# Delaware Healthcare-Associated Infections

## 2024 ANNUAL REPORT

DELAWARE HEALTH AND SOCIAL SERVICES
Division of Public Health

# Delaware Healthcare-Associated Infections 2024 Annual Report

**Delaware Department of Health and Social Services**
**Division of Public Health**

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DELAWARE HEALTH AND SOCIAL SERVICES
Division of Public Health

# Contents

## Acronyms

| | |
|---|---|
| ACH | Acute Care Hospital |
| CAUTI | Catheter-Associated Urinary Tract Infection |
| CDC | Centers for Disease Control and Prevention |
| CI | Confidence Interval (LCL = Lower Confidence Limit, UCL = Upper Confidence Limit) |
| CLABSI | Central Line-Associated Bloodstream Infection |
| CMS | Centers for Medicare and Medicaid Services |
| CDI | *Clostridioides difficile (C. diff)* infection |
| DHSS | Delaware Department of Health and Social Services |
| HAI | Healthcare-Associated Infection |
| HAIAC | Healthcare-Associated Infections Advisory Committee |
| ICU | Intensive Care Unit |
| IP | Infection Preventionist |
| LTACH | Long-Term Acute Care Hospital |
| MRSA | Methicillin-Resistant *Staphylococcus aureus* infection |
| MRSA-CA | Community-acquired MRSA infection |
| MRSA-HA | Health care-associated MRSA infection |
| NHSN | National Healthcare Safety Network |
| SIR | Standardized Infection Ratio |
| SSI | Surgical Site Infection |
| UTI | Urinary Tract Infection |

July 09, 2025

To the members of the Delaware General Assembly,

The Healthcare-Associated Infections Advisory Committee (HAIAC) and the Delaware Department of Health and Social Services, Division of Public Health (DPH) are pleased to present the *Delaware Healthcare-Associated Infections 2024 Annual Report* to the Delaware legislature. This document was created and submitted in accordance with Healthcare- Associated Infections Disclosure Act (16 *Del. Code,* Chapter 10A).

This report represents Delaware healthcare facilities' efforts to ensure that Healthcare-associated Infection (HAI) information is collected, reported, and acted upon to reduce morbidity and mortality from HAIs. The annual report represents the collective efforts of the HAIAC and DPH to monitor HAIs within the state and to use these data to improve health outcomes within all hospitals in Delaware.

Sincerely,

Signed by:
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# Executive Summary

In 2007, the Delaware General Assembly established the Healthcare-Associated Infections Disclosure Act (16 Del. Code, § 10A).[1] The law requires hospitals to report Healthcare-Associated infections (HAIs) to the Delaware Department of Health and Social Services by using the Centers for Disease Control and Prevention's (CDC) National Healthcare Safety Network (NHSN).[2] The law's purpose is to make information available to the public about the occurrence of HAIs in Delaware healthcare facilities. The Healthcare-Associated Infections Advisory Committee was created to oversee implementation of the Healthcare-Associated Infections Disclosure Act. The Advisory Committee determined that Delaware would follow the healthcare facility reporting requirements of the Centers for Medicare and Medicaid Services.[3] Development and implementation of strategies to reduce and prevent HAIs are a priority for the Healthcare-Associated Infections Advisory Committee.

Acute care hospitals are required to report catheter-associated urinary tract infections and central line-associated bloodstream infections from intensive care units and from adult and pediatric medical/surgical wards. Surgical site infections are required to be reported for inpatient colon surgeries and abdominal hysterectomies, as are facility-wide methicillin-resistant *Staphylococcus aureus* and *Clostridioides difficile* infections. These infections are a threat to patient safety and are a significant cause of illness and death.

Hospitals are required to report HAIs using the Patient Safety Module of CDC's NHSN, which is an internet-based national surveillance system that collects data from healthcare facilities. It provides facilities with risk-adjusted data that can be used for facility comparisons and to inform local quality improvement activities. HAI rates are reported using the standardized infection ratio (SIR) which is a summary measure for comparing the number of infections observed to a "predicted" or expected number of infections that is derived based on the historical rate of infections in hospitals with similar patient, unit, and facility level factors associated with an increased infection rate. In addition to computing SIR estimates, 95% confidence intervals (CI) are used to indicate the level of statistical reliability of the SIR estimate. Small numbers of devices and procedures at facilities in Delaware result in SIRs that are statistically uninterpretable.

[1] Title 16, § 10A of the Delaware Code, https://delcode.delaware.gov/title16/c010a/index.html
[2] Centers for Disease Control and Prevention, National Healthcare Safety Network (NHSN) https://www.cdc.gov/nhsn/
[3] Centers for Disease Control and Prevention, Healthcare Facility HAI Reporting Requirements to CMS via NHSN Current or Proposed Requirements https://www.cdc.gov/nhsn/PDFs/CMS/CMS-Reporting-Requirements.pdf

## Background

HAIs are infections that patients may develop while receiving treatment for other conditions within a healthcare setting. These HAIs can worsen preexisting illnesses or prolong hospital stays. The most recent CDC survey that sampled many U.S. acute care hospitals (ACH) found that on any given day, about one in 31 hospitalized patients has at least one HAI.[4] These infections cause tens of thousands of deaths and cost the United States healthcare system billions of dollars annually.[4] More than half of all HAIs occurred outside the intensive care unit.

In 2007, the Delaware General Assembly passed House Bill 47, establishing the Healthcare-Associated Infections Disclosure Act (16 Del. Code, Chapter 10A).[5] The law requires hospitals to report HAIs to the Delaware Department of Health and Social Services (DHSS) by using the CDC's NHSN.[6] CDC's NHSN is the nation's most widely used tracking system for HAIs. NHSN provides healthcare facilities and states with data collection and reporting capabilities by using standardized definitions, allowing them to identify infection prevention problem areas, benchmark progress, and comply with public reporting mandates to drive progress towards elimination of HAIs.

Delaware Code requires DHSS to submit an annual report to the legislature. This report covers HAIs reported to the DHSS Division of Public Health (DPH) from Jan. 1, 2024 to Dec. 31, 2024. As required by law, this annual report will be made available to anyone upon request. The annual report can be found online at https://dhss.delaware.gov/dph/epi/dehospinfrpts/.

