hand rub before and after caring for every patient.
- Visitors may also be asked to wear a gown and gloves.
- When leaving the room, hospital providers and visitors remove their gown and gloves and clean their hands.
- Patients on Contact Precautions are asked to stay in their hospital rooms as much as possible. They should not go to common areas, such as the gift shop or cafeteria. They may go to other areas of the hospital for treatments and tests.
- May test some patients to see if they have MRSA on their skin. This test involves rubbing a cotton-tipped swab in the patient's nostrils or on the skin.

What can I do to help prevent MRSA infections?
In the hospital

- Make sure that all doctors, nurses, and other healthcare providers clean their hands with soap and water or an alcohol-based hand rub before and after caring for you.

If you do not see your providers clean their hands, please ask them to do so.

When you go home

- If you have wounds or an intravascular device (such as a catheter or dialysis port) make sure that you know how to take care of them.

Can my friends and family get MRSA when they visit me?
 The chance of getting MRSA while visiting a person who has MRSA is very low. To decrease the chance of getting MRSA your family and friends should:

- Clean their hands before they enter your room and when they leave.
- Ask a healthcare provider if they need to wear protective gowns and gloves when they visit you.


What do I need to do when I go home from the hospital?
 To prevent another MRSA infection and to prevent spreading MRSA to others:

- Keep taking any antibiotics prescribed by your doctor. Don't take half-doses or stop before you complete your prescribed course.
- Clean your hands often, especially before and after changing your wound dressing or bandage.
- People who live with you should clean their hands often as well.
- Keep any wounds clean and change bandages as instructed until healed.
- Avoid sharing personal items such as towels or razors.

C. diff

Accessible version: <https://www.cdc.gov/cdiff/what-is.html>

THE PROGRESSION OF A *C. DIFF* INFECTION



C. diff is a bacterium (germ) that causes severe diarrhea and colitis (an inflammation of the colon). *C. diff* infections can be life-threatening.

***C. diff* can infect anyone. Most cases of *C. diff* infection occur while you're taking antibiotics or not long after you've finished taking antibiotics. Other risk factors include:**

- Previous infection with *C. diff* or known exposure to the germs
- Being 65 or older
- Recent stay at a hospital or nursing home
- A weakened immune system, such as people with HIV/AIDS, cancer, or organ transplant patients taking immunosuppressive drugs

If you have signs or symptoms, see a doctor.


- The doctor will review your signs and symptoms and order a lab test.
- If it's positive, you'll take an antibiotic for 10 days.

After you've recovered, you could still be colonized.

- The germs will be in your body, but you won't

***C. diff* develops within a few days or up to several weeks after you take antibiotics and symptoms can include:**

- Severe Diarrhea
- Fever
- Stomach tenderness or pain
- Loss of appetite
- Nausea




You might be admitted to the hospital.

- Your healthcare providers will use precautions such as wearing gloves and gowns to prevent the spread of *C. diff*.

C. diff Process Discovery Tool

Available for download here: https://quality.allianthealth.org/media_library/hqic-c-diff-process-discovery-tool/



HQIC
Hospital Quality Improvement Contractors
CENTERS FOR MEDICARE & MEDICAID SERVICES
QUALITY IMPROVEMENT & INNOVATION GROUP

PROCESS IMPROVEMENT DISCOVERY TOOL

CLOSTRIDIODES DIFFICILE INFECTION (CDI)

The Process Improvement Discovery Tool is meant to help hospitals provide safer patient care by completing an assessment to identify process improvement opportunities. Hospitals can use the results to develop specific strategies to address gaps and identify resource needs. Please complete the tool using patient charts that align with this specific topic.

Instructions:

1. If the answer to the question is "Yes", mark an X in the box to indicate that the desired process was discovered. You may check more than one box per chart.
2. The processes that are not marked with an X may indicate the most common failures and could be a priority focus.
3. Put N/A if the process is not applicable.

Note: Do NOT spend more than 20-30 minutes per chart!

