Emerging Infections Program
Healthcare-Associated Infections Community Interface Report
Invasive *Staphylococcus aureus*, 2023

Last Updated: May 20, 2026

Surveillance Catchment Areas

Methicillin-resistant *Staphylococcus aureus* (MRSA): California (3 county San Francisco Bay area); Connecticut (statewide); Georgia (8 county Atlanta area); Maryland (Baltimore City and County); Minnesota (2 county Minneapolis–Saint Paul area); New York (1 Rochester county); Tennessee (1 Nashville county).

Methicillin-sensitive *Staphylococcus aureus* (MSSA): California (3 county San Francisco Bay area); Connecticut (New Haven County); Georgia (1 Atlanta county); Maryland (Baltimore City and County); Minnesota (2 county Minneapolis–Saint Paul area); New York (1 Rochester county); Tennessee (1 Nashville county).

Population

The MRSA surveillance areas represent 16,240,766 persons. The MSSA surveillance areas represent 10,255,013 persons.

Source: U.S. Census Bureau, Population Division, Vintage 2023 Special Tabulation; U.S. Census Bureau, Population Division, 2021 Special Tabulation was used for the New Haven MSSA population estimate because the 2022 and 2023 census data for Connecticut do not contain population estimates for New Haven County (estimates are reported for planning regions instead).

Case Definition

Invasive *Staphylococcus aureus* (SA) infection: isolation of SA from a normally sterile site in a resident of the surveillance area in 2023. Cases of infection are classified into one of three epidemiologic classifications.

A case is classified as

- hospital-onset (HO) if the SA culture was obtained on or after the third calendar day of hospitalization, where admission is hospital day 0[a];
- healthcare-associated community-onset (HACO) if the culture was obtained in an outpatient setting or before the third[a] calendar day of hospitalization and had one or more of the following:
    1. a history of hospitalization, surgery, dialysis, or residence in a long-term care facility in the previous year, or
    2. the presence of a central vascular catheter (CVC) within 2 days prior to SA culture;
- community-associated (CA) if none of the previously mentioned criteria are met.

Healthcare-associated (HCA) is a grouping that includes both HO and HACO.

Cases were classified as MRSA or MSSA based on results from local clinical microbiology laboratory testing.

[a] Compared to annual summaries from 2005–2017, this case definition represents an update in nomenclature from previous years but not a change to the case definition

Methods

Case finding was active, laboratory-based, and population-based. Emerging Infections Program (EIP) personnel routinely contacted microbiology laboratories serving healthcare facilities in their area to identify cases. Laboratories serving the surveillance catchment areas were routinely audited to ensure complete case ascertainment.

A standardized case report form was completed for each incident case through review of medical records. Medical records were reviewed for information on demographic characteristics, clinical syndrome, and outcome of illness.

Convenience samples of MSSA and MRSA isolates were collected and sent to CDC for routine testing, including antimicrobial susceptibility testing using reference broth microdilution and, beginning with 2017 isolates, whole genome sequencing (WGS) to perform staphylococcal cassette chromosome (SCC*mec*) typing, *spa* typing, multilocus sequence typing (MLST), clonal complex assignment, and inferred pulsed-field gel electrophoresis (PFGE) typing. Pulsed field type is inferred from WGS based on phylogenetic relatedness, MLST clonal complex, and molecular characteristics of the isolates[1]. Isolates belonging to clonal complex 8 are sub-typed using a single-nucleotide polymorphism (SNP) assay that has been modified for use with WGS data, allowing confirmation of isolates identified as USA300[2]. The use of PFGE for all isolates was discontinued in 2008; up until 2012, PFGE was inferred using a validated algorithm based on the following isolate microbiologic characteristics: SCC*mec* type, presence of Panton-Valentine leukocidin and toxic shock syndrome toxin genes, and antimicrobial susceptibility results[3]. From 2012–2016, *spa* typing was included in routine laboratory testing and MLST clonal complexes were inferred based on *spa* type, allowing for the identification of PFGE types based on MLST clonal complex and molecular characteristics of the isolates[1], with 2016 isolates identified as USA300 confirmed using a SNP assay[2]. In 2023, MRSA isolates were collected in five sites (California, Georgia, Minnesota, New York, and Tennessee) and MSSA isolates in four (California, Georgia, Minnesota, and New York). Characterization of 2023 isolates is in process as of the date of this report.

Rates of invasive SA infection among all patients were calculated using population estimates for 2023 except to obtain the population estimate for New Haven County for the MSSA surveillance area and for New Haven, Hartford, and Fairfield counties for the continuous MRSA surveillance area, for which 2021 population estimates were used.

Bayesian Improved Surname Geocoding (BISG) was used to impute missing race/ethnicity[4]. BISG applies Bayes' Theorem to calculate a patient's probability of membership in each of five racial/ethnic groups (Asian, Black, Hispanic, Other, and White) given their surname and geocoded home address. Race/ethnicity was considered missing if a patient had unknown ethnicity (regardless of reported race) or if a patient had unknown race and was not Hispanic or Latino. Probabilities for patients with known race/ethnicity were set to 1 for reported race/ethnicity and 0 for all other racial/ethnic groups. Race/ethnicity-stratified case counts were then calculated by summing the probabilities for each racial/ethnic group.

