

NHSN Users Group Meeting

October 22nd, 2025



Agenda



Welcome



Multidrug-Resistant Organisms in Michigan



Invasive Group A Streptococcus (iGAS)



MDHHS Respiratory Season Resources



Discussion



Next Meeting – February 25th, 2026

Question from last time

- *Q: Is MDHHS still requiring HCP COVID vaccine data submission, after it is going to be no longer required by CMS?*
- A: No, MDHHS does not have any state reporting requirements for NHSN. We collect voluntarily submitted data from facilities who agree to share data.
- Please follow CMS/federal guidelines for reporting.

Multidrug-Resistant Organisms (MDROs) in Michigan

MDROs in MI

Why MDROs matter for hospitals:

- ↑ Mortality & length of stay
- ↑ Cost of care & staff burden
- ↑ Transfers between ACH/CAH to LTACH
- Surveillance methods are central to “Detect & Contain” strategy

For today:

NHSN AR Module

- Carbapenem-resistant Enterobacterales (CRE)
- Methicillin-resistant *Staphylococcus aureus* (MRSA)
- Vancomycin-resistant *Enterococcus* (VRE)

Carbapenem-resistant Enterobacterales (CRE)

- CRE that produce carbapenemase enzymes
 - KPC, NDM, OXA-48, IMP, VIM
 - Gram-negative
- Resistant to **nearly all** antibiotics
- ICU, ventilated patients, inter-facility transfers increase spread/risk
- Prevention:
 - Early screening/prompt isolation
 - Hand hygiene
 - Communication of MDRO status on transfer
- NHSN Antimicrobial Resistance Event Line list data
 - For 2024, the majority (39,451 events, 90+%) of AR CRE events reported were defined as community onset across all regions and statewide

Methicillin-Resistant *Staphylococcus aureus* (MRSA)

- MRSA Bacteremia = CMS reportable measure in NHSN
- Gram-positive bacterium that transmits primarily via contact
- Some environmental persistence on surfaces/equipment
- Prevention:
 - Routine CHG bathing and nasal decolonization
 - Strict contact precautions/hand hygiene
 - Screening/cohorting of high-risk patients
- NHSN Antimicrobial Resistance Event Line list data
 - For 2024, the majority (6,080 events, 80+%) of AR MRSA events reported were defined as community onset across all regions and statewide

Vancomycin-Resistant Enterococci (VRE)

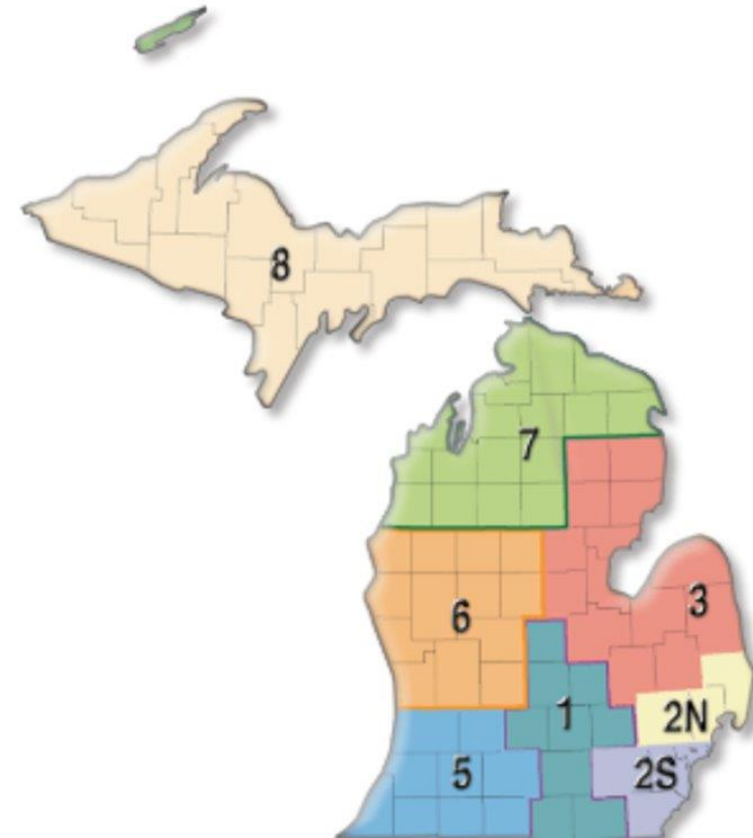
- Gram-positive cocci commonly found in GI tract
- Opportunistic pathogen, major species: *E. faecium* and *E. faecalis*
- Environmental persistence: can survive on surfaces for weeks, requiring enhanced cleaning and disinfection monitoring
- Prevention:
 - Contact precautions and dedicated equipment
 - Rigorous hand hygiene compliance auditing
 - Environmental cleaning and verification
 - Antimicrobial stewardship to limit vancomycin overuse
- NHSN Antimicrobial Resistance Event Line list data
 - For 2024, the majority (7,848 events, 86+%) of AR VRE events reported were defined as community onset across all regions and statewide

2024 NHSN Annual Hospital Survey

2024 NHSN Annual Hospital Survey

Table 1. Facility Characteristics of the Michigan NHSN Group

Region	N (%)
1	9 (9.0%)
2N	16 (16.0%)
2S	18 (18.0%)
3	16 (16.0%)
5	9 (9.0%)
6	17 (17.0%)
7	7 (7.0%)
8	8 (8.0%)
Medical School Affiliation	
Teaching	87 (87.0%)
Non-Teaching	13 (13.0%)
Bed Size	
≤100	47 (47.0%)
101-200	13 (13.0%)
201-500	31 (31.0%)
≥501	9 (9.0%)



