

	No Consultation (n = 47)	Tele-ID Consultation (n = 75)	Total (n = 122)	P value
Standard of Care				
With appropriate antibiotics	7 (15%)	68 (91%)	75 (61%)	< .01
With first-line antibiotics	1 (2%)	65 (87%)	66 (54%)	< .01
Clearance documented				< .01
Not performed	11 (23%)	1 (1%)	12 (10%)	
No – died or hospice	5 (11%)	4 (5%)	9 (7%)	
Yes	31 (66%)	70 (93%)	101 (83%)	
Echocardiogram				< .01
TTE	24 (50%)	72 (99%)	96 (79%)	
TEE	5 (11%)	25 (33%)	30 (25%)	
Appropriate Antibiotics				
Overall	16 (35%)	74 (99%)	90 (74%)	< .01
Dose	27 (100%)	74 (100%)	101 (100%)	1
Duration	15 (36%)	71 (100%)	86 (76%)	< .01
First-line Antibiotic Used	16 (34%)	71 (95%)	87 (71%)	< .01
Additional Cross-Sectional Imaging	22 (63%)	56 (76%)	78 (72%)	.17
Source Control Procedure	9 (60%)	32 (73%)	41 (69%)	.36

	No Consultation (n = 47)	Tele-ID Consultation (n = 75)	Total (n = 122)	P Value
30-day SAB-related mortality	11 (24%)	5 (7%)	16 (14%)	< .01
90-day SAB-related mortality	11 (25%)	6 (8%)	17 (15%)	< .01
30-day SAB-related readmission	7 (15%)	8 (11%)	15 (12%)	.49
90-day SAB-related readmission	7 (15%)	14 (19%)	21 (17%)	.59
30-day relapsed SAB	4 (9%)	5 (7%)	9 (7%)	.72
90-day relapsed SAB	5 (11%)	9 (12%)	14 (11%)	.82

	In-Person (n = 35)	Tele-ID (n = 93)	Total (n = 128)	P value
Initial Vanderbilt Campus				.02
Tullahoma	14 (40%)	17 (18%)	31 (24%)	
Bedford	1 (3%)	11 (12%)	12 (9%)	
Wilson County	20 (57%)	65 (70%)	85 (66%)	
Age – Median (Q1, Q3)	53 (41, 72)	66 (56, 74)	64 (52, 74)	.01
BMI – Median (Q1, Q3)	27.89 (24.9, 34.92)	26.02 (22.43, 32.64)	26.44 (23.04, 33.08)	.12
Non-white Race	3 (9%)	8 (9%)	11 (9%)	1
Uninsured	7 (20%)	10 (11%)	17 (13%)	.18
Charlson Comorbidity Index – Median (Q1, Q3)	2 (1, 3)	3 (2, 4)	3 (2, 4)	.01
IVDU	6 (18%)	3 (3%)	9 (7%)	< .01
ESRD on RRT	3 (9%)	16 (17%)	19 (15%)	.22
Indwelling Hardware	13 (37%)	50 (54%)	63 (49%)	.09

SAB (91% vs 15%, $p < .01$). This finding was consistent across all hospitals and among the individual components of the primary outcome. In addition, Tele-ID consultation was associated with significantly decreased SAB-related 30-day mortality (7 vs 24%, $p < .01$) and SAB-related 90-day mortality (8 vs 25%, $p < .01$). No significant difference was observed in rates of readmission or relapsed bacteremia. **Conclusion:** In this retrospective cohort study of 122 patients with SAB cared for in rural, academic-affiliated hospitals, Tele-ID consultation was associated with a significantly increased likelihood of receiving standard of care and decreased mortality.