Rates of invasive SA infection among patients who were undergoing chronic dialysis treatment were calculated using December 31, 2022, point prevalence counts of patients on dialysis from the United States Renal Data System (USRDS) (https://www.niddk.nih.gov/about-niddk/strategic-plans-reports/usrds). The figures depicting the overall incidence by epidemiologic class and incidence among persons on dialysis, 2009–2023, are restricted to the continuous catchment areas for invasive MRSA and MSSA for comparison of trends over time.

Invasive SA surveillance data undergo regular data cleaning to ensure accuracy and completeness. Patients with complete case report form data as of January 14, 2026, were included in this analysis. Because data can be updated as needed, analyses of datasets generated on a different date may yield slightly different results.

---

[1] Inferred Identification of Pulsed Field Types based on MLST clonal complex (CC) (https://archive.cdc.gov/#/details?url=https://www.cdc.gov/hai/settings/lab/ccalgorithm.html)

[2] Improved Subtyping of *Staphylococcus aureus* Clonal Complex 8 Strains Based on Whole-Genome Phylogenetic Analysis [PDF - 15 pages] (https://msphere.asm.org/content/msph/3/3/e00464-17.full.pdf)

3 Use of an Inferred PFGE Algorithm, Emerging Infections Program/Active Bacterial Core (ABCs) Surveillance Invasive MRSA Project (https://archive.cdc.gov/#/details?url=https://www.cdc.gov/hai/settings/lab/inferred-pfge-algorithm.html)

[4] Using the Census Bureau's Surname List to Improve Estimates of Race/ethnicity and Associated Disparities (https://thecre.com/insurance/wp-content/uploads/2010/06/CFPB-Paper.pdf)

Results

Table 1. MSSA (N=3879) and MRSA (N=3153) Cases by Race/Ethnicity (Reported and BISG-imputed), Emerging Infections Program, 2023

Race/Ethnicity[a]	MSSA (N = 3879[b])		MRSA (N = 3153)	
	No. (%)	Rate[c]	No. (%)	Rate[c]
Hispanic or Latino, any race	469 (12.1)	30.3	271 (8.6)	10.5
Not Hispanic or Latino - White	2058 (53.1)	43.1	1732 (54.9)	22.9
Not Hispanic or Latino - Black or African American	940 (24.2)	46.2	945 (30.0)	26.0
Not Hispanic or Latino - Asian or Native Hawaiian/Other Pacific Islander[d]	347 (8.9)	22.4	152 (4.8)	7.8
Not Hispanic or Latino – Asian only	257 (6.6)	16.8	111 (3.5)	5.7
Not Hispanic or Latino – Native Hawaiian/Other Pacific Islander only	16 (0.4)	67.1	16 (0.5)	59.7
Not Hispanic or Latino – American Indian/Alaska Native or Multiracial	64 (1.6)	18.0	53 (1.7)	10.8
Not Hispanic or Latino - American Indian/Alaska Native only	25 (0.6)	84.3	24 (0.8)	58.2
Not Hispanic or Latino – Multiracial only	12 (0.3)	3.4	13 (0.4)	2.9

[a] The bolded rows include both reported and imputed race/ethnicity. Race/ethnicity was imputed for cases with missing race/ethnicity (MSSA: n = 395 [10.2%]; MRSA: n = 251 [8.0%]) using BISG, as described in the methods section. The numbers of cases not missing race/ethnicity for MSSA and MRSA, respectively, were 407 and 242 (Hispanic or Latino, any race), 1899 and 1628 (Not Hispanic or Latino – White), 868 and 868 (Not Hispanic or Latino – Black or African American), 273 and 127 (Not Hispanic or Latino – Asian or Not Hispanic or Latino – Native Hawaiian/Other Pacific Islander), and 37 and 37 (Not Hispanic or Latino – American Indian/Alaska Native or Multiracial). Non-bolded rows are sub-groups of bolded rows above them. Case counts for non-bolded rows were calculated using reported (i.e., non-missing) data only. Missing data for these racial/ethnic groups were not separately imputed because BISG combines each of these groups with another racial/ethnic group.

[b] Case counts sum to 3878 (not 3879) due to rounding of BISG-imputed probabilities

[c] Cases per 100,000 population for EIP areas (crude rates)

[d] Case-patients with reported race/ethnicity of both Not Hispanic or Latino – Asian and Not Hispanic or Latino – Native Hawaiian/Other Pacific Islander were categorized as Not Hispanic or Latino - Multiracial. This is consistent with the United States Census Bureau denominator data. However, the BISG method does not distinguish between these two racial/ethnic groups, so a small proportion of case-patients with missing race/ethnicity who were multiracial (Not Hispanic or Latino – Asian and Not Hispanic or Latino – Native Hawaiian/Other Pacific Islander) may have been imputed as Non-Hispanic or Latino – Asian or Native Hawaiian/Other Pacific Islander

Table 2. MSSA (N=3879) and MRSA (N=3153) Case and Death Rate[a] by Epidemiological Classification, Emerging Infections Program, 2023