The HAIAC was appointed by the DHSS Secretary in 2007 (Appendix A). The HAIAC assisted DHSS in the development of regulations, reviewed NHSN requirements, and selected reporting requirements for Delaware.[7]

## Reporting HAIs in Delaware

All eight acute care hospitals in Delaware report HAIs through the NHSN. Beginning in mid-2012, the HAIAC determined that Delaware would follow the reporting requirements of the Centers for Medicare and Medicaid Services (CMS), effective Sept. 1, 2013.[8]

This report includes data on the following types of HAIs:

[4] U.S. Department of Health and Human Services, Health Care-Associated Infections Health Care-Associated Infections | HHS.gov
[5] Title 16, § 10A of the Delaware Code, About NHSN https://delcode.delaware.gov/title16/c010a/index.html
[6] Centers for Disease Control and Prevention, About NHSN http://www.cdc.gov/nhsn/about.html
[7] Delaware Register of Regulations Delaware Register of Regulations, Volume 12, Issue 11, May 2009
[8] Centers for Disease Control and Prevention, Healthcare Facility HAI Reporting Requirements to CMS via NHSN Current or Proposed Requirements http://www.cdc.gov/nhsn/PDFs/CMS/CMS-Reporting-Requirements.pdf

(1) **Device-Related Infections** that occur in adult, pediatric, and neonatal intensive care units (ICUs) and adult and pediatric medical/surgery units at acute care hospitals in Delaware:
   (a) catheter-associated urinary tract infections (CAUTIs)
   (b) central line-associated bloodstream infections (CLABSIs)

(2) **Surgical Site Infections** (SSI) that occur among adults in acute care hospitals following:
   (a) colon surgery or
   (b) abdominal hysterectomy

(3) **Hospital-Onset Laboratory-Identified Events** that occur in acute care hospitals:
   (a) Methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremia
   (b) *Clostridioides difficile* (*C. Diff).*

## Methods

Infection Preventionists (IPs) at acute care hospitals in Delaware are required to report infections listed above to the NHSN using standardized definitions. For each type of infection, the IPs report the number of patients with infections (numerator) and the denominator, which are either the number of patients with a given device (device days), number of surgeries (procedures), or total number of patients at risk (patient days).

The standardized infection ratio (SIR) is calculated as the number of observed infections divided by the total number of predicted infections. The SIR, a summary measure used to track HAI prevention progress over time, compares the number of infections reported in a facility or state to the number of infections that were "predicted" or would be expected to have occurred based on previous years of reported data (i.e., baseline data).

$$\text{SIR} = \frac{\text{Number of observed infections}}{\text{Number of predicted infections}}$$

The number of predicted infections is an estimate based on aggregate data reported to CDC's NHSN during a specific historical baseline period. The predicted number is adjusted for each facility using variables found to be significant predictors of HAI incidence. These numbers are also adjusted differently depending on the type of infection measured.[9] The 2015 Rebaseline is a term that CDC's NHSN staff uses to describe updates to the original HAI baselines. The 2015 Rebaseline updates both the source of aggregate data and the risk adjustment methodology used to create the original baselines.

[9] Centers for Disease Control and Prevention, THE NHSN STANDARDIZED INFECTION RATIO (SIR) NHSN SIR Guide (cdc.gov)

For acute care hospitals:

**SIRs for CLABSIs and CAUTIs** are adjusted for the following potential risk factors for infection:

- facility bed size
- medical school affiliation
- status as a cancer hospital
- Intensive Care Unit (ICU) location.

**SIRs for SSIs are presented using CDC's Complex 30-Day CMS Inpatient Prospective Payment System (IPPS) model** that allows facilities to review SSI data that would be submitted to CMS on their behalf and adjusts for:

- status as a cancer hospital
- patient factors: age, gender, American Society of Anesthesiology (ASA) Score[10], Body Mass Index, closure technique, diabetes, and type of surgery.

**SIRs for hospital-onset *C. difficile* and MRSA** bloodstream infections are adjusted using slightly different risk factors:

- facility bed size
- hospital affiliation with a medical school
- number of patients admitted to the hospital who already have *C. difficile* or a MRSA bloodstream infection (community-acquired cases)
- for *C. difficile*, the type of test the hospital laboratory uses to identify *C. difficile* from patient specimens.

## Hospitals in Delaware

In 2024, there were eight acute care hospitals in Delaware and their data contributed to this report. A facility survey must be completed to reflect data from the prior calendar year. As mentioned previously, there are different risk factors that adjust the SIR baselines. These eight hospitals conducted an annual survey based on the NHSN standards. The following risk-related information came from the completed 2023 surveys (Table 1):

[10] American Society of Anesthesiologists', Statement on ASA Physical Status Classification Statement on ASA Physical Status Classification System

**Table 1. Acute Care Hospitals in Delaware, 2023**

| Name and Address | Services | Beds | Intensive Care Unit Beds |
|---|---|---|---|
| Bayhealth Medical Center Kent Campus<br>640 S. State St.<br>Dover, Del. 19901 | This campus provides patients with care in several specialty divisions including, but not limited to, cardiology, intensive care, oncology, and obstetrics/gynecology. Bayhealth-Kent is also a teaching institution. | 243 | 44 (including adult, pediatric, and neonatal levels II/III, III, or higher) |
| Bayhealth Medical Center Sussex Campus<br>100 Wellness Way<br>Milford, Del. 19963 | This campus provides patients with care in several specialty divisions including, but not limited to, cardiology, intensive care, oncology, and obstetrics/gynecology. Bayhealth-Sussex is also a teaching institution. | 152 | 10 (including adult, pediatric, and neonatal levels II/III, III, or higher) |
| Beebe Healthcare Hospital<br>424 Savannah Rd.<br>Lewes, Del. 19958 | This campus provides patients with care in several specialty divisions including, but not limited to, cardiology, intensive care, oncology, neurology, and obstetrics/gynecology. Beebe Healthcare is also a teaching institution. | 177 | 20 (including adult, pediatric, and neonatal levels II/III, III, or higher) |
| ChristianaCare Hospital<br>4755 Ogletown Stanton Rd.<br>Newark, Del. 19718 | This campus provides patients with care in several specialty divisions including, but not limited to, cardiology, intensive care, oncology, neurology, and obstetrics/gynecology. ChristianaCare Hospital is also a teaching institution. | 999 | 151 (including adult, pediatric, and neonatal levels II/III, III, or higher) |
| ChristianaCare Wilmington Hospital<br>501 W. 14th St.<br>Wilmington, Del. 19801 | This campus provides patients with care in several specialty divisions including, but not limited to, cardiology, intensive care, oncology, neurology, and obstetrics/gynecology. ChristianaCare Wilmington Hospital is also a teaching institution. | 244 | 9 (including adult, pediatric, and neonatal levels II/III, III, or higher) |
| Nemours Children's Hospital<br>1600 Rockland Rd.<br>Wilmington, Del. 19803 | This campus provides pediatric patients with care in several specialty divisions including, but not limited to, cardiology, intensive care, oncology, and neurology. Nemours Children's Hospital is also a teaching institution for graduate students only. | 208 | 70 (including pediatric, and neonatal levels II/III, III, or higher) |

