patients who nevertheless received antibiotics and 18.9% in febrile, culture-negative patients who received antibiotics (Figure 2). **Conclusion:** Fever was not reliably associated with urine culture positivity, whereas UTI diagnosis (clinical suspicion) was. Antibiotic use remained common after negative urine cultures, supporting opportunities to refine inpatient urine culture ordering and antimicrobial stewardship.

Antimicrobial Stewardship & Healthcare Epidemiology 2026;6(Suppl. S1):s6–s7
doi:10.1017/ash.2026.10438

Figure 1. Urine culture positivity rate by fever status and UTI diagnosis among inpatients.

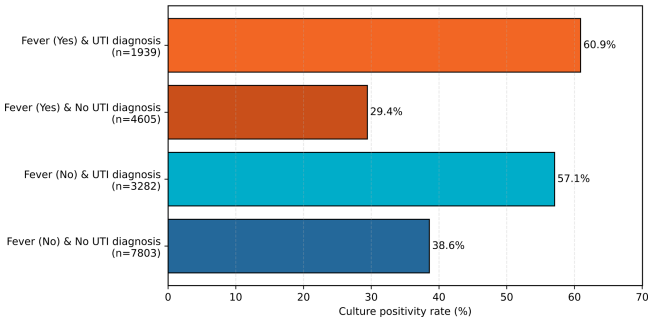
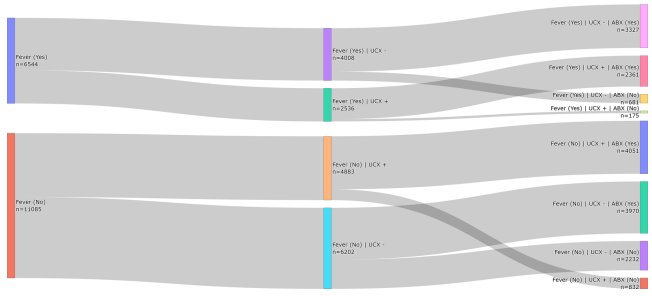


Figure 2. Sankey diagram illustrating fever status, urine culture results, and antibiotic exposure among inpatients.



Presentation Type:
Top Poster Abstract
Subject Category: Decolonization Strategies
Impact of Inpatient MRSA decolonization strategy at 9 hospital system in Eastern North Carolina‡
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Background: Hospital acquired infections are known to increase hospital stays and increase morbidity and mortality. Historically, Methicillin-resistance Staphylococcus aureus (MRSA) screening and contact precautions have been the primary strategy to prevent the spread of MRSA in healthcare systems. Increasing evidence supports the role for MRSA decolonization to decrease the spread of this important pathogen. The COVID-19 pandemic and related personal protective equipment conservation has led to many programs re-examining contact precautions for MRSA. **Methods:** In February of 2024 MRSA screening was discontinued for new admissions and an MRSA decolonization protocol was implemented for patients at high risk for MRSA infection as defined in the SHEA compendium for reducing MRSA infections. Decolonization included nasal Mupirocin 2% ointment and 2% Chlorhexidine Gluconate (CHG) bathing for five days in the adult inpatient population. High risk patients targeted for this intervention included patients transferred from another healthcare facility, admitted from home health, on dialysis, prior history of MRSA infection or those with central venous catheters. Contact isolation precautions for MRSA colonization were discontinued but maintained for active infection with MRSA. **Results:** After implementation, MRSA nares screening tests declined by 24.4% while utilization of mupirocin increased 5.85 times the pre-implementation average. In the twelve months prior to the intervention there were 221.1 new MRSA infections per 1000 inpatient admissions and in the 12 months following intervention there were 155.4 new MRSA infections per 1000 inpatient admissions. The rate of MRSA infections had been increasing prior to intervention and the rate of increase decreased by 54.8% after implementation. We estimated a cost savings of $194,745 if all patients that were previously screened were instead decolonized. We additionally noted an approximate 18% reduction in isolation gown use resulting an additional estimated annual cost savings of $115,369 per year if sustained. **Conclusions:** The implementation of a MRSA decolonization program resulted in significant cost savings without any associated increase in clinical MRSA cultures. The program appeared to have far greater buy-in than the previous screen and isolate program despite having similar patient selection criteria. This may reflect a greater perceived importance of screening relative to a treatment strategy. A decolonization strategy was found to be effective at decreasing the rate of new MRSA infections even with the removal of isolation precautions for colonization. Low compliance with isolation precautions for colonization are thought to be a contributing factor in the limited efficacy of a screen and isolate strategy.