Class	MSSA Cases No. (Rate[a])	MSSA Deaths No. (Rate[a])	MRSA Cases No. (Rate[a])	MRSA Deaths No. (Rate[a])
CA	1247 (12.2)	112 (1.1)	649 (4.0)	64 (0.4)
HCA[b]	2619 (25.5)	366 (3.6)	2490 (15.3)	392 (2.4)
HCA-HO	595 (5.8)	142 (1.4)	470 (2.9)	118 (0.7)
HCA-HACO	2024 (19.7)	224 (2.2)	2020 (12.4)	274 (1.7)
Unknown	13 (0.1)	1 (<0.1)	14 (0.1)	1 (<0.1)
Total	3879 (37.8)	479 (4.7)	3153 (19.4)	457 (2.8)

[a] Cases and deaths per 100,000 population for EIP areas (crude rates) calculated using 2021 and 2023 U.S. Census Data as described in the methods section

[b] HCA: Healthcare-associated invasive SA infection; sum of patients that are classified as either the HO or HACO classes

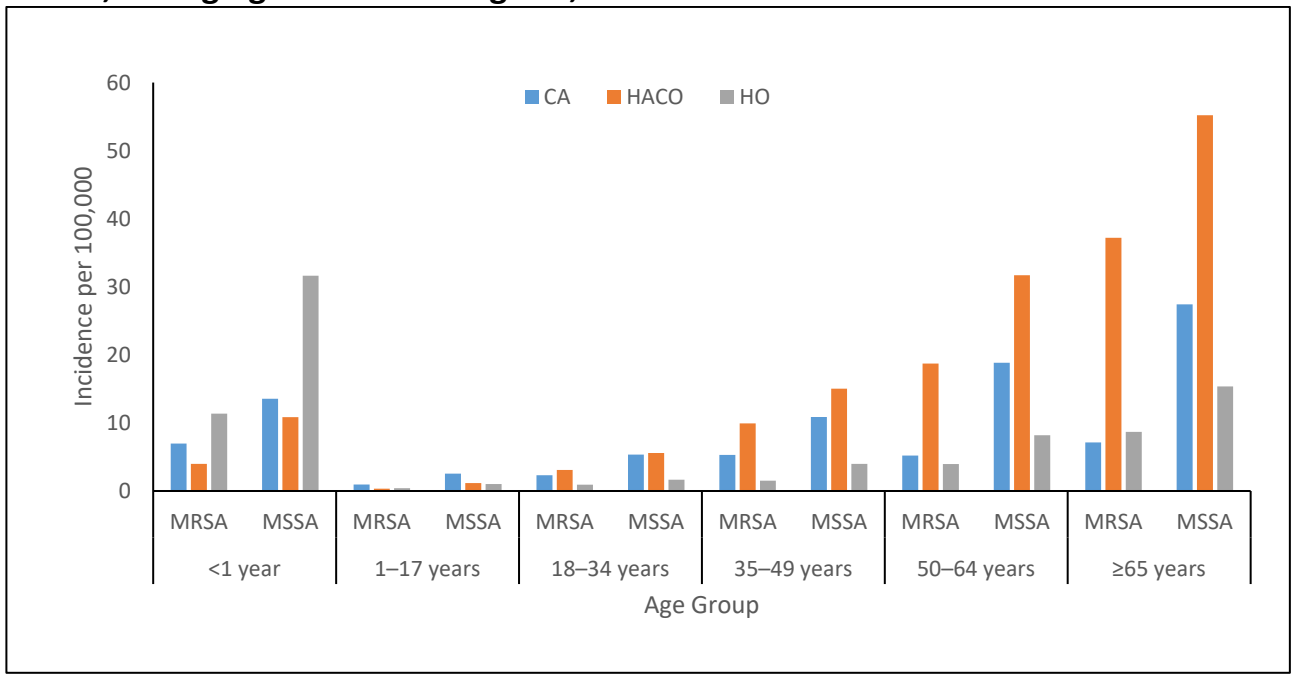
Table 3. MSSA (N=3879) and MRSA (N=3153) Cases and Rates by Sex, Emerging Infections Program, 2023

Sex	MSSA[a] No. (%)	MSSA Rate[a,b]	MRSA No. (%)	MRSA Rate[b]
Male	2459 (63.4)	49.0	1983 (62.9)	25.0
Female	1419 (36.6)	27.1	1170 (37.1)	14.1

[a] One MSSA case with missing value for sex is excluded from counts and rate calculations in this table

[b] Cases per 100,000 population for EIP areas (crude rates)

Figure 1. Incidence[a] of Invasive *Staphylococcus aureus*, by Epidemiologic Class, Age Group, and Methicillin-Resistance Status, Emerging Infections Program, 2023



[a] Incidence (no. per 100,000 population per year) calculated using 2021 and 2023 U.S. Census Data as described in the methods section

Table 4. Location of Invasive MSSA (N=3879) and MRSA (N=3153) Cases Before Incident Specimen Collection, Emerging Infections Program, 2023

Location of patient before incident specimen collection[a]	MSSA No. (%)	MRSA No. (%)
Private residence	2831 (73.0)	1947 (61.8)
Long-term care facility	277 (7.1)	474 (15.0)
Acute-care hospital (inpatient)	545 (14.1)	473 (15.0)
Long-term acute care hospital	3 (0.1)	19 (0.6)
Homeless	197 (5.1)	207 (6.6)
Other	13 (0.3)	17 (0.5)
Unknown	13 (0.3)	16 (0.5)

[a] Represents location of the patient three days before incident specimen collection, where date of initial culture is day 0

Table 5. Location of Invasive MSSA (N=3879) and MRSA (N=3153) Cases at Time of Incident Specimen Collection, Emerging Infections Program, 2023