**Table 1. Acute Care Hospitals in Delaware, 2023 (continued)**

| Name and Address | Services | Beds | Intensive Care Unit Beds |
|---|---|---|---|
| St. Francis Hospital<br>701 N. Clayton St.<br>Wilmington, Del.<br>19805 | This campus provides patients with care in several specialty divisions including, but not limited to, cardiology, intensive care, oncology, neurology, and obstetrics/gynecology. St. Francis Hospital is also a teaching institution. | 112 | 16 (including adult, pediatric, and neonatal levels II/III, III, or higher) |
| TidalHealth Nanticoke Hospital<br>801 Middleford Rd.<br>Seaford, Del. 19973 | This campus provides patients with care in several specialty divisions including, but not limited to, cardiology, intensive care, oncology, neurology, and obstetrics/gynecology. TidalHealth Nanticoke Hospital is also a teaching institution for undergraduate students. | 65 | 4 (including adult, pediatric, and neonatal levels II/III, III, or higher) |

*Source: Delaware Department of Health and Social Services, Division of Public Health, Healthcare-Associated Infections Delaware Acute Care Hospitals; and Centers for Disease Control and Prevention, National Healthcare Safety Network Data, 2024.*

## Interpretation of the Standardized Infection Ratio (SIR)

Calculation of the SIR will result in one of the following:

- If the **SIR is less than 1.0, fewer infections were reported** during the surveillance period than predicted, given the baseline data.
- If the **SIR is equal to 1.0,** it indicates the numerator and denominator are relatively equal. In this instance, the number of infections reported during the surveillance period is the **same as the number predicted,** given the baseline data.
- If the **SIR is greater than 1.0, more infections were reported** during the surveillance period than predicted, given the baseline data.

NOTE: The SIR is not calculated when the number of infections is predicted to be <1, which is due to a small number of device days, procedures, or patient days.

## Confidence Interval of the Standardized Infection Ratio

Since the SIR is only an estimate of the "true" value, confidence intervals (CI) are provided which indicate the range of values within which the true SIR is thought to lie. The upper and lower limits are used to determine the statistical significance and precision of the SIR. There is a high degree of confidence that the true SIR lies within this range.

If the confidence interval includes the value of 1.0, then the SIR is *not statistically significant* (i.e., the number of observed events is not significantly different than the number predicted).

If the confidence interval does not include the value of 1.0, then the SIR *is statistically significant* (i.e., the number of observed events is significantly different than the number predicted). The confidence intervals are generally calculated at 95% (95% CI), which is an arbitrary and conveniently used level indicating that there is 95% confidence that the true SIR falls between the upper and lower limits of the CI.[11]

[11] Rothman KJ, Greenland S, Lash TL. Study Design and Conduct. Modern Epidemiology. 3rd ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2008.

# Device Related HAI Results

## Central Line-Associated Bloodstream Infections (CLABSIs)

A central line is a tube placed into a patient's large vein or artery, usually in the neck, chest, arm, or groin. The catheter is used to draw blood, provide fluids, or administer medications and may not be removed for several weeks. A bloodstream infection can occur when bacteria or other germs travel down a central line and enter the bloodstream. Based on 2014 data, an estimated 30,100 central line-associated bloodstream infections (CLABSIs) occur in intensive care units and wards of U.S. acute care facilities annually.[12] These infections are usually serious, typically causing a prolonged hospital stay, increased costs, and greater risk of mortality. These infections are largely preventable when healthcare providers follow CDC-recommended infection prevention steps. Hospitals across the U.S. saw a 46% decrease in CLABSIs from 2008 to 2013.[12] Nationally in the United States, among acute care hospitals, CLABSI continued to decline about 13% between 2022 and 2023.[13]

In 2024, a total of 51 CLABSIs were identified across all Delaware ACHs, compared to 70.31 CLABSIs predicted on the NHSN CLABSI baseline (Table 2). The results of SIR (51/70.31) were 0.73, signifying that during this time period, Delaware identified fewer CLABSIs than predicted. Since the 95% confidence interval (0.55,0.95) does not include the value of 1, DPH concluded that the SIR is statistically significant. In other words, ACHs observed a statistically significantly different number of CLABSIs than predicted in Delaware during 2024.

[12] ivWatch, CLABSIs: Risk Factors, Causes and Prevention CLABSIs: Risk Factors, Causes and Prevention – ivWatch
[13]Centers for Disease Control and Prevention, 2023 National and State Healthcare-Associated Infections Progress Report Current HAI Progress Report

## Table 2. Central Line-Associated Bloodstream Infections (CLABSIs) by Delaware Acute Care Hospitals, 2024

| Hospital | Central Line Device Days[a] | Number of Infections | | SIR[b] | 95% CI[c] | | Interpretation of Standardized Infection Ratio (SIR)[f] |
|---|---|---|---|---|---|---|---|
| | | Observed | Predicted | | Lower[d] | Upper | |
| All[e] | 65,508 | 51 | 70.31 | 0.73 | 0.55 | 0.95 | SIR is statistically significant. |
| Bayhealth Medical Center, Kent Campus | 6,008 | 2 | 6.46 | 0.31 | 0.05 | 1.02 | SIR is not statistically significant. |
| Bayhealth Medical Center, Sussex Campus | 1,131 | 0 | 1.09 | 0 | --- | 2.74 | SIR is not statistically significant. |
| Beebe Healthcare | 4,182 | 1 | 3.72 | 0.27 | 0.01 | 1.33 | SIR is not statistically significant. |
| ChristianaCare Hospital | 32,165 | 29 | 34.89 | 0.83 | 0.57 | 1.18 | SIR is not statistically significant. |
| Wilmington Hospital | 6,162 | 2 | 6.21 | 0.32 | 0.05 | 1.06 | SIR is not statistically significant. |
| Nemours Children's Hospital | 12,003 | 15 | 14.71 | 1.02 | 0.59 | 1.64 | SIR is not statistically significant. |
| St. Francis Hospital | 1,629 | 1 | 1.48 | 0.67 | 0.03 | 3.33 | SIR is not statistically significant. |
| TidalHealth Nanticoke Hospital | 2,228 | 1 | 1.76 | 0.57 | 0.03 | 2.80 | SIR is not statistically significant. |

**NOTE**: Data contained in this report was generated on June 4,2025.

a. Device day is a count of patients with a specific device in the patient care location during a time period.
b. Standardized Infection Ratio (SIR) is only calculated if the predicted number is greater than or equal to 1.
c. Confidence Limits are endpoints of the confidence interval, a range of values that accounts for random error in estimation of the SIR.
d. The lower bound of 95% confidence interval is only calculated if the observed number is greater than 0.
e. Acute Hospitals listed (Bayhealth Medical Center, Kent Campus; Bayhealth Medical Center, Sussex Campus; Beebe Healthcare; ChristianaCare Hospital; Nemours Children's Hospital; St. Francis Hospital; TidalHealth Nanticoke Hospital; ChristianaCare Wilmington Hospital).
f. If the CI does not include 1, then the SIR is significantly different than 1.0 (i.e., the number of observed infections is significantly different than the number predicted) or If the CI includes the value of 1, then the SIR is not significantly different than 1.0 (i.e., the number of observed infections is not significantly different than the number predicted).