	In Person (n = 35)	Tele-ID (n = 93)	Total (n = 128)	P value
Length of Stay – Median days (Q1, Q3)	13 (7.5, 19.5)	9 (6, 16)	10 (6, 16)	.14
MRSA	13 (37%)	57 (61%)	70 (55%)	.01
Bacteremia Duration – Median Days (Q1, Q3)	4 (2.5, 5.5)	3 (2, 5)	3 (2, 5)	.15
Persistent Bacteremia	18 (51%)	36 (41%)	54 (44%)	.29
Uncomplicated SAB	5 (14%)	21 (23%)	26 (20%)	.30
Location of Acquisition				.25
Community	30 (86%)	78 (84%)	108 (84%)	
Care Facility	5 (14%)	9 (10%)	14 (11%)	
Hospital	0 (0%)	6 (6%)	6 (5%)	
Time to ID Consultation – Median Days (Q1, Q3)	1 (1, 2)	3 (2, 5)	3 (2, 5)	< .01
Time to First Source Control Procedure	1.5 (1, 3.75)	2 (1, 3)	2 (1, 3.25)	.79
ICU Transfer	2 (9%)	9 (14%)	11 (13%)	.49
Initially Admitted to ICU	11 (32%)	28 (31%)	39 (31%)	.86
Salvage Therapy	10 (29%)	12 (13%)	22 (17%)	.01
Antibiotic Adverse Event	5 (14%)	5 (5%)	10 (8%)	.09

	In-Person (n = 35)	Tele-ID (n = 93)	Total (n = 128)	P-value
Standard of Care				
With appropriate antibiotics	33 (94%)	86 (92%)	119 (93%)	.72
With first-line antibiotics	31 (89%)	79 (85%)	110 (86%)	.60
Clearance Documented				
Not performed	0 (0%)	1 (1%)	1 (1%)	
No – died or hospice	0 (0%)	4 (4%)	4 (3%)	
Yes	35 (100%)	88 (95%)	123 (96%)	
Echocardiogram				
TTE	35 (100%)	90 (96%)	125 (99%)	
TEE	16 (46%)	35 (38%)	51 (40%)	
Appropriate Antibiotics				
Overall	33 (94%)	92 (99%)	125 (98%)	.12
Dose	34 (97%)	92 (100%)	126 (99%)	.10
Duration	34 (97%)	88 (100%)	122 (99%)	.11
First-line Antibiotic Used	33 (94%)	86 (92%)	119 (93%)	.72
Additional Cross-Sectional Imaging	34 (97%)	72 (78%)	106 (83%)	.01
Source Control Procedure	18 (67%)	42 (71%)	60 (70%)	.67

This data will inform policy at regional hospitals, such as supporting a mandatory ID consult for SAB and implementation of a SAB bundle.

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Presentation Type:

Oral Presentation

Subject Category: Quality Improvement

Using Culture and Whole Genome Sequencing to Assess Sterilization to Reduce Bacterial Contamination of Ventilator Heater Wires

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Ventilator-associated events (VAEs), including ventilator-associated pneumonia (VAP), are important among hospitalized patients due to their

high morbidity, mortality, and associated costs. These infections are frequently caused by multidrug-resistant ESKAPE pathogens (Enterococcus, Staphylococcus, Klebsiella, Acinetobacter, Pseudomonas, and Enterobacter), which are known for their antibiotic resistance.

Heater wires used in mechanical ventilators regulate air humidity and temperature which prevents complications when the upper airway is bypassed. However, because these are in direct contact with the air supplied to patients, they can become sources of infection and reservoirs for antimicrobial-resistant organisms.

At a hospital in New Mexico, we transitioned from using low-level disinfectant wipes to sterile processing for heater wires. The dry climate in New Mexico accelerates the evaporation of disinfectants, reducing their effectiveness by shortening their contact time. Additionally, achieving full surface coverage with disinfectant wipes is difficult, compromising sterilization effectiveness.

To address these challenges, we implemented a protocol to send heater wire probes to sterile processing for sterilization. We evaluated the impact of this change by comparing the presence of bacteria on the probes before and after sterilization. Swabs from heater wire prongs were cultured and sequenced using Oxford Nanopore Technology. Metagenomic sequencing and analysis was also performed.

Before the new protocol, we swabbed 19 clean probes and 11 used probes. Bacterial DNA was detected on all clean probes and bacterial growth found on 42% of clean probe cultures. Of these, 63% were positive for ESKAPE pathogens, with five out of eight probes showing all ESKAPE species, and three probes lacking only Enterobacter. Additionally, all of the clean probe cultures were positive for *Stenotrophomonas*, another well known multi-drug resistant pathogen. After the autoclaving protocol was implemented, no bacterial growth was observed cultures (72 hours) of freshly sterilized probes. In conclusion, sterilization significantly improved the cleanliness of heater wires over use of disinfectant wipes. This improved sterilization protocol is expected to reduce the risk of infection transmission and the incidence of VAEs, thereby improving patient safety and outcomes.