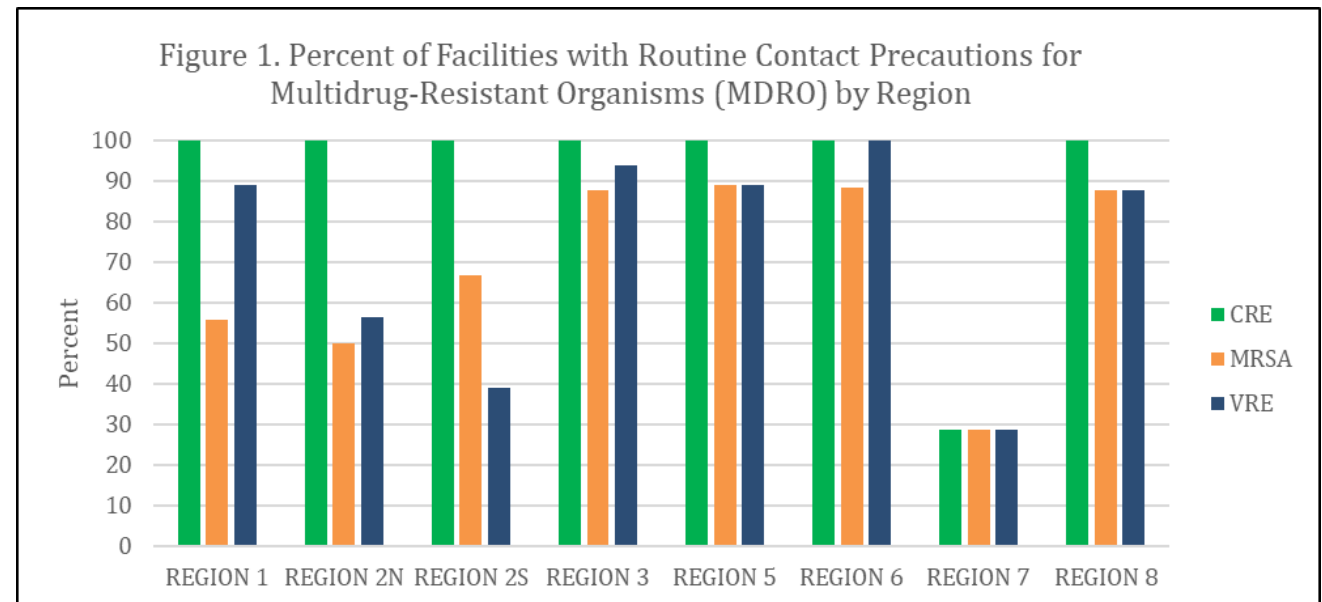
2024 NHSN Annual Hospital Survey



- 2024 Annual Hospital Survey assesses facility-reported infection prevention, lab testing, antibiotic stewardship, and other important practices across acute care hospitals
- Standardized data collection allows for evaluating healthcare-associated infection (HAI) prevention infrastructure, diagnostic capabilities, and antimicrobial stewardship interventions

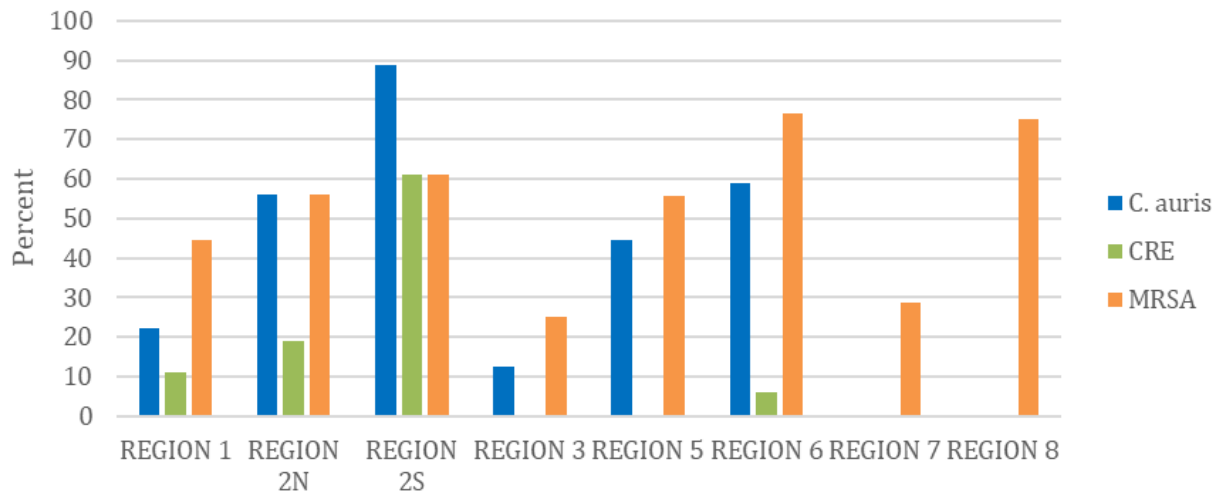
2024 NHSN Annual Hospital Survey- MDRO Contact Precautions

- Q25-28
- Statewide, the % of facilities who report they have a policy that patients infected/colonized with the following pathogens are routinely placed in contact precautions while at the facility:
 - MRSA → **71.0%**
 - VRE → **73.0%**
 - CRE → **95.0%**
 - ESBL → **74.0%**