*Source: Delaware Department of Health and Social Services, Division of Public Health, Healthcare-Associated Infections Delaware Acute Care Hospitals, Centers for Disease Control and Prevention, National Healthcare Safety Network data, 2024.*

## Catheter-Associated Urinary Tract Infections (CAUTIs)

A catheter-associated urinary tract infection (CAUTI) involves infection in any part of the urinary system including urethra, bladder, ureters, and kidneys. Approximately 12% to 16% of adult hospital inpatients have a urinary catheter at some point during their hospital stay.[14] Each day that the urinary catheter remains, a patient has a 3% to 7% increased risk of acquiring a CAUTI.[15]

In 2015, urinary tract infections (UTIs) were the fifth most common type of HAI in the United States, with approximately 62,700 UTIs in ACHs.[16] Approximately 75% of UTIs acquired in the hospital are associated with a urinary catheter.[17] CAUTIs can lead to numerous complications, causing discomfort to the patient, prolonged hospital stays, or increased mortality.[18] In the United States, among acute care hospitals, CAUTI 2023 SIRS are below pre-pandemic (2019) SIRs with an overall 11% decrease between 2022 and 2023 observed across ICU and Ward locations. [19]

In 2024, 32 CAUTIs were observed in all ACHs, compared to 45.91 CAUTIs predicted based on the NHSN 2015 baseline data (Table 3). The results of all ACHs SIR (32/45.91) were 0.70, signifying that during this time period, Delaware identified fewer CAUTIs than predicted. Since the 95% confidence interval (0.49, 0.97) does not include the value of 1, DPH concluded that the SIR is statistically significant. In other words, ACHs observed a statistically significantly different number of CAUTIs than predicted in Delaware.

[14] Centers for Disease Control and Prevention, Urinary Tract Infection (Catheter-Associated Urinary Tract Infection [CAUTI] and Non-Catheter-Associated Urinary Tract Infection [UTI]) and Other Urinary System Infection [USI]) Events 7 Catheter-associated Urinary Tract Infection (CAUTI) (saude.sp.gov.br)
[15] Centers for Disease Control and Prevention, Urinary Tract Infection (Catheter-Associated Urinary Tract Infection [CAUTI] and Non-Catheter-Associated Urinary Tract Infection [UTI]) and Other Urinary System Infection [USI]) Events 7 Catheter-associated Urinary Tract Infection (CAUTI) (saude.sp.gov.br)
[16] Centers for Disease Control and Prevention, Urinary Tract Infection (Catheter-Associated Urinary Tract Infection [CAUTI] and Non-Catheter-Associated Urinary Tract Infection [UTI]) Events Urinary Tract Infection (cdc.gov)
[17]Centers for Disease Control and Prevention, Catheter-associated Urinary Tract Infections (CAUTI) Catheter-associated Urinary Tract Infections (CAUTI) | HAI | CDC
[18]Scott RD. The Direct Medical Costs of Healthcare-Associated Infections in U.S. Hospitals and the Benefits of Prevention, 2009. Division of Healthcare Quality Promotion, National Center for Preparedness, Detection, and Control of Infectious Diseases, Coordinating Center for Infectious Diseases, Centers for Disease Control and Prevention, February 2009.
[19] Centers for Disease Control and Prevention, 2023 National and State Healthcare-Associated Infections Progress Report Current HAI Progress Report

**Table 3. Catheter-Associated Urinary Tract Infections (CAUTIs) by Delaware Acute Care Hospitals, 2024**

| Hospital | Urinary Catheter Device Days[a] | Number of Infections | | SIR[b] | 95% CI[c] | | Interpretation of Standardized Infection Ratio (SIR)[f] |
|---|---|---|---|---|---|---|---|
| | | Observed | Predicted | | Lower[d] | Upper | |
| All[e] | 33,134 | 32 | 45.91 | 0.70 | 0.49 | 0.97 | SIR is statistically significant. |
| Bayhealth Medical Center, Kent Campus | 6,771 | 5 | 11.29 | 0.44 | 0.16 | 0.98 | SIR is statistically significant. |
| Bayhealth Medical Center, Sussex Campus | 1,298 | 0 | 1.37 | 0 | --- | 2.18 | SIR is not statistically significant. |
| Beebe Healthcare | 3,755 | 2 | 3.82 | 0.52 | 0.09 | 1.73 | SIR is not statistically significant. |
| ChristianaCare Hospital | 13,884 | 14 | 21.56 | 0.65 | 0.37 | 1.06 | SIR is not statistically significant. |
| Wilmington Hospital | 2,604 | 1 | 3.30 | 0.30 | 0.02 | 1.49 | SIR is not statistically significant. |
| Nemours Children's Hospital | 1,476 | 8 | 1.66 | 4.81 | 2.23 | 9.13 | SIR is not statistically significant. |
| St. Francis Hospital | 1,488 | 1 | 1.51 | 0.66 | 0.03 | 3.27 | SIR is not statistically significant. |
| TidalHealth Nanticoke Hospital | 1,858 | 1 | 1.39 | 0.72 | 0.04 | 3.55 | SIR is not statistically significant. |

**NOTE**: Data contained in this report was generated on June 4, 2025.

a. Device day is a count of patients with a specific device in the patient care location during a time period.
b. Standardized Infection Ratio (SIR) is only calculated if the predicted number is greater than or equal to 1.
c. Confidence Limits are endpoints of the confidence interval, a range of values that accounts for random error in estimation of the SIR.
d. The lower bound of 95% confidence interval is only calculated if the observed number is greater than 0.
e. Acute Hospitals listed (Bayhealth Medical Center, Kent Campus; Bayhealth Medical Center, Sussex Campus; Beebe Healthcare; ChristianaCare Hospital; Nemours Children's Hospital; St. Francis Hospital; TidalHealth Nanticoke Hospital; ChristianaCare Wilmington Hospital).
f. If the CI does not include 1, then the SIR is significantly different than 1.0 (i.e., the number of observed infections is significantly different than the number predicted) or If the CI includes the value of 1, then the SIR is not significantly different than 1.0 (i.e., the number of observed infections is not significantly different than the number predicted).