Antimicrobial Stewardship & Healthcare Epidemiology 2026;6(Suppl. S1):s7
doi:10.1017/ash.2026.10439

Presentation Type:
Top Poster Abstract
Subject Category: Decolonization Strategies
From Colonization to Prevention: Reducing Staphylococcus aureus Burden with Decolonization‡
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Background: Staphylococcus aureus (SA) is a leading cause of infection-related mortality worldwide and remains one of the most common pathogens in healthcare settings, particularly methicillin-resistant SA (MRSA). Approximately 30% of patients are colonized with SA in the nares, and these asymptomatic carriers serve as a reservoir for invasive infections, including bloodstream infections, pneumonia, and surgical site infections. Targeted strategies, such as nasal decolonization, are essential to reduce colonization and prevent subsequent infection. We evaluated the impact of SA nasal decolonization on overall SA infection rates and healthcare facility-onset (HO) MRSA bacteremia, a laboratory-identified (LabID) event. **Methods:** In this pre–post quasi-experimental retrospective study, we compared overall SA, MRSA, and methicillin-susceptible SA (MSSA) infection rates per 1,000 patient days and the HO-MRSA bacteremia Standardized Infection Ratio (SIR) between the preintervention period (January 2020–June 2021) and the intervention period (October 2023–September 2025) at a 5-hospital healthcare system in Michigan. HO-MRSA bacteremia was determined using National Healthcare Safety Network (NHSN) criteria. SA infections included

Table. Impact of Decolonization Bundle on *S. aureus* Infection Rates and MRSA Bacteremia

Metric	Pre-intervention	Post-intervention	% Reduction	p value
MRSA bacteremia rate per 1,000 patient days	0.0687	0.036	48%	0.0009
SA infection rate per 1,000 patient days	2.782	2.186	28%	< 0.001
MRSA infection rate per 1,000 patient days	1.330	1.021	23%	< 0.001
MSSA infection rate per 1,000 patient days	1.452	1.164	20%	< 0.001
HO-MRSA bacteremia SIR	1.148	0.571	50%	< 0.0004

MRSA, methicillin-resistant *Staphylococcus aureus;* SA, *Staphylococcus aureus;* MSSA, methicillin-sensitive *Staphylococcus aureus*; HO, healthcare facility-onset; SIR, standardized infection ratio

‡The abstract titles in this supplement have been corrected since original publication. A notice detailing the changes has been published at https://doi.org/10.1017/ash.2026.10802.

https://doi.org/10.1017/ash.2026.10440 Published online by Cambridge University Press

positive clinical cultures in hospitalized patients. Previously, our protocol consisted of daily chlorhexidine (CHG) bathing only, and HO-MRSA bacteremia SIR remained above goal. In a two-phased approach, we implemented nasal decolonization with an alcohol-based nasal antiseptic twice daily in addition to CHG for all ICU patients in August 2021, followed by all general practice unit patients with central lines in August 2023. **Results:** Following implementation, the cumulative HO-MRSA bacteremia SIR decreased 50% from 1.148 to 0.571 (95% CI, 0.336–0.73; p. **Conclusion:** Adding nasal decolonization to daily CHG bathing significantly reduced SA infection rates and HO-MRSA bacteremia. These findings confirm the effectiveness of a bundled decolonization strategy in mitigating both MRSA and MSSA infections. Broader adoption of nasal antiseptic protocols, alongside CHG bathing, should be considered a critical component of infection prevention strategy for high-risk hospital populations.

Antimicrobial Stewardship & Healthcare Epidemiology 2026;6(Suppl. S1):s7–s8
doi:10.1017/ash.2026.10440

Presentation Type:
Top Poster Abstract
Subject Category: Diagnostic Stewardship

Impact of a Single-Set Blood Culture Restriction on the Epidemiology of Bloodstream Infections During the 2024 National Bottle Shortage‡

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Background: During the 2024 national shortage of BD BACTEC blood culture bottles, many hospitals implemented ordering restrictions to conserve supplies. While prior studies have evaluated overall blood culture utilization and patient outcomes, less is known about how such restrictions affected the observed epidemiology of bloodstream infections (BSIs) across organism groups. Understanding these effects is important for interpreting surveillance data and anticipating downstream clinical implications during diagnostic supply disruptions. **Methods:** We conducted an interrupted time series analysis of BSI episodes at two tertiary-care hospitals from June 26, 2023 through June 25, 2025. A systemwide electronic order restriction implemented from June 26, 2024 through December 23, 2024 limited clinicians to one blood culture set per patient every 24 hours. We grouped blood culture results into episodes and categorized by organism group. Outcomes included organism group-specific episode incidence, hospital outcomes (e.g., in-hospital mortality/hospice discharge), and blood culture utilization. We used segmented regression models with Newey-West standard errors to estimate level and slope changes associated with restriction onset and withdrawal. **Results:** We identified 5,391 BSI episodes among 4,484 patients, with baseline characteristics stable across study periods (Table 1). Organism group incidence, hospital outcomes, and blood culture utilization varied by period (Table 2). During the restriction period, the relative incidence of enterococci, fungi, gram negative rods, and Staphylococcus aureus/lugdunensis increased, while anaerobes, streptococci, coagulase-negative staphylococci/common commensals, and polymicrobial infections decreased (Figure 1). Interrupted time series analyses demonstrated an overall decrease in BSI incidence during the restriction, with declines for gram negative rods, streptococci, coagulase-negative staphylococci/common commensals, and polymicrobial infections (Figure 2). We observed statistical significance only for a 51.7% decrease in streptococci incidence upon restriction onset (P=.04) and a 3.5% per month decrease in gram negative rod incidence during restriction (P=.02) (Table 3). Estimates for other organism groups were limited by small numbers of observations, resulting in imprecise effect estimates or potentially artifactual findings. Conclusions Single-set blood culture restriction during the 2024 national supply shortage was associated with changes in the observed epidemiology of BSIs, including an overall decrease in incidence and heterogeneous effects across organism groups. Although interrupted time series analyses for several groups were limited by low power, combined visual and quantitative findings suggest that restrictive diagnostic practices may differentially affect BSI detection by organism type. These findings underscore the need for cautious interpretation of surveillance data during diagnostic disruptions and highlight the importance of resilient diagnostic supply chains and evidence-based mitigation strategies.