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Presentation Type:

Oral Presentation

Subject Category: SSI

Results From The AHRQ Safety Program for MRSA Prevention: Targeting SSI in High-Risk Surgical Services- Process Measures and Outcomes

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Background: The Agency for Healthcare Research and Quality Safety Program for MRSA Prevention Surgical Services cohort aimed to reduce surgical site infections (SSIs) and prevent methicillin-resistant *Staphylococcus aureus* (MRSA) in teams performing surgeries at high risk for infection with and high morbidity due to MRSA (cardiac, knee or hip replacement, and spinal fusion) using evidence-based infection prevention interventions and the Comprehensive Unit-based Safety Program (CUSP) framework. We report process and outcome measures associated with program participation. **Methods:** The Surgical Services Safety Program for MRSA Prevention was implemented from January 2023 to June 2024. The aim was to increase teamwork and collaboration, reinforce safety culture, implement evidence-based infection prevention practices, and decrease SSIs and MRSA. The project team provided 22 live webinars, supporting materials, and other tools to assist surgical teams (Table 1). Teams were also assigned an implementation advisor who provided support through monthly coaching calls.

Table 1. Educational Toolkit Content for the AHRQ Safety Program for MRSA and SSI Prevention

Webinars
Introduction to the AHRQ Safety Program for MRSA Prevention: Targeting SSI
Onboarding Webinar
The Comprehensive Unit-Based Safety Program (CUSP)
Importance of MRSA and SSI Prevention
CUSP: Learning from Defects
The Evidence for MRSA Decolonization
Decolonization Strategies
Decolonization Implementation
Use of Pre-Operative Chlorhexidine
MRSA Surveillance
Review of SSI Program Tools
Decolonization Implementation: A Peer-to-Peer Perspective
Antimicrobial Prophylaxis: Part 1
Antimicrobial Prophylaxis: Part 2 Beyond the Basics
Hand Hygiene in the Perioperative Setting
Infection Prevention Potpourri: Hair Removal, Skin Prep for Incision, Normothermia, Glycemic Control, Supplemental Oxygen
Environmental Cleaning, and Normothermia: A Peer-to-Peer Perspective
Contact Precautions and OR Traffic
Optimizing Environmental Cleaning
Revisit and Review Topics and Interventions Covered in the Program: JeoPARODY
Revisit and Review: Peer Presentations
Sustainability
Glycemic Control for Infection Control
Hair Removal and Skin Prep Prior to Incision
Normothermia and Supplemental Oxygen for Infection Prevention
Operating Room Traffic
Science of Safety
Psychological Safety
Implementation Resources
Action Chart for Implementing Decolonization Program
Decision-Making and Readiness for Implementation
Pre-Launch Activities
Nursing Practice Guide
Selection of Decolonization Agent
Who Should Take on the Task of EVC Monitoring
Environmental Cleaning Monitoring Methods
Assessing EVC Essential Aspects and Steps
How to Randomly Order List of Rooms and High Touch Surfaces
Evaluating Environmental Cleaning Data Collection Tool
Sin Preparation Prior to Incision
Supplemental Oxygen
Antimicrobial Prophylaxis Duration
CUSP Learning from Defects Worksheet
Surgical Site Infection Investigation Tool
CUSP Meeting Pre-Work
CUSP Monthly Meeting Agenda Template
MRSA and SSI Prevention Strategies Worksheet
Roles and Responsibilities Tool
Premortem Tool
CUSP Tip Sheet: Assembling the CUSP Team
CUSP Tip Sheet: Engaging Senior Leaders in MRSA Prevention
CUSP Tip Sheet: Engaging Staff in MRSA Prevention
CUSP Tip Sheet: Engaging Surgeons in MRSA Prevention
CUSP Tip Sheet: Celebrating Success and Spreading MRSA and SSI Prevention
Data Collection
Monthly Team Checkup Tool for MRSA and SSI Prevention
Hospital-Level Gap Analysis Template and Instructions
Service-Level Gap Analysis Template and Instructions
Service-Level Clinical Data Collection Templates and Instructions
Hospital Survey on Patient Safety Culture and Instructions

*Each webinar has an associated recording, slide set, and script

Teams submitted baseline and endline information on patient safety culture and on infrastructure at the team- and hospital-level, as well as monthly data regarding process measures and SSIs. Teams submitted SSI data from 12 months prior to the start of the program and for 18 months after program implementation. Changes were assessed using