Location of incident specimen collection	MSSA No. (%)	MRSA No. (%)
Outpatient setting or emergency department	2764 (71.3)	2264 (71.8)
Acute care hospital	1087 (28.0)	853 (27.1)
Long-term care facility	5 (0.1)	9 (0.3)
Long-term acute care hospital	0 (0.0)	12 (0.4)
Other	12 (0.3)	5 (0.2)
Unknown	11 (0.3)	10 (0.3)

Table 6. Selected Clinical Characteristics of Invasive MSSA (N=3879[a]) and MRSA (N=3153[a]) Cases by Epidemiological Class, Emerging Infections Program, 2023

Charlson comorbidity index	MSSA CA (n=1247) No. (%)	MRSA CA (n=649) No. (%)	MSSA HACO (n=2024) No. (%)	MRSA HACO (n=2020) No. (%)	MSSA HO (n=595) No. (%)	MRSA HO (n=470) No. (%)
0	434 (34.8)	240 (37.0)	260 (12.8)	201 (10.0)	138 (23.2)	87 (18.5)
1	318 (25.5)	176 (27.1)	323 (16.0)	310 (15.3)	97 (16.3)	80 (17.0)
≥2	488 (39.1)	230 (35.4)	1441 (71.2)	1505 (74.5)	360 (60.5)	303 (64.5)
Unknown	7 (0.6)	3 (0.5)	0 (0.0)	4 (0.2)	0 (0.0)	0 (0.0)

Underlying condition[b]	MSSA CA (n=1247) No. (%)	MRSA CA (n=649) No. (%)	MSSA HACO (n=2024) No. (%)	MRSA HACO (n=2020) No. (%)	MSSA HO (n=595) No. (%)	MRSA HO (n=470) No. (%)
Burn or surgical wound	7 (0.6)	3 (0.5)	36 (1.8)	51 (2.5)	10 (1.7)	9 (1.9)
Chronic pulmonary disease	217 (17.4)	123 (19.0)	464 (22.9)	506 (25.0)	153 (25.7)	140 (29.8)
Chronic kidney disease	185 (14.8)	78 (12.0)	812 (40.1)	786 (38.9)	192 (32.3)	152 (32.3)
Chronic liver disease	68 (5.5)	20 (3.1)	123 (6.1)	114 (5.6)	48 (8.1)	28 (6.0)
Congestive heart failure	137 (11.0)	65 (10.0)	533 (26.3)	600 (29.7)	179 (30.1)	141 (30.0)
Decubitus/pressure ulcer	29 (2.3)	26 (4.0)	128 (6.3)	266 (13.2)	28 (4.7)	48 (10.2)
Diabetes mellitus	417 (33.4)	198 (30.5)	884 (43.7)	948 (46.9)	199 (33.4)	175 (37.2)
Hemiplegia or paraplegia	10 (0.8)	11 (1.7)	59 (2.9)	101 (5.0)	8 (1.3)	16 (3.4)

Underlying condition[b]	MSSA CA (n=1247) No. (%)	MRSA CA (n=649) No. (%)	MSSA HACO (n=2024) No. (%)	MRSA HACO (n=2020) No. (%)	MSSA HO (n=595) No. (%)	MRSA HO (n=470) No. (%)
Injection drug use	143 (11.5)	134 (20.6)	139 (6.9)	172 (8.5)	13 (2.2)	28 (6.0)
Obesity or morbid obesity	218 (17.5)	93 (14.3)	384 (19.0)	391 (19.4)	105 (17.6)	82 (17.4)
Other chronic ulcer or chronic wound	169 (13.6)	98 (15.1)	315 (15.6)	446 (22.1)	45 (7.6)	50 (10.6)
Pregnancy	3 (0.2)	1 (0.2)	1 (<0.1)	0 (0.0)	1 (0.2)	0 (0.0)
Unknown	7 (0.6)	3 (0.5)	0 (0.0)	4 (0.2)	0 (0.0)	0 (0.0)

Syndrome[c]	MSSA CA (n=1247) No. (%)	MRSA CA (n=649) No. (%)	MSSA HACO (n=2024) No. (%)	MRSA HACO (n=2020) No. (%)	MSSA HO (n=595) No. (%)	MRSA HO (n=470) No. (%)
Bloodstream infection with other syndrome	726 (58.2)	430 (66.3)	1193 (58.9)	1256 (62.2)	230 (38.7)	209 (44.5)
Bloodstream infection with no other syndrome	268 (21.5)	116 (17.9)	579 (28.6)	545 (27.0)	250 (42.0)	146 (31.1)
Pneumonia	111 (8.9)	92 (14.2)	194 (9.6)	211 (10.4)	80 (13.4)	79 (16.8)
Osteomyelitis	202 (16.2)	103 (15.9)	325 (16.1)	402 (19.9)	60 (10.1)	69 (14.7)
Endocarditis	129 (10.3)	75 (11.6)	147 (7.3)	136 (6.7)	22 (3.7)	32 (6.8)
Cellulitis	249 (20.0)	143 (22.0)	234 (11.6)	241 (11.9)	43 (7.2)	35 (7.4)