Antimicrobial Stewardship & Healthcare Epidemiology 2026;6(Suppl. S1):s8
doi:10.1017/ash.2026.10441

Characteristic, No. (%)	Pre-restriction (n = 2 987)	Restriction (n = 1 076)	Post-restriction (n = 1 328)	Overall (n = 5 391)
Female sex	1 299 (43.5)	470 (43.7)	581 (43.8)	2 350 (43.6)
Age, years				
< 25	57 (1.9)	25 (2.3)	20 (1.5)	102 (1.9)
25-34	226 (7.6)	89 (8.3)	93 (7.0)	408 (7.6)
35-44	354 (11.9)	118 (11.0)	144 (10.8)	616 (11.4)
45-54	375 (12.6)	130 (12.1)	151 (11.4)	656 (12.2)
55-64	606 (20.3)	281 (26.1)	290 (21.8)	1 177 (21.8)
65-74	789 (26.4)	239 (22.2)	356 (26.8)	1 384 (25.7)
75-84	446 (14.9)	147 (13.7)	207 (15.6)	800 (14.8)
≥85	134 (4.5)	47 (4.4)	67 (5.0)	248 (4.6)
Race				
Asian	93 (3.1)	35 (3.3)	47 (3.5)	175 (3.2)
Black	1 391 (46.6)	523 (48.6)	636 (47.9)	2 550 (47.3)
Other	115 (3.9)	35 (3.3)	59 (4.4)	209 (3.9)
Unknown	141 (4.7)	54 (5.0)	74 (5.6)	269 (5.0)
White	1 247 (41.7)	429 (39.9)	512 (38.6)	2 188 (40.6)
Ethnicity				
Hispanic/Latino	89 (3.0)	33 (3.1)	35 (2.6)	157 (2.9)
Non-Hispanic/Latino	2 847 (95.3)	1 020 (94.8)	1 255 (94.5)	5 122 (95.0)
Unknown	51 (1.7)	23 (2.1)	38 (2.9)	112 (2.1)
Insurance				
Private or commercial	728 (24.4)	283 (26.3)	350 (26.4)	1 361 (25.2)
Public, managed	1 384 (46.3)	505 (46.9)	603 (45.4)	2 492 (46.2)
Public, unmanaged or uninsured/self-pay	875 (29.3)	288 (26.8)	375 (28.2)	1 538 (28.5)
Elixhauser Comorbidity Index				
< 0	89 (3.0)	26 (2.4)	21 (1.6)	136 (2.5)
0-9	473 (15.8)	140 (13.0)	237 (17.8)	850 (15.8)
10-19	605 (20.3)	200 (18.6)	236 (17.8)	1 041 (19.3)
20-29	589 (19.7)	213 (19.8)	293 (22.1)	1 095 (20.3)
≥30	1 231 (41.2)	497 (46.2)	541 (40.7)	2 269 (42.1)
Hospital site				
HUP	1 887 (63.2)	714 (66.4)	854 (64.3)	3 455 (64.1)
PPMC	1 100 (36.8)	362 (33.6)	474 (35.7)	1 936 (35.9)

Table 1: Baseline sociodemographic and clinical characteristics of bloodstream infection episodes aggregated by time period. The pre-restriction, restriction, and post-restrictions periods were June 26, 2023–June 25, 2024, June 26, 2024–December 23, 2024, and December 24, 2024–June 25, 2025, respectively. Data shown are the number of bloodstream infectious episodes having the indicated characteristic, with percentage in parentheses reflecting this as the numerator and size of the overall group as the denominator (shown in the headings). Abbreviations: HUP, Hospital of the University of Pennsylvania; PPMC, Penn Presbyterian Medical Center.

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https://doi.org/10.1017/ash.2026.10440 Published online by Cambridge University Press