*Source: Delaware Department of Health and Social Services, Division of Public Health, Healthcare-Associated Infections Delaware Acute Care Hospitals, Centers for Disease Control and Prevention, National Healthcare Safety Network data, 2024.*

## Surgical Site Infections Results

The CDC's HAI prevalence survey estimated in 2015 that approximately 110,800 surgical site infections (SSIs) were associated with inpatient surgical procedures.[20] It has been widely reported that SSI accounts for 20% of all HAI and most common HAI type.[21] Based on United States' HAI data from 2023, there was an overall increase of 3% in SIR related to Surgical Care Improvement Project (SCIP) procedures (10 selected procedures); an 8% increase in abdominal hysterectomy SSIs; and no significant changes in colon surgery SSIs.[22]

All inpatient surgical procedures performed are assigned one or more specific ICD-10-PCS (Procedure Coding System) is a standardized coding system used to document medical procedures performed in inpatient hospital settings) and corresponding CPT (Current Procedural Terminology) codes that correspond to "abdominal hysterectomy" and "colon surgery." Procedures must be monitored for SSIs and included in SSI data submitted to NHSN.[23]

SSIs required to be reported to CMS include only deep incisional primary and organ/space infections that are routinely detected during the operative hospitalization or upon readmission to a hospital. These criteria avoid penalizing hospitals with more complete reporting as opposed to truly higher infection rates, since superficial SSIs may never come to the attention of hospital IPs. Only SSIs with an onset within 30 days of the procedure and SSIs identified in patients who were 18 years or older at the time of surgery are included in data that CDC report to CMS.[24]

### Colon Surgery

In 2024, 27 SSIs associated with colon surgery were observed in all ACHs, compared to the 31.38 SSIs for colon surgery predicted based on NHSN 2015 baseline data (Table 4). The results of SIR (27/31.38) were 0.86, signifying that during this time period, Delaware identified fewer SSIs than predicted. Since the 95% confidence interval (0.58, 1.24) includes the value of 1, the SIR is not statistically significant. In other words, during 2024, ACHs did not observe a statistically significantly different number of SSIs associated with colon surgeries than predicted in Delaware.

[20] Centers for Disease Control and Prevention, National Healthcare Safety Network Surgical Site Infection Event (SSI) Surgical Site Infection Event (cdc.gov)
[21] Centers for Disease Control and Prevention, National Healthcare Safety Network Surgical Site Infection Event (SSI) Surgical Site Infection Event (cdc.gov)
[22] Centers for Disease Control and Prevention, 2023 National and State Healthcare-Associated Infections Progress Report Current HAI Progress Report
[23] Centers for Disease Control and Prevention, Operational Guidance for Reporting Surgical Site Infection (SSI) Data to CDC's NHSN for the Purpose of Fulfilling CMS's Hospital Inpatient Quality Reporting (IQR) Program Requirements Operational Guidance for Reporting Surgical Site Infection (SSI) Data to CDC's NHSN for the Purpose of Fulfilling CMS's Hospital Inpatient Quality Reporting (IQR) Program Requirements
[24]Centers for Disease Control and Prevention, National Healthcare Safety Network Surgical Site Infection Event (SSI) Surgical Site Infection Event (cdc.gov)

**Table 4. Surgical Site Infections (SSIs) Associated with Colon Surgery by Delaware Acute Care Hospitals, 2024**

| Hospital | Inpatient Procedures[a] | Number of Infections | | SIR[b] | 95% CI[c] | | Interpretation of Standardized Infection Ratio (SIR)[f] |
|---|---|---|---|---|---|---|---|
| | | Observed | Predicted | | Lower[d] | Upper | |
| All[e] | 1,104 | 27 | 31.38 | 0.86 | 0.58 | 1.24 | SIR is not statistically significant. |
| Bayhealth Medical Center, Kent Campus | 168 | 1 | 4.68 | 0.21 | 0.01 | 1.05 | SIR is not statistically significant. |
| Bayhealth Medical Center, Sussex Campus | 73 | 3 | 2.05 | 1.47 | 0.37 | 3.99 | SIR is not statistically significant. |
| Beebe Healthcare | 160 | 2 | 4.16 | 0.48 | 0.08 | 1.59 | SIR is not statistically significant. |
| ChristianaCare Hospital | 585 | 19 | 17.05 | 1.11 | 0.69 | 1.71 | SIR is not statistically significant. |
| Wilmington Hospital | 48 | 1 | 1.49 | 0.67 | 0.03 | 3.30 | SIR is not statistically significant. |
| Nemours Children's Hospital | --- | --- | --- | --- | --- | --- | No conclusion. SIR is not calculated when the predicted number of infections is < 1. |
| St. Francis Hospital | 26 | 0 | 0.75 | --- | --- | --- | No conclusion. SIR is not calculated when the predicted number of infections is < 1. |
| TidalHealth Nanticoke Hospital | 44 | 1 | 1.20 | 0.84 | 0.04 | 4.13 | SIR is not statistically significant. |

**NOTE**: Data contained in this report was generated on June 4, 2025.

a. An inpatient procedure is a procedure performed on a patient whose date of admission to the facility and date of discharge are different calendar days and the procedure takes place during a surgical operation.
b. Standardized Infection Ratio (SIR) is only calculated if the predicted number is greater than or equal to 1.
c. Confidence Limits are endpoints of the confidence interval, a range of values that accounts for random error in estimation of the SIR.
d. The lower bound of 95% confidence interval is only calculated if the observed number is greater than 0.
e. Acute Hospitals listed (Bayhealth Medical Center, Kent Campus; Bayhealth Medical Center, Sussex Campus; Beebe Healthcare; ChristianaCare Hospital; Nemours Children's Hospital; St. Francis Hospital; TidalHealth Nanticoke Hospital; ChristianaCare Wilmington Hospital).
f. If the CI does not include 1, then the SIR is significantly different than 1.0 (i.e., the number of observed infections is significantly different than the number predicted) or If the CI includes the value of 1, then the SIR is not significantly different than 1.0 (i.e., the number of observed infections is not significantly different than the number predicted).

*Source: Delaware Department of Health and Social Services, Division of Public Health, Healthcare-Associated Infections Delaware Acute Care Hospitals, Centers for Disease Control and Prevention, National Healthcare Safety Network data, 2024.*

## Abdominal Hysterectomy

In 2024, two SSIs associated with abdominal hysterectomy were observed in all ACHs, compared to the 3.96 SSIs for abdominal hysterectomy predicted based on NHSN 2015 baseline data (Table 5). The results of SIR (2/3.96) were 0.51, signifying that during this time period, Delaware identified fewer SSIs than predicted. Since the 95% confidence interval (0.09, 1.67) includes the value of 1, the SIR is not statistically significant. In other words, during 2024, ACHs did not observe a statistically significantly different number of SSIs associated with abdominal hysterectomy than predicted in Delaware.