Syndrome[c]	MSSA CA (n=1247) No. (%)	MRSA CA (n=649) No. (%)	MSSA HACO (n=2024) No. (%)	MRSA HACO (n=2020) No. (%)	MSSA HO (n=595) No. (%)	MRSA HO (n=470) No. (%)
Septic arthritis	197 (15.8)	103 (15.9)	273 (13.5)	255 (12.6)	34 (5.7)	45 (9.6)
Internal abscess	171 (13.7)	108 (16.6)	172 (8.5)	173 (8.6)	49 (8.2)	41 (8.7)
Surgical wound infection[d]	20 (1.6)	6 (0.9)	160 (7.9)	133 (6.6)	22 (3.7)	29 (6.2)
Decubitus/pressure ulcer infection	9 (0.7)	8 (1.2)	26 (1.3)	94 (4.7)	5 (0.8)	16 (3.4)
Skin abscess[e]	100 (8.0)	49 (7.6)	83 (4.1)	91 (4.5)	11 (1.8)	10 (2.1)
Traumatic wound infection	31 (2.5)	11 (1.7)	18 (0.9)	23 (1.1)	7 (1.2)	5 (1.1)
Other wound infection[f]	80 (6.4)	38 (5.9)	136 (6.7)	184 (9.1)	14 (2.4)	17 (3.6)
Unknown	0 (0.0)	2 (0.3)	1 (<0.1)	1 (<0.1)	0 (0.0)	0 (0.0)

[a] Excludes 13 MSSA and 14 MRSA cases with unknown epidemiological class
[b] Some case patients had more than one underlying condition.
[c] Some case patients had more than one syndrome
[d] Combines deep tissue/organ infection and infection of a surgical wound, post-operatively
[e] Category includes skin abscess, necrotizing fasciitis, gangrene
[f] Category includes non-traumatic and other chronic wound infections

Table 7. Selected Healthcare Exposures and Risk Factors for Invasive MSSA (N=3879) and MRSA (N=3153), Emerging Infections Program, 2023

Exposures	MSSA No. (%)	MRSA No. (%)
Healthcare facility stay in the year before incident specimen collection – Any[a]	2045 (52.7)	2217 (70.3)
Healthcare facility stay in the year before incident specimen collection – Acute care hospitalization	1982 (51.1)	2110 (66.9)
Healthcare facility stay in the year before incident specimen collection – Long-term care facility residence	531 (13.7)	909 (28.8)
Healthcare facility stay in the year before incident specimen collection – Long-term acute care hospitalization	16 (0.4)	36 (1.1)
Surgery in the year before the date of incident specimen collection	881 (22.7)	969 (30.7)
Chronic dialysis – Any Modality	540 (13.9)	439 (13.9)
Chronic dialysis – Modality - Peritoneal	29 (5.4)	14 (3.2)
Chronic dialysis – Modality - Hemodialysis	507 (93.9)	424 (96.6)
Chronic dialysis – Hemodialysis[b] - AV Fistula/Graft	221 (43.6)	151 (35.7)
Chronic dialysis – Hemodialysis[b] - CVC	285 (56.2)	278 (65.6)
Chronic dialysis – Modality - Unknown	4 (0.7)	1 (0.2)
Central vascular catheter in place at any time in the 2 calendar days before incident specimen collection	639 (16.5)	573 (18.2)
Unknown	12 (0.3)	14 (0.4)

[a] Some case patients stayed in more than one type of healthcare facility in the year before incident specimen collection

[b] 1 MSSA and 10 MRSA cases had both AV Fistula/Graft and CVC. 2 MSSA cases and 5 MRSA cases had unknown AV Fistula Graft/CVC. Percentages calculated out of cases associated with chronic hemodialysis

Table 8. Number and Incidence Rates of Invasive MSSA (N=3879) and MRSA (N=3153) Infections by Dialysis Status and Epidemiologic Class, Emerging Infections Program, 2023

Epidemiologic Class	MSSA Dialysis Patients No. (Rate[a])	MRSA Dialysis Patients No. (Rate[a])	MSSA Non-Dialysis Patients No. (Rate[b])	MRSA Non-Dialysis Patients No. (Rate[b])	MSSA Total No. (Rate[b])	MRSA Total[c] No. (Rate[b])
CA	NA	NA	1247 (12.2)	649 (4.0)	1247 (12.2)	649 (4.0)
HCA[d]	540 (2917.2)	439 (1538.2)	2079 (20.3)	2050 (12.6)	2619 (25.5)	2490 (15.3)
HCA-HO	66 (356.5)	56 (196.2)	529 (5.2)	414 (2.6)	595 (5.8)	470 (2.9)
HCA-HACO	474 (2560.6)	383 (1342.0)	1550 (15.1)	1636 (10.1)	2024 (19.7)	2020 (12.4)
Overall[e]	540 (2917.2)	439 (1538.2)	3326 (32.5)	2699 (16.6)	3879 (37.8)	3153 (19.4)

[a] Incidence (no. per 100,000 dialysis patients per year) for dialysis patients calculated using 2022 USRDS point prevalence data

[b] Incidence (no. per 100,000 population per year) calculated using 2021 and 2023 U.S. Census Data as described in the methods

[c] The total counts and rates include 1 HACO MRSA case with unknown dialysis status

[d] HCA: Healthcare-associated invasive MRSA infection; sum of patients that are classified as either the HO or HACO classes

[e] The overall counts and rates include 13 MSSA and 14 MRSA cases with unknown epidemiological class