PROCESS	Chart #	Chart #	Chart #	Chart #	Chart #	Chart #	Chart #	Chart #	Chart #	Chart #
Within 24 hours prior to stool collection, the patient:										
Had 3 or more unexpected and unexplained stools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Had NOT received a stool softener, laxative or enema?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Had NOT received lactulose, tube feedings or IV contrast?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The patient had one of the following:										
Risk Factors for CDI (antibiotics in prior 60 days; PPI at least 3 days per week in the week prior to the stool collection)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Symptoms of CDI: abdominal pain; elevated WBC; T >38C?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Status:										
The patient had no history of a previously positive test	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Specimen quality:										
The stool specimen submitted was unformed stool	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Patient and Family Engagement (PFE)										
Is there documentation that the patient and/or family was engaged during shift change huddles and/or rounds regarding their risk for infection and/or signs and symptoms related to CDI?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

This material was prepared by Alliant Health Solutions, a Hospital Quality Improvement Contractor (HQIC) under contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services (HHS). Views expressed in this material do not necessarily reflect the official views or policy of CMS or HHS, and any reference to a specific product or entity herein does not constitute endorsement of that product or entity by CMS or HHS. AHSHQIC-TO3H-21-973-08/1021AHSHQIC-TO3H-21-843-07/08/21

www.alliantquality.org

Practice Guidelines

MRSA

- [Strategies to Prevent S. aureus BSIs in Acute Care Facilities | CDC](#)
- [SHEA Compendium of strategies to prevent MRSA](#)
- [Universal ICU Decolonization: An Enhanced Protocol | Agency for Healthcare Research and Quality \(ahrq.gov\)](#)

C. difficile

- [Strategies to Prevent Clostridioides difficile Infection in Acute Care Facilities | CDC](#)
- [IDSA Clinical Practice Guidelines for Clostridium difficile Infection](#)
- [SHEA Compendium of strategies to prevent C. diff](#)

Resources

C. diff

- [HQIC Coaching Package: Clostridioides Difficile \(C. diff\) Infection \(CDI\) - NQIIC \(allianthealth.org\)](https://allianthealth.org/HQIC-Coaching-Package-Clostridioides-Difficile-C-diff-Infection-CDI-NQIIC)
- [HQIC C. diff Process Discovery Tool - NQIIC \(allianthealth.org\)](https://allianthealth.org/HQIC-C-diff-Process-Discovery-Tool-NQIIC)

MRSA

- [Universal ICU Decolonization: An Enhanced Protocol | Agency for Healthcare Research and Quality \(ahrq.gov\)](https://www.ahrq.gov/universal-icu-decolonization)
- [FAQ's about MRSA - NQIIC \(allianthealth.org\)](https://allianthealth.org/FAQs-about-MRSA-NQIIC)

NHSN

- [NHSN Survival Guide - NQIIC \(allianthealth.org\)](https://allianthealth.org/NHSN-Survival-Guide-NQIIC)

Key Takeaways

- Learn Today:
 - Review surveillance tools and techniques for MRSA and C. diff data.
 - Review reporting and benchmarking options for MRSA and C. diff data.
 - Discuss data analysis and how to inform infection prevention efforts.
- Use Tomorrow:
 - Develop a written surveillance and reporting plan that includes data entry to NHSN for standardized and comparable analysis options.




Questions?



Email us at hospitalquality@allianthealth.org or call us at 678-527-3681.

HQIC Goals



Behavioral Health Outcomes & Opioid Misuse

- ✓ Promote opioid best practices
- ✓ Decrease high dose opioid prescribing and opioid adverse events in all settings
- ✓ Increase access to behavioral health services



Patient Safety

- ✓ Reduce risky medication combinations
- ✓ Reduce adverse drug events
- ✓ Reduce *C. diff* in all settings



Quality of Care Transitions

- ✓ Convene community coalitions
- ✓ Identify and promote optical care for super utilizers
- ✓ Reduce community-based adverse drug events

Upcoming Events

March 10, 2022

(Occurring the 2nd Thursday of each month)



HQIC Patient Safety Network
Infection Prevention – CAUTI, CLABSI, C. diff, and MRSA

Amy Ward and Rhonda Bowen

quality.allianthealth.org

Making Health Care Better *Together*

COLLABORATORS:

Alabama Hospital Association
Alliant Health Solutions
Comagine Health
Georgia Hospital Association
KFMC Health Improvement Partners
Konza

Hospital Quality Improvement



@alliantqio



@AlliantQIO

Thank you for joining us!
How did we do today?

Alliant Health Solutions



AlliantQIO



This material was prepared by Alliant Health Solutions (AHS), the Hospital Quality Improvement Contractor (HQIC) under contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services (HHS). Views expressed in this document do not necessarily reflect the official views or policy of CMS or HHS, and any reference to a specific product or entity herein does not constitute endorsement of that product or entity by CMS or HHS. Publication No. 12SOW-AHSQIN-QIO TO3 - HQIC--1471-02/03/22

ALLIANT
HEALTH SOLUTIONS

HQIC
Hospital Quality Improvement Contractors
CENTERS FOR MEDICARE & MEDICAID SERVICES
IQUALITY IMPROVEMENT & INNOVATION GROUP