**Table 5. Surgical Site Infections (SSIs) Associated with Abdominal Hysterectomy by Delaware Acute Care Hospitals, 2024**

| Hospital | Inpatient Procedures[a] | Number of Infections | | SIR[b] | 95% CI[c] | | Interpretation of Standardized Infection Ratio (SIR)[f] |
|---|---|---|---|---|---|---|---|
| | | Observed | Predicted | | Lower[d] | Upper | |
| All[e] | 448 | 2 | 3.96 | 0.51 | 0.09 | 1.67 | SIR is not statistically significant. |
| Bayhealth Medical Center, Kent Campus | 22 | 1 | 0.20 | --- | --- | --- | No conclusion. SIR is not calculated when the predicted number of infections is < 1. |
| Bayhealth Medical Center, Sussex Campus | 56 | 0 | 0.46 | --- | --- | --- | No conclusion. SIR is not calculated when the predicted number of infections is < 1. |
| Beebe Healthcare | 20 | 0 | 0.18 | --- | --- | --- | No conclusion. SIR is not calculated when the predicted number of infections is < 1. |
| ChristianaCare Hospital | 254 | 1 | 2.24 | 0.45 | 0.02 | 2.20 | SIR is not statistically significant. |
| Wilmington Hospital | 4 | 0 | 0.03 | --- | --- | --- | No conclusion. SIR is not calculated when the predicted number of infections is < 1. |
| Nemours Children's Hospital | --- | --- | --- | --- | --- | --- | No conclusion. SIR is not calculated when the predicted number of infections is < 1. |
| St. Francis Hospital | 71 | 0 | 0.64 | --- | --- | --- | No conclusion. SIR is not calculated when the predicted number of infections is < 1. |
| TidalHealth Nanticoke Hospital | 21 | 0 | 0.21 | -- | -- | -- | No conclusion. SIR is not calculated when the predicted number of infections is < 1. |

**NOTE**: Data contained in this report was generated on June 4, 2025.

a. An inpatient procedure is a procedure performed on a patient whose date of admission to the facility and date of discharge are different calendar days and the procedure takes place during a surgical operation.
b. Standardized Infection Ratio (SIR) is only calculated if the predicted number is greater than or equal to 1.
c. Confidence Limits are endpoints of the confidence interval, a range of values that accounts for random error in estimation of the SIR.
d. The lower bound of 95% confidence interval is only calculated if the observed number is greater than 0.
e. Acute Hospitals listed (Bayhealth Medical Center, Kent Campus; Bayhealth Medical Center, Sussex Campus; Beebe Healthcare; ChristianaCare Hospital; Nemours Children's Hospital; St. Francis Hospital; TidalHealth Nanticoke Hospital; ChristianaCare Wilmington Hospital).
f. If the CI does not include 1, then the SIR is significantly different than 1.0 (i.e., the number of observed infections is significantly different than the number predicted) or If the CI includes the value of 1, then the SIR is not significantly different than 1.0 (i.e., the number of observed infections is not significantly different than the number predicted).

*Source: Delaware Department of Health and Social Services, Division of Public Health, Healthcare-Associated Infections Delaware Acute Care Hospitals, Centers for Disease Control and Prevention, National Healthcare Safety Network data, 2024.*

## Hospital-Onset Laboratory-Identified Events Results

Laboratory-identified (LabID) event reporting enables laboratory testing data to be used without clinical evaluation of the patient, allowing for a less labor-intensive method to track MRSA and *C. difficile*.[25] Of note, while all MRSA bacteremia can be considered true infections, a positive laboratory test for *C. difficile* may or may not indicate *C. difficile* disease rather than colonization. While providers should only test patients in whom they suspect *C. difficile* disease, this test is probably over-utilized.

### *Clostridioides difficile* Infection (*C. Diff*)

*Clostridioides difficile* infection, also known as *C. difficile* and *C. diff*, is a bacterium that causes inflammation of the colon. Antibiotic use is the most important risk factor for *C. diff* infection along with increasing age. A 2015 study showed that recurrence occurred in one in five patients with a healthcare-associated *C. difficile* infection and one in 11 people over the age of 65 who are diagnosed with *C. diff* die within a month of diagnosis.[26] Over 80% of deaths linked to *C. difficile* occurred in Americans aged 65 and older.[27] CDC provides guidelines and tools to the healthcare community to help prevent *C. difficile* infections such as provider resources including antibiotic prescribing improvement programs (called antibiotic stewardship programs).[28] Among acute care hospitals, hospital-onset *C. difficile* infections declined by 13% in the United States from 2022 to 2023.[29]

In 2024, 110 *C. diff* infections were observed in all ACHs, compared to the 256.87 *C. diff* infections predicted based on the NHSN 2015 baseline data (Table 6). The results of SIR (110/256.87) were 0.49, signifying that during this time period, Delaware identified fewer *C. diff* infections than predicted. Since the 95% confidence interval (0.35, 0.51) does not include the value of 1, DPH concluded that the SIR is statistically significant. In other words, in 2024, ACHs observed a statistically significantly different number of *C. diff* infections than predicted in Delaware.

[25] Centers for Disease Control and Prevention, Operational Guidance for reporting FacWideIN CDI LabID Event Data Multidrug-Resistant Organism & *Clostridioides difficile* Infection (MDRO/CDI) Module
[26] Centers for Disease Control and Prevention,2015 Nearly half a million Americans suffered from Clostridium difficile infections in a single year Press Release
[27] Centers for Disease Control and Prevention,2015 Nearly half a million Americans suffered from Clostridium difficile infections in a single year Press Release
[28] Centers for Disease Control and Prevention,2015 Nearly half a million Americans suffered from Clostridium difficile infections in a single year Press Release
[29] Centers for Disease Control and Prevention, 2023 National and State Healthcare-Associated Infections Progress Report Current HAI Progress Report

**Table 6. *Clostridioides difficile* (*C. Diff*) Infections, Delaware Acute Care Hospitals, 2024**

| Hospital | Patient Days[a] | Number of Infections | | SIR[b] | 95% CI[c] | | Interpretation of Standardized Infection Ratio (SIR)[f] |
|---|---|---|---|---|---|---|---|
| | | Observed | Predicted | | Lower[d] | Upper | |
| All[e] | 535,577 | 110 | 256.87 | 0.43 | 0.35 | 0.51 | SIR is statistically significant. |
| Bayhealth Medical Center, Kent Campus | 85,885 | 14 | 39.11 | 0.36 | 0.20 | 0.59 | SIR is statistically significant. |
| Bayhealth Medical Center, Sussex Campus | 37,905 | 6 | 14.74 | 0.41 | 0.17 | 0.85 | SIR is statistically significant. |
| Beebe Healthcare | 54,355 | 17 | 30.60 | 0.56 | 0.34 | 0.87 | SIR is statistically significant. |
| ChristianaCare Hospital | 215,850 | 49 | 123.62 | 0.40 | 0.30 | 0.52 | SIR is statistically significant. |
| Wilmington Hospital | 60,257 | 6 | 20.01 | 0.30 | 0.12 | 0.62 | SIR is statistically significant. |
| Nemours Children's Hospital | 42,279 | 9 | 14.09 | 0.64 | 0.31 | 1.17 | SIR is not statistically significant. |
| St. Francis Hospital | 16,097 | 3 | 7.76 | 0.06 | 0.10 | 1.05 | SIR is not statistically significant. |
| TidalHealth Nanticoke Hospital | 22,949 | 6 | 6.96 | 0.86 | 0.35 | 1.79 | SIR is not statistically significant. |