NA: By definition, CA cases cannot have dialysis in the past year

Figure 2. Incidence of Invasive MRSA by Epidemiologic Class, Emerging Infections Program, 2009–2023[a]

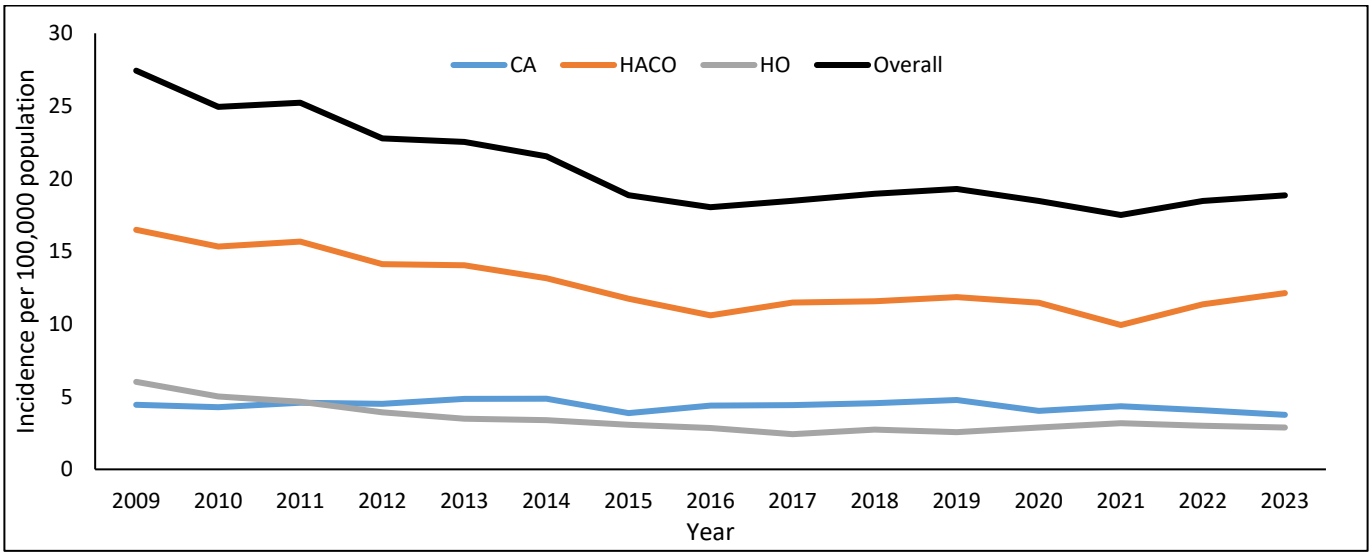
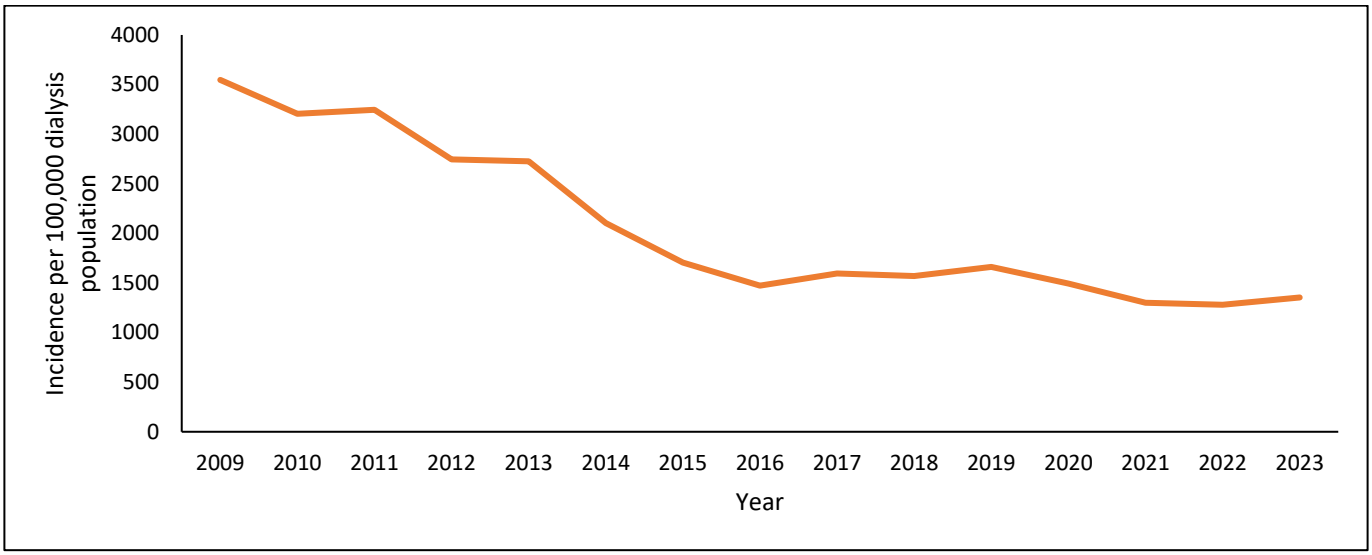


Figure 3. Incidence of Invasive Healthcare-Associated Community-Onset MRSA among Persons on Dialysis, Emerging Infections Program, 2009–2023[a]



[a] Restricted to the continuous catchment area (California [3 county San Francisco Bay area]; Connecticut [Fairfield, Hartford, and New Haven Counties]; Georgia [8 county Atlanta area]; Minnesota [2 county Minneapolis-Saint Paul area]; New York [1 Rochester county]; and Tennessee [1 Nashville county]) for comparison of trends over time.