2024 NHSN Annual Hospital Survey- MDRO Screening Practices

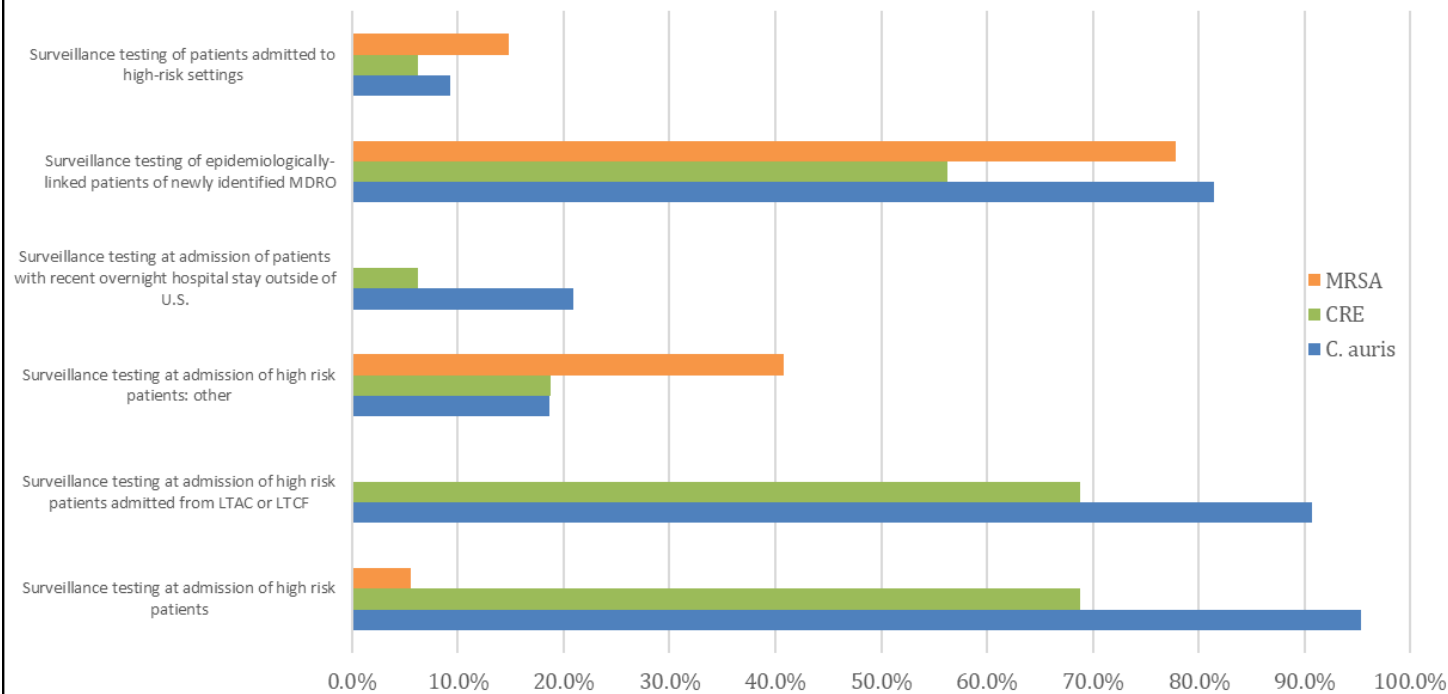
Figure 2. Percent of Facilities with Routine Screening for Multidrug-Resistant Organisms (MDRO) by Region



- Q29-31
- Statewide, the % of Facilities who report routine screening testing on patients (including public health & commercial labs) for:
 - MRSA → **54.0%**
 - CRE → **16.0%**
 - *C. auris* → **43.0%**

2024 NHSN Annual Hospital Survey- MDRO Screening Practices

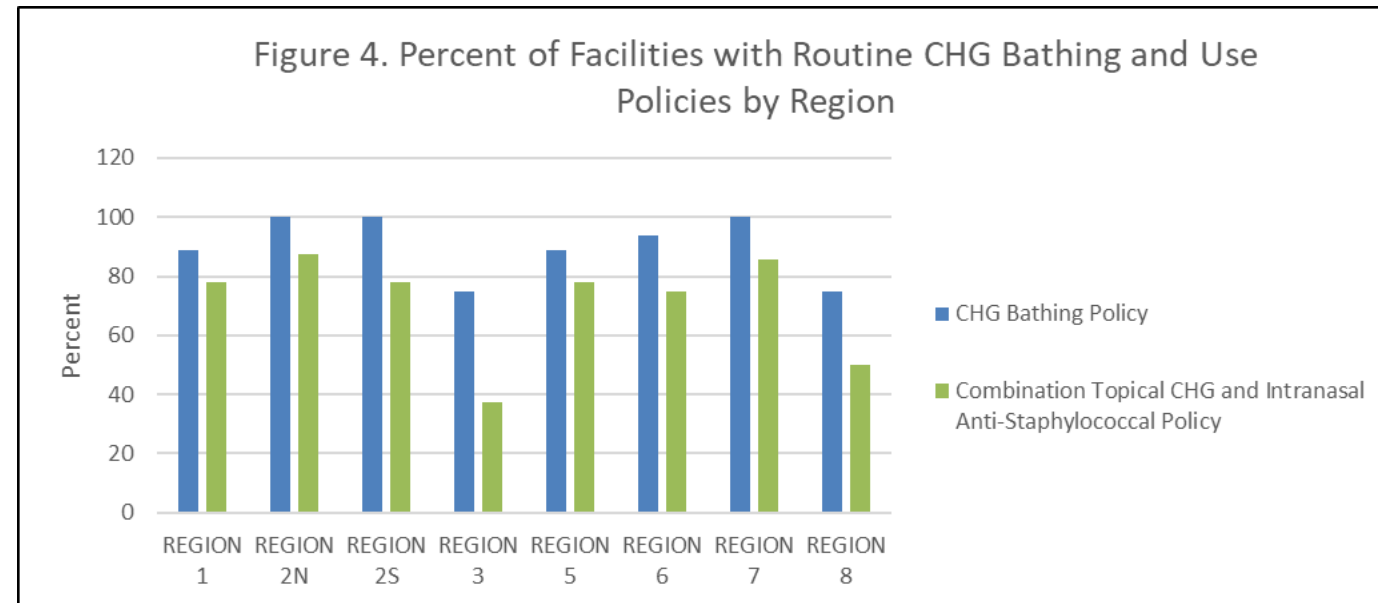
Figure 3. MDRO Routine Surveillance of Patient Groups



- Q29-31
- Facilities report regular surveillance of MDROs for different patient groups, especially for epi-linked and high-risk patients

2024 NHSN Annual Hospital Survey- Infection Control Practices

- Q33-34
- Statewide:
 - 90.0% of facilities report routine CHG bathing policies for any adult patient
 - ICU patients → 81.1%
 - Non-ICU → 82.2%
 - 70.0% report combination prevention policies for any adult patient
 - ICU patients → 24.3%
 - Non-ICU → 21.4%