**NOTE**: Data contained in this report was generated on June 4, 2025.

a. The number of patient days is a count of the number of patients in a patient care location.
b. Standardized Infection Ratio (SIR) is only calculated if the predicted number is greater than or equal to 1.
c. Confidence Limits are endpoints of the confidence interval, a range of values that accounts for random error in estimation of the SIR.
d. The lower bound of 95% confidence interval is only calculated if the observed number is greater than 0.
e. Acute Hospitals listed (Bayhealth Medical Center, Kent Campus; Bayhealth Medical Center, Sussex Campus; Beebe Healthcare; ChristianaCare Hospital; Nemours Children's Hospital; St. Francis Hospital; TidalHealth Nanticoke Hospital; ChristianaCare Wilmington Hospital).
f. If the CI does not include 1, then the SIR is significantly different than 1.0 (i.e., the number of observed infections is significantly different than the number predicted) or If the CI includes the value of 1, then the SIR is not significantly different than 1.0 (i.e., the number of observed infections is not significantly different than the number predicted).

*Source: Delaware Department of Health and Social Services, Division of Public Health, Healthcare-Associated Infections Delaware Acute Care Hospitals, Centers for Disease Control and Prevention, National Healthcare Safety Network data, 2024.*

## Methicillin-resistant *Staphylococcus aureus* (MRSA)

Methicillin-resistant *Staphylococcus aureus* (MRSA) is a type of staphylococcal bacteria that is resistant to certain antibiotics called beta-lactams. These antibiotics include methicillin and other common antibiotics such as oxacillin or nafcillin.

There are two types of MRSA strains: community-acquired (MRSA-CA) and healthcare-associated (MRSA-HA). In the community, MRSA infections usually manifest as skin infections and generally occur in otherwise healthy people. More severe or potentially life-threatening MRSA infections, such as bloodstream infections, pneumonia, and surgical site infections, occur most frequently among patients in healthcare settings. MRSA infections included in this report are only those associated with healthcare settings: those associated with ACHs with LabID event of blood cultures collected on or after the fourth day of hospitalization where the first day is the day of admission.[30] In the United States, among acute care hospitals, hospital-onset MRSA bacteremia declined by 16% from 2022 to 2023.[31]

In 2024, 27 MRSA infections were observed in all ACHs, compared to the 39.33 MRSA infections predicted based on the NHSN 2015 baseline data (Table 7). The results of SIR (27/39.33) were 0.68, signifying that during this time period, Delaware identified fewer MRSA infections than predicted. Since the 95% confidence interval (0.46, 0.99) does not include the value of 1, DPH concluded that the SIR is statistically significant. In other words, in 2024, ACHs observed a statistically significantly different number of MRSA infections than predicted in Delaware.

[30] Centers for Disease Control and Prevention, Operational Guidance for reporting FacWideIN MRSA Data Operational Guidance for Acute Care Hospitals to Report Facility-Wide Inpatient (FacWideIN) Methicillin-Resistant Staphylococcus aureus (MRSA) Blood Specimen (Bacteremia)

[31] Centers for Disease Control and Prevention, 2023 National and State Healthcare-Associated Infections Progress Report Current HAI Progress Report

**Table 7. Methicillin-resistant *Staphylococcus aureus* (MRSA) Infections, Delaware Acute Care Hospitals, 2024**

| Hospital | Patient Days[a] | Number of Infections | | SIR[b] | 95% CI[c] | | Interpretation of Standardized Infection Ratio (SIR)[f] |
|---|---|---|---|---|---|---|---|
| | | Observed | Predicted | | Lower[d] | Upper | |
| All[e] | 589,832 | 27 | 39.33 | 0.68 | 0.46 | 0.99 | SIR is statistically significant. |
| Bayhealth Medical Center, Kent Campus | 88,735 | 5 | 5.03 | 0.99 | 0.37 | 2.21 | SIR is not statistically significant. |
| Bayhealth Medical Center, Sussex Campus | 39,287 | 1 | 2.205 | 0.46 | 0.02 | 2.24 | SIR is not statistically significant. |
| Beebe Healthcare | 55,817 | 0 | 2.50 | 0 | --- | 1.20 | SIR is not statistically significant. |
| ChristianaCare Hospital | 249,922 | 14 | 21.01 | 0.67 | 0.38 | 1.09 | SIR is not statistically significant. |
| Wilmington Hospital | 60,257 | 2 | 5.53 | 0.36 | 0.06 | 1.19 | SIR is not statistically significant. |
| Nemours Children's Hospital | 53,416 | 5 | 1.69 | 2.96 | 1.08 | 6.56 | SIR is not statistically significant. |
| St. Francis Hospital | 17,593 | 0 | 0.57 | --- | --- | --- | No conclusion. SIR is not calculated when the predicted number of infections is < 1. |
| TidalHealth Nanticoke Hospital | 24,805 | 0 | 0.81 | --- | --- | --- | No conclusion. SIR is not calculated when the predicted number of infections is < 1. |

**NOTE**: Data contained in this report was generated on June 4, 2025.

a. The number of patient days is a count of the number of patients in a patient care location.
b. Standardized Infection Ratio (SIR) is only calculated if the predicted number is greater than or equal to 1.
c. Confidence Limits are endpoints of the confidence interval, a range of values that accounts for random error in estimation of the SIR.
d. The lower bound of 95% confidence interval is only calculated if the observed number is greater than 0.
e. Acute Hospitals listed (Bayhealth Medical Center, Kent Campus; Bayhealth Medical Center, Sussex Campus; Beebe Healthcare; ChristianaCare Hospital; Nemours Children's Hospital; St. Francis Hospital; TidalHealth Nanticoke Hospital; ChristianaCare Wilmington Hospital).
f. If the CI does not include 1, then the SIR is significantly different than 1.0 (i.e., the number of observed infections is significantly different than the number predicted) or If the CI includes the value of 1, then the SIR is not significantly different than 1.0 (i.e., the number of observed infections is not significantly different than the number predicted).