Figure 4. Incidence of Invasive MSSA by Epidemiologic Class, Emerging Infections Program, 2017–2023[a]

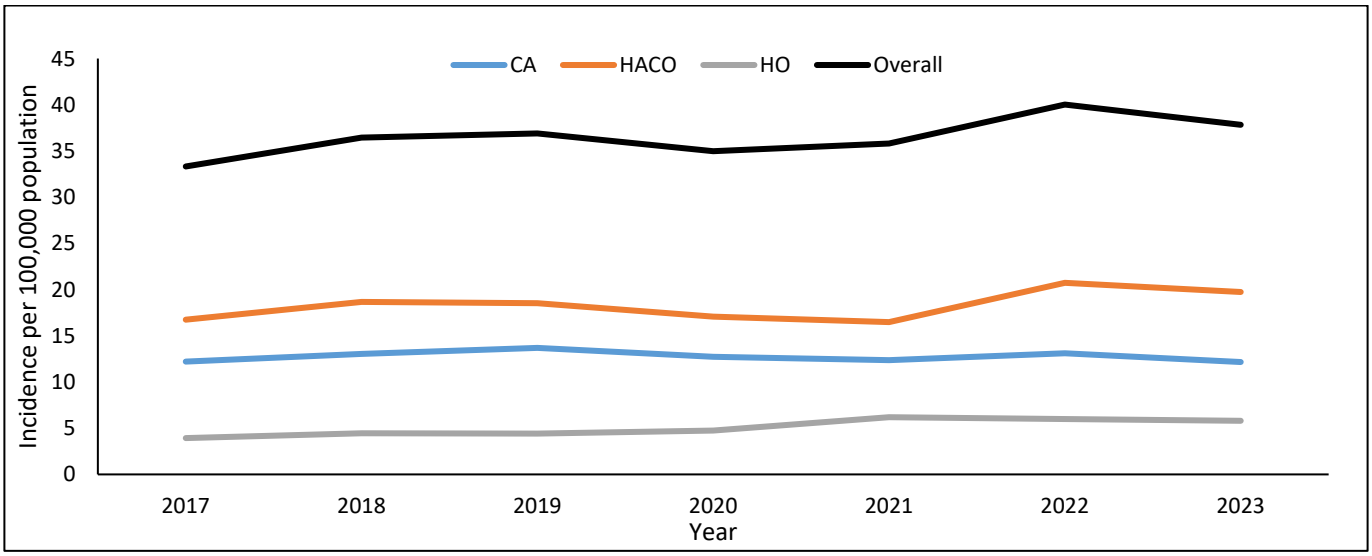
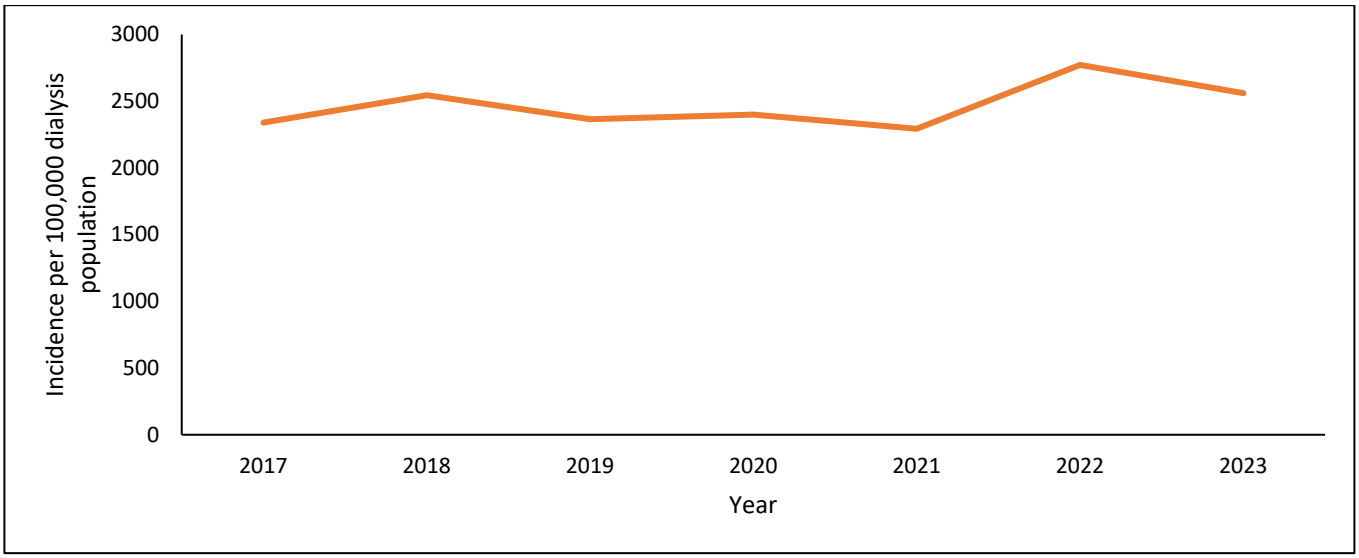


Figure 5. Incidence of Invasive Healthcare-Associated Community-Onset MSSA among Persons on Dialysis, Emerging Infections Program, 2017–2023[a]



[a] Restricted to the continuous catchment area (California [3 county San Francisco Bay area]; Connecticut [New Haven County]; Georgia [1 Atlanta area county]; Maryland [Baltimore City and County]; Minnesota [2 county Minneapolis–Saint Paul area]; New York [1 Rochester county]; and Tennessee [1 Nashville county]) for comparison of trends over time.