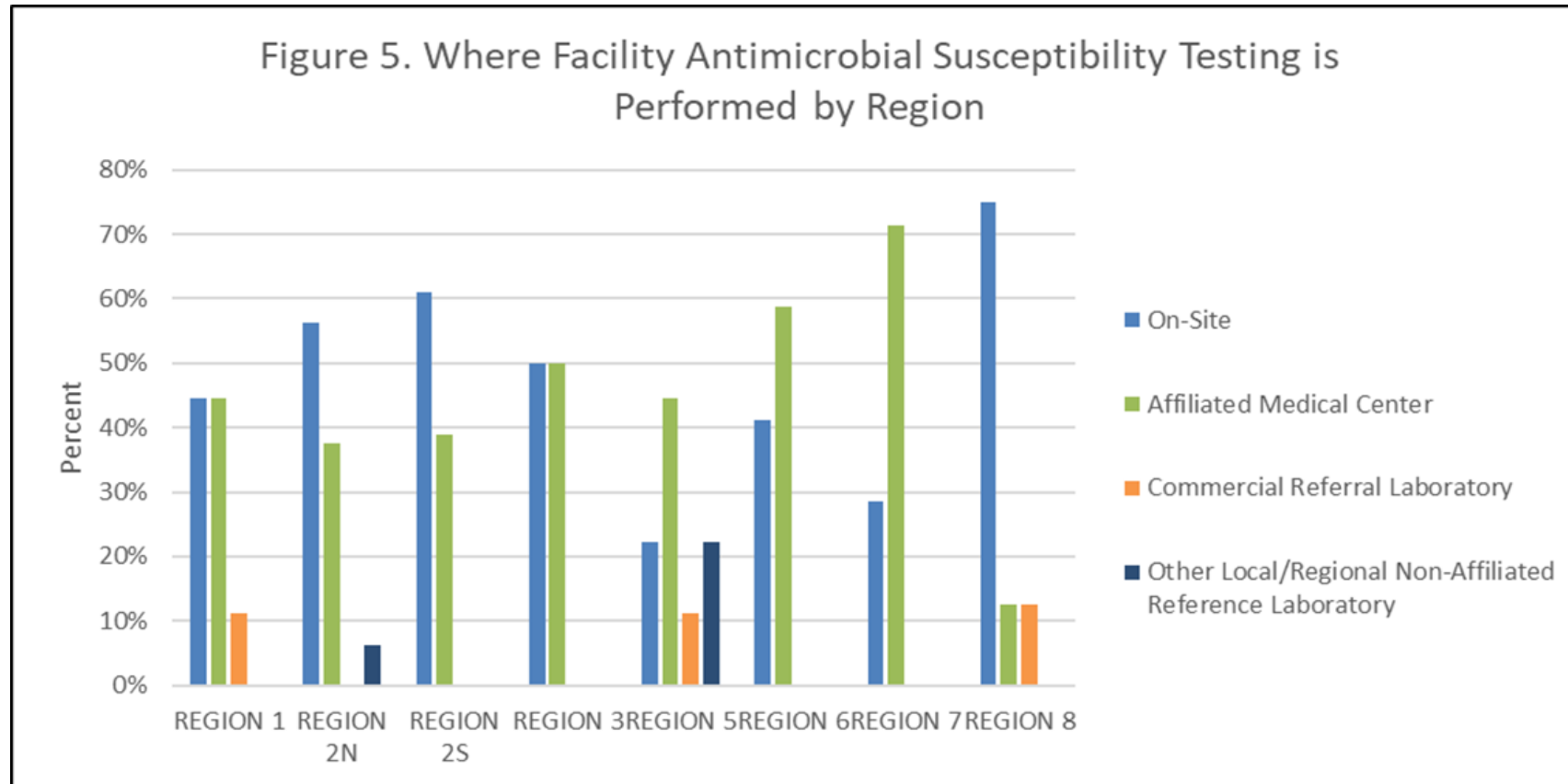
2024 NHSN Annual Hospital Survey- Microbiology Lab Practices



Table 2. Facility Microbiology Laboratory Practices	
Bacterial Antimicrobial Susceptibility Testing (AST):	N (%)
Facility has its own on-site laboratory that performs bacterial AST	49 (49.0%)
No on-site AST	51 (51.0%)
Testing performed at an affiliated medical center	45 (88.2%)
Testing performed at commercial referral laboratory	3 (5.9%)
Testing performed at other local/regional, non-affiliated reference laboratory	3 (5.9%)
Carbapenemase Testing:	
Laboratory tests bacterial isolates for presence of carbapenemase ⁶	50 (50.0%)
Routine testing for <i>Enterobacterales</i> spp.	50 (100.0%)
Routine testing for <i>Pseudomonas aeruginosa</i>	35 (70.0%)
Routine testing for <i>Acinetobacter baumannii</i>	23 (46.0%)

- Q1-22
- 49.0% perform AST on-site, improving turnaround time
- 88.2% of facilities without on-site AST send specimens to an affiliated medical center
- 50.0% of labs routinely test for carbapenemase production, of which 100.0% routinely test for *Enterobacterales* spp.

2024 NHSN Annual Hospital Survey- Microbiology Lab Practices



Carbapenem-Resistant Enterobacterales (CRE)

Methods

Pathogen	Specimen Source	Drug Types	Resistance Rate
Carbapenem-Resistant Enterobacterales (CRE)	All	Doripenem, Ertapenem, Imipenem, and Meropenem	$\frac{\# \text{ resistant/intermediate isolates}}{\# \text{ of total isolates tested}}$
<i>Staphylococcus aureus</i> (MRSA)	All	Cefoxitin, Oxacillin	$\frac{\# \text{ resistant isolates}}{\# \text{ of total isolates tested}}$
Vancomycin-resistant enterococci (VRE)	All	Vancomycin	$\frac{\# \text{ resistant isolates}}{\# \text{ of total isolates tested}}$

- Timeframe: 1/1/2024-12/31/2024
- Data source: CDC's National Healthcare Safety Network (NHSN), Antimicrobial Resistance event line listing (unique events)
- Specimen Source: All
- All inpatient and outpatient locations as defined by the CDC

NHSN Antimicrobial Resistance Events

Region	2024 Number of Facilities Reporting Antimicrobial Resistance Events	
	N (% of facilities in Region)	
1	8	(80.0%)
2N	13	(81.3%)
2S	12	(66.7%)
3	14	(87.5%)
5	8	(61.5%)
6	17	(94.4%)
7	5	(71.4%)
8	6	(75.0%)