*Source: Delaware Department of Health and Social Services, Division of Public Health, Healthcare-Associated Infections Delaware Acute Care Hospitals, Centers for Disease Control and Prevention, National Healthcare Safety Network data,2024.*

## Summary

HAIs continue to be a serious threat to patient safety and a public health concern. The CDC's Emerging Infections Program collected data from hospital and nursing home surveys which included both reported and unreported HAIs to the NHSN. The results indicated that, on any given day in the United States, one in 31 hospital patients and one in 43 nursing home residents have an HAI.[32]

CDC released the 2023 National and State Healthcare-Associated Infections Progress Report, which showed a continued national decrease in CLABSI, CAUTI, MRSA, and *C. diff;* additionally, CAUTI, MRSA, and *C. diff* SIRs are below pre-pandemic 2019 SIRs.[33] Delaware's acute care hospitals are following this national trend, showing fewer HAIs observed than predicted levels in most facilities. In 2024, Delaware acute care hospitals overall reported fewer infections than expected in the following HAIs: CLABSIs, CAUTIs, SSIs (Colon Surgery and Abdominal Hysterectomy), *C.* diff, and MRSA. CLABSIs, CAUTIs, *C. diff* and MRSA all reached SIR statistical significance.

The Delaware HAI program played a vital role in this statistical reduction in HAIs by maintaining strong partnerships with healthcare facilities. As part of its ongoing efforts, the program continues to leverage these collaborations to enhance response-driven initiatives that promote patient safety. Delaware continued to advance detection and response activities and prevention efforts in a variety of healthcare settings; promoted antibiotic stewardship; and educated healthcare personnel and the public on multidrug- resistant organisms (MDROs) that ultimately reduced the risk of Delawareans acquiring infections when accessing care.

In 2024, timely and effective response to HAI/AR outbreaks was achieved through working with Delaware Public Health Lab (DPHL), the HAI program, and healthcare facilities. Delaware increased point prevalence surveys and colonization screens in facilities at risk for MDROs and with a goal to communicate final laboratory results within one business day to impacted facilities so proper containment measures can be implemented. DPHL continues whole genome sequencing of Carbapenemase-Producing Organisms (CPOs) to assess any genetic commonalities between patient infections for suspected outbreaks. Additionally, the lead epidemiologist worked with the interim state epidemiologist to update the list of reportable diseases/conditions in Delaware. This resulted in Candida auris and CPOs being reportable. Now isolate submission to DPHL is required for suspected or confirmed isolates from all laboratories located in Delaware and/ or which serve Delaware sites. Isolate submissions include Candida auris and Carbapenem-resistant Organisms (CRO) including Carbapenem-resistant Enterobacterales (CRE), Carbapenem-resistant Acinetobacter baumannii (CRAB), and Carbapenem-resistant Pseudomonas aeruginosa (CRPA). 4202 Control of Communicable and Other Disease Conditions regulations was updated and made publicly available in May 2024.

[32] Centers for Disease Control and Prevention 2024, Emerging Infections Program: HAI- Community Interface (HAIC) HAI and Antimicrobial Use Prevalence Surveys

[33] Centers for Disease Control and Prevention, 2023 National and State Healthcare-Associated Infections Progress Report Current HAI Progress Report

## Summary continued

interim state epidemiologist to update the list of reportable diseases/conditions in Delaware. This resulted in Candida auris and CPOs being reportable. Additionally, isolate submission to DPHL is required for suspected or confirmed isolates from all laboratories located in Delaware and/or which serve Delaware sites. Isolate submissions include *Candida auris* and Carbapenem-resistant Organisms (CRO) including Carbapenem-resistant Enterobacterales (CRE), Carbapenem-resistant *Acinetobacter baumannii* (CRAB), and Carbapenem-resistant *Pseudomonas aeruginosa* (CRPA).[34] 4202 Control of Communicable and Other Disease Conditions regulations was updated and made publicly available in May 2024.

HAI program prevention efforts include the Infection Control Assessment and Response (ICAR) coordinator's active engagement with healthcare facilities to participate in proactive onsite ICARs; long-term care facilities are primarily targeted. This is a free onsite assessment the HAI program performs at a facility to improve infection control practices; and to provide activities that include education on MDRO, transmission-based precautions, and environmental cleaning procedures to staff. Recommendation and guidance are provided to the facility verbally and as a written report that usually is between 20 and 25 pages. The HAI program has identified more clinical/ reference labs to enhance HAI surveillance by requesting submission of CRO isolates and suspected/rare yeast to DPHL for further testing based on state regulations. The trainer/educator assisted with providing healthcare worker-focused education with CDC Project Firstline material on a variety of topics through Delaware's train-the- trainer program; and other services such as Surewash (handwashing educational machine to increase hand hygiene adherence). The HAI program's outreach to facilities has strengthened relationships with partners in different healthcare facility settings, such as improving communication during facility transfers of MDRO patients. As a result of partners' feedback, the prevention subcommittee of HAIAC plans to update the facility transfer form.

Antimicrobial stewardship pharmacist led many stewardship efforts in 2024. The pharmacist chaired HAIAC's antimicrobial stewardship subcommittee and facilitated meetings for eBright (strategic partnership of Delaware hospitals to improve the value of healthcare delivered by our members by sharing our knowledge and resources).[35] Antimicrobial stewardship core elements were implemented in ACH(s), but many long-term care facilities have not implemented stewardship efforts. The HAI program began to update its webpage with stewardship resources tailored to Delaware and provided presentations to healthcare professionals. Also, education material was disseminated to the public about when and how to use antibiotics at community events. The collaborative partnerships across the state was demonstrated by different healthcare facility types participating in U.S. Antibiotic Awareness Week (USAAW) in November 2024.

[34] Title 16 Health and Safety, 2024 4200 Health Promotion and Disease Prevention 4202 Control of Communicable and Other Disease Conditions
[35] eBright Health,2024 eBright about Us

## Summary continued

The collaborative efforts are not just at the state level; federal and private partners are crucial. In previous years, federal funding provided the opportunity to build and sustain a workforce in public health to combat HAIs. The HAI program and healthcare facilities (especially the acute care hospitals) commitment to improving patient care and quality through various efforts is highlighted in the 2024 U.S. News & World Report "Best States" where Delaware ranked second for hospital quality and sixth for health care quality in the nation.[36]

The HAI program was nominated and acknowledged during the CDC 2024 annual HAI/Antimicrobial Resistance (AR) meeting in Atlanta, GA. The nominations included the antimicrobial stewardship program for Excellence in Antibiotic Stewardship Program Development; and the HAI program for Excellence in HAI/AR Response. In addition, the public health treatment program administrator was nominated for Commitment to Mentorship.

[36] U.S. News & World Report's 2024 "Best States",2024 Deha.org

# Appendix A

**A1. Membership of the Delaware Healthcare Associated Infections Advisory Committee, 2024**

| Name | Position in