Table 9. Outcomes of Invasive MSSA (N=3879[a]) and MRSA (N=3153[a]) Cases by Epidemiologic Class, Emerging Infections Program, 2023

Outcomes[b]	CA MSSA (n=1247) No. (%)	CA MRSA (n=649) No. (%)	HACO MSSA (n=2024) No. (%)	HACO MRSA (n=2020) No. (%)	HO MSSA (n=595) No. (%)	HO MRSA (n=470) No. (%)
Died	112 (9.0)	64 (9.9)	224 (11.1)	274 (13.6)	142 (23.9)	118 (25.1)
Survived	1131 (90.7)	585 (90.1)	1798 (88.8)	1745 (86.4)	453 (76.1)	351 (74.7)
Acute-care hospitalization - survived	1011 (81.1)	538 (82.9)	1731 (85.5)	1687 (83.5)	453 (76.1)	351 (74.7)
Acute-care hospitalization - survived – Discharged to long-term care facility[c]	298 (29.5)	170 (31.6)	615 (35.5)	692 (41.0)	160 (35.3)	142 (40.5)
Acute-care hospitalization - survived – Discharged to long-term acute care hospital[c]	12 (1.2)	5 (0.9)	17 (1.0)	32 (1.9)	12 (2.6)	12 (3.4)
Acute-care hospitalization -survived – Discharged to Other[c,d]	692 (68.4)	359 (66.7)	1092 (63.1)	952 (56.4)	280 (61.8)	195 (55.6)
Acute-care hospitalization - survived – discharged to Unknown[c]	9 (0.9)	4 (0.7)	7 (0.4)	11 (0.7)	1 (0.2)	2 (0.6)
Unknown	4 (0.3)	0 (0.0)	2 (0.1)	1 (<0.1)	0 (0.0)	1 (0.2)

[a] Excludes 13 MSSA and 14 MRSA cases with unknown epidemiological class

[b] For patients admitted to a hospital, vital status was assessed at the time of discharge. For patients that were in a long-term care facility, long-term acute care facility, or seen at an outpatient dialysis center, vital status was assessed 30 days after the date of incident culture. For all other patients, vital status was ascertained using medical records from the healthcare facility encounter associated with the incident culture.

[c] Percentages calculated out of the number of cases that survived acute-care hospitalization

[d] Examples include private residence, correctional facility, homeless shelter, and drug rehabilitation program

Summary

Surveillance data from 2023 represent the nineteenth full year of population-based surveillance for invasive MRSA infections through the Emerging Infections Program, and the eighth for MSSA.

This is the first surveillance report that uses Bayesian Improved Surname Geocoding (BISG) to impute missing race/ethnicity. Additionally, this is the first report to include specific rates for not Hispanic Native Hawaiian/Other Pacific Islander and not Hispanic American Indian/Alaskan Native racial/ethnic groups. In previous surveillance reports, American Indian/Alaska Native and Native Hawaiian/Pacific Islander were included in the "Another or multiple races" category.

For this surveillance area, among racial and ethnic groups, rates of invasive MRSA are highest among not-Hispanic Native Hawaiian/Other Pacific Islander persons and rates of invasive MSSA are highest among not Hispanic American Indian/Alaskan Native persons. Rates of MRSA and MSSA are higher among males than females. Among age groups, overall incidence of invasive MRSA and MSSA is highest among persons ≥65 years old; incidence of HO MRSA and MSSA is highest among infants <1 year old.

For the continuous catchment area, in 2023 compared to 2022, incidence of HO and CA MRSA were similar, but HACO MRSA increased (Figure 2). HO MSSA incidence in 2023 was similar to 2022 and remained higher than 2017-2020 incidence (Figure 4). In 2023 compared to 2022, incidence of CA MSSA decreased slightly; HACO MSSA incidence also decreased slightly, including among people on dialysis, but remained higher than 2017-2021 incidence (Figures 4 and 5).

Citation

Centers for Disease Control and Prevention. 2026. Emerging Infections Program, Healthcare-Associated Infections – Community Interface Surveillance Report, Invasive *Staphylococcus aureus*, 2023. Available at: https://www.cdc.gov/healthcare-associated-infections/media/pdfs/2023-MRSA-Report-508.pdf

For more information, visit our web sites:

- Invasive *Staphylococcus aureus* (MRSA/MSSA) Infection Tracking (https://www.cdc.gov/healthcare-associated-infections/php/haic-eip/invasive-staphylococcus.html)
- Methicillin-Resistant *Staphylococcus aureus.* Antimicrobial Resistance & Patient Safety Portal (https://arpsp.cdc.gov/profile/eip/mrsa)
- Methicillin-resistant *Staphylococcus aureus* (MRSA) (http://www.cdc.gov/mrsa/about/index.html)