CRE

Region	Routine Contact Precautions for CRE ¹ (Number of Facilities=100)	Routine Screening Testing ² (Number of Facilities=100)	Community Onset Resistance Rate ³ (Total Resistant/Intermediate = 485, Total Tested=39,451)	Hospital Onset Resistance Rate (Total Resistant/Intermediate=115, Total Tested=3,132)	Overall Resistance Rate (Total Resistant/Intermediate=600, Total Tested=42,583)
Statewide	95.0%	16.0%	1.2%	3.7%	1.4%
1	100.0%	11.1%	1.8%	10.9%	2.3%
2N	100.0%	18.8%	2.5%	5.7%	2.9%
2S	100.0%	61.1%	1.5%	4.2%	1.7%
3	100.0%	0.0%	1.8%	3.4%	1.9%
5	100.0%	0.0%	1.5%	2.0%	1.5%
6	100.0%	5.9%	0.6%	1.9%	0.7%
7	28.6%	0.0%	0.8%	3.5%	0.9%
8	100.0%	0.0%	9.6%	25.0%	10.5%

¹Facilities who have a policy that patients infected or colonized with CRE are routinely placed in contact precautions while at the facility.

²Facilities who routinely perform routine screening testing for CRE on patients (culture or non-culture methods), including screening performed by public health laboratories and commercial laboratories.

³Onset is defined by NHSN based on specimen collection date relative to the patient's admission date to the facility. An isolate is considered community onset if specimen is collected within the first 3 calendar days of admission. If collected on or after the fourth day, it is considered hospital onset. Includes susceptibility testing final interpretation results for Doripenem, Ertapenem, Imipenem, and Meropenem.

Methicillin-Resistant *Staphylococcus aureus* (MRSA)

MRSA

Region	Routine Contact Precautions for MRSA ¹ (Total Facilities=100)	Routine Screening Testing ² (Total Facilities=100)	Community Onset Resistance Rate ³ (Total Resistant=2,504, Total Tested=6,080)	Hospital Onset Resistance Rate (Total Resistant=531, Total Tested=1,264)	Overall Resistance Rate (Total Resistant=3,035, Total Tested=7,344)
Statewide	71.0%	54.0%	41.2%	42.0%	41.3%
1	55.6%	44.4%	44.05%	46.0%	44.3%
2N	50.0%	56.2%	43.9%	43.6%	43.8%
2S	66.7%	61.1%	48.3%	44.0%	47.5%
3	87.5%	25.0%	41.3%	46.8%	42.4%
5	88.9%	55.6%	38.3%	37.8%	38.2%
6	88.2%	76.5%	33.0%	33.0%	33.1%
7	28.6%	28.6%	17.9%	16.1%	17.6%
8	87.5%	75.0%	33.0%	25.8%	32.0%

¹Facilities who have a policy that patients infected or colonized with MRSA are routinely placed in contact precautions while at the facility.

²Facilities who routinely perform routine screening testing for CRE on patients (culture or non-culture methods), including screening performed by public health laboratories and commercial laboratories.

³Onset is defined by NHSN based on specimen collection date relative to the patient's admission date to the facility. An isolate is considered community onset if specimen is collected within the first 3 calendar days of admission. If collected on or after the fourth day, it is considered hospital onset. Includes susceptibility testing final interpretation results for Oxacillin and Cefoxitin.

Vancomycin-Resistant Enterococci (VRE)

VRE



Region	Routine Contact Precautions for VRE ¹ (Total Facilities=100)	Community Onset Resistance Rate ² (Total Resistant=1,254, Total Tested=7,848)	Hospital Onset Resistance Rate (Total Resistant=387, Total Tested=1,220)	Overall Resistance Rate (Total Resistant=1,641, Total Tested=9,068)
Statewide	73.0%	15.9%	31.7%	18.1%
1	88.9%	12.5%	26.7%	13.9%
2N	56.2%	21.2%	40.0%	24.5%
2S	38.9%	18.5%	32.9%	20.4%
3	93.8%	17.9%	31.2%	19.9%
5	88.9%	11.9%	15.6%	12.2%
6	100.0%	10.5%	21.5%	11.5%
7	28.6%	7.6%	16.7%	8.4%
8	87.5%	4.0%	10.4%	4.8%

¹Facilities who have a policy that patients infected or colonized with VRE are routinely placed in contact precautions while at the facility.

²Onset is defined by NHSN based on specimen collection date relative to the patient's admission date to the facility. An isolate is considered community onset if specimen is collected within the first 3 calendar days of admission. If collected on or after the fourth day, it is considered hospital onset. Includes susceptibility testing final interpretation results for Vancomycin.

Resources for MDRO Prevention

- [Candida-auris-Screening-Guidance_81123.pdf](#)
- [Public Health Strategies to Prevent the Spread of Novel and Targeted Multidrug-resistant Organisms](#)
- Containment Guidance
[Interim Guidance for a Public Health Response to Contain Novel or Targeted Multidrug-resistant Orga...](#)
- Transfer form
[Inter-Facility Infection Control Transfer Form for States Establishing HAI Prevention Collaboratives](#)

Facility Application

- What hospitals can do right now:
 - Detect: screen high-risk patients
 - Contain: isolate/cohort (even with limited rooms)
 - Communicate: MDRO status must follow the patient
 - Partner: use MDHHS or BOL support!

Invasive Group A *Streptococcus*

Riley Moore, MPH, CIC
Infection Prevention Unit Manager



Group A *Streptococcus*

- Group A *Streptococcus* (GAS) are gram positive bacteria that can cause a range of illnesses – from mild infection to serious invasive disease
- **Clinical Infections**
 - Minor
 - Impetigo
 - Scarlet fever
 - Strep throat
 - Invasive
 - Necrotizing fasciitis
 - Sepsis
 - Streptococcal toxic shock syndrome
 - Meningitis



GAS Epidemiology

Transmission

- Respiratory droplets
- Direct contact
- Foodborne and water outbreaks have been well documented

Carriage

- **15-20%** of school-age children are asymptomatic nasopharyngeal carriers of GAS. Adults are carriers at much lower rates.
- HAI GAS outbreaks have been associated with healthcare personnel (HCP) who are nasopharyngeal, anal, or vaginal streptococcal carriers.

Risk Factors

- Comorbid conditions (e.g., chronic heart disease, diabetes, immunocompromising conditions)
- Presence of wounds
- Individuals aged 65 years and older
- Residents of long-term care facilities

Reporting of Invasive GAS

- **Michigan**

- Required reporting of invasive GAS cases within 24 hours to either the Michigan Disease Surveillance System (MDSS) or your local health department



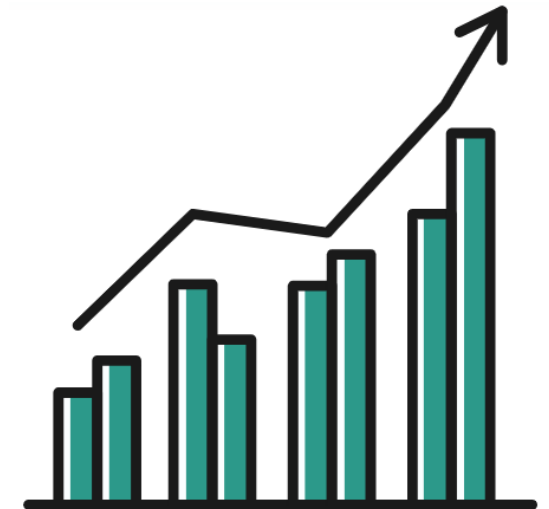
- **Nationally**

- **National Notifiable Diseases Surveillance System** – Streptococcal toxic shock syndrome (STSS) only
- **Active Bacterial Core surveillance system** – CDC collaborative with some state health departments and academic institutions through the CDC's Emerging Infections Program (EIP)



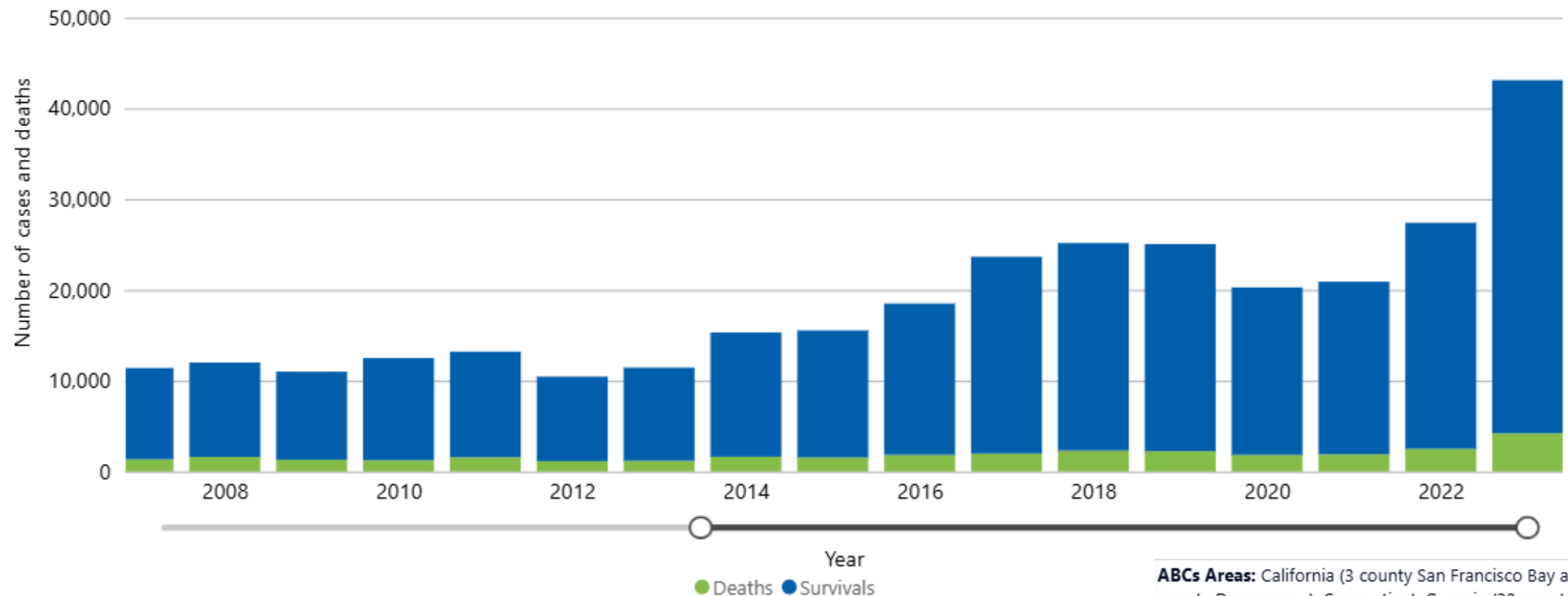
Surveillance Data & Trends

- Rates of serious invasive GAS infections have been **increasing** over the past decade – primarily in adults.
 - GAS circulates year-round, however, more common between the months of December through April.
 - Rates of infection were notably low throughout the year during the COVID-19 pandemic.
- Since 2022
 - Seasonal pattern of GAS activity has returned.
 - **Low seasons:** number of cases similar to pre-pandemic rates.
 - **High seasons:** number of minor and serious cases exceed pre-pandemic numbers.



Active Bacterial Core Surveillance System

Estimated number of cases and deaths of invasive GAS infections in the US*









ABCs Areas: California (3 county San Francisco Bay area); Colorado (5 county Denver area); Connecticut; Georgia (20 county Atlanta area); Maryland (6 county Baltimore area); Minnesota; New Mexico; New York (15 county Rochester and Albany areas); Oregon (3 county Portland area); Tennessee (20 urban counties).

Outbreaks of Invasive GAS

Concise Communication

Outbreak of postpartum group A *Streptococcus* infections on a labor and delivery unit

Michael Haden MD¹, Christina Liscynesky MD^{2,3} , Nora Colburn MD^{2,3} , Justin Smyer MPH³, Kimberly Malcolm DNP³ , Iahn Gonsenhauser MD⁴, Kara M. Rood MD⁵, Patrick Schneider MD⁵, Michele Hardgrow BSN⁶, Preeti Pancholi PhD⁷, Keelie Thomas MPH⁸, Anita Cygnor MS⁹, Oluseun Aluko MBChB¹⁰, Elizabeth Koch MD¹⁰, Naomi Tucker MPH¹⁰, Jade Mowery MPH¹¹, Eric Brandt BS¹¹, Katie Cibulskas BS¹², Marika Mohr MS¹², Srinivas Nanduri MD¹³ , Sopio Chochua MD¹³  and Shandra R. Day MD^{2,3} 

American Journal of Infection Control 52 (2024) 1215–1218



Contents lists available at [ScienceDirect](#)

American Journal of Infection Control

journal homepage: www.ajicjournal.org

Brief Report

Group A streptococcal outbreak in a geriatric mental health unit

Halima Dabaja Younis MD^{a,*,1}, Jennie Johnstone MD^{a,b,c,d}, Irene Armstrong MD^e, Eric E. Brown MD^{b,f}, Alyssa Golden PhD^g, Averil Griffith BSc^g, Irene Martin BSc^g, Karen Donnait BScN^e, Mahad Nur MSc^e, Elnathan Mesfin MSc^f, Julianne V. Kus PhD^{d,h}, Allison McGeer MD^{c,d}, Renee Logan MD^f

American Journal of Infection Control 53 (2025) 530–532



Contents lists available at [ScienceDirect](#)

American Journal of Infection Control

journal homepage: www.ajicjournal.org



Brief Report

Transmission of group A *Streptococcus* in long-term care: An outbreak investigation

Theresa Murillo RN, BSN, IP-BC, LTC, CIP^a, Krishnendu Mangal MPH^a, Gabrielle Barmada BSN, RN, LTC-CIP^a, Tracy Morris RN, BSN^a, Kady D. Waggle MS^{b,c}, Marissa Griffith BS^{b,c}, Lora Lee Pless PhD^{b,c}, Lee H. Harrison MD^{b,c,d}, Rebecca Glista MSN, RN, CCRN-K, CIC^e, Brian Wilson MD^f, Graham M. Snyder MD, MS^{c,e,*}, David A. Nace MD, MPH^{f,g}



Acute Care Outbreaks

- Outbreaks of invasive GAS have been well documented in acute care settings particularly among nurseries, postpartum women, and in surgical-site infections.
- Transmission has been associated with:
 - Asymptomatic, colonized HCP
 - HCP with active streptococcal skin infections
- **IPC Interventions**
 - Transmission-based precautions
 - Adherence to hand hygiene and PPE
 - Screening and treatment of HCP

The JOURNAL
of PEDIATRICS

FULL LENGTH ARTICLE · Volume 129, Issue 3, P396-402, September 1996

[Download Full Issue](#)

An outbreak of M serotype 1 group A *Streptococcus* in a neonatal intensive care unit

[Judith R. Campbell, MD](#) · [Carlos A. Arango, MD^a](#) · [Joseph A. Garcia-Prats, MD](#) · [Carol J. Baker, MD](#)

[Article Info](#) ▾

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ORIGINAL ARTICLE · Volume 35, Issue 3, P207-214, March 1997

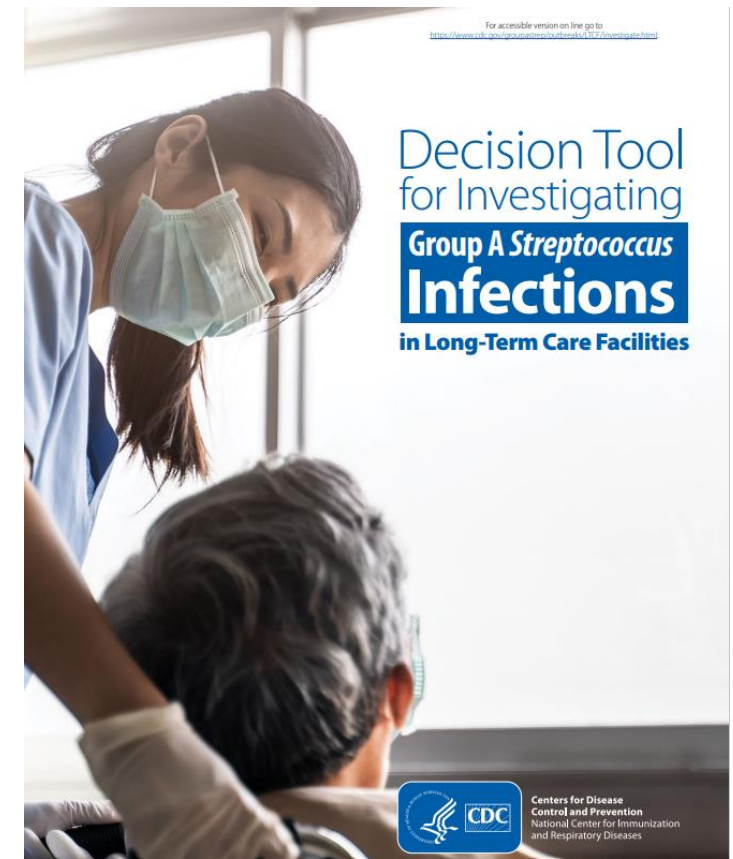
[Download Full Issue](#)

The surgical team as a source of postoperative wound infections caused by *Streptococcus pyogenes*

[H.J. Kolmos^o*](#) · [R.N. Svendsen[†]](#) · [S.V. Nielsen[‡]](#)

Long-Term Care Outbreaks

- Outbreaks in LTC typically involve multiple routes of transmission:
 - Asymptomatic colonized residents and HCP
 - HCP with GAS pharyngitis who care for residents while ill
 - Contamination of wounds during care
- **IPC Interventions**
 - Transmission-based precautions
 - Adherence to hand hygiene and PPE
 - Cleaning and disinfection practices
 - Wound care
 - Screening and treatment of residents and HCP



Management of HCP – CDC Recommendations



- HCP with known or suspected GAS infection should be excluded from work until GAS is ruled out or until 24 hours after the start of effective antimicrobial therapy, provided any draining skin lesions can be adequately contained and covered.
- For HCP with GAS colonization who are epidemiologically linked to transmission:
 - Administer chemoprophylaxis in accordance with CDC recommendations **AND**
 - Exclude from work until 24 hours after the start of effective antimicrobial therapy **AND**
 - Obtain a sample from the affected site for GAS testing 7 to 10 days after completion of chemoprophylaxis;
 - If positive, repeat administration of chemoprophylaxis and again exclude from work until 24 hours after the start of effective antimicrobial therapy.

[CDC Infection Control in Healthcare Personnel - Group A Streptococcus](#)

Public Health Impact



- A **single case** of invasive healthcare-associated GAS infection should prompt an investigation.
- Prevention of transmission of GAS in healthcare settings involves:
 - Placing patients with known or suspected GAS infection in recommended transmission-based precautions
 - Rapidly diagnosing and treating patients with clinical infection; and
 - Excluding potentially infectious HCP from work

Contact your Local Health Department and MDHHS for assistance in outbreak response.

Questions?

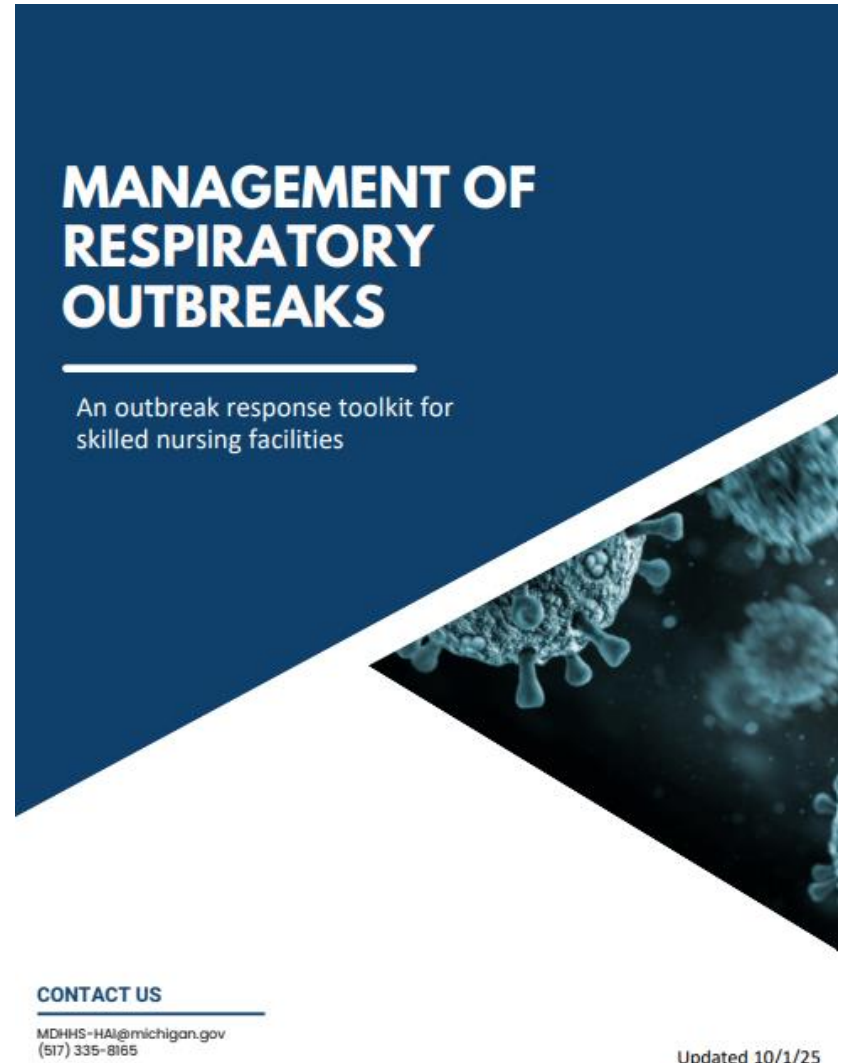
References

- [About Group A Strep Infection | Group A Strep | CDC](#)
- [Decision Tool for Investigating Group A Streptococcus Infections in Long-term Care Facilities | Group A Strep | CDC](#)
- [Group A Streptococcus | Infection Control | CDC](#)
- Williams, J., Zembower, T. Streptococci. APIC Text. Revised November 3, 2022. Retrieved from: <https://text.apic.org/toc/healthcare-associated-pathogens-and-diseases/streptococci>

Updates: MDHHS Respiratory Season Resources

MDHHS Respiratory Season Resources

- [Management of Respiratory Outbreaks: Toolkit for Skilled Nursing Facilities](#)
- [Guidelines for Respiratory Virus Outbreaks in Long-Term Care Facilities](#)
- [Influenza Surveillance, Reporting and Testing Guidance for Healthcare Providers: 2025-2025 Influenza Season](#)
- [Current Issue of MI FluFocus](#)
- [MDHHS Respiratory Illness Dashboard](#)



Questions & Discussion

Click the link or scan the QR code to participate!

- [EasyRetro Group Discussion](#)
- Password
 - **51ac54**



Resources

- [2022 NHSN Rebaseline webpage and resources](#)
- AR & Patient Safety Portal: arpsp.cdc.gov
- NHSN Home: <https://www.cdc.gov/nhsn/index.html>
- NHSN Newsletter Archive: [cdc.gov/nhsn/newsletters](https://www.cdc.gov/nhsn/newsletters)
- NHSN Helpdesk: NHSN@cdc.gov
- NHSN Annual Survey FAQs: <https://www.cdc.gov/nhsn/faqs/faq-annual-survey.html>

Thank you!

Next meeting:
February 25th, 2026
10-11a EST

Kyle Muchez, MPH
NHSN Epidemiologist

Surveillance of Healthcare-Associated and Resistant Pathogens (SHARP) Unit
Healthcare-Associated Infections (HAI) Section
Division Emerging Infectious Diseases (EID)
Michigan Department of Health and Human Services

muchezk1@michigan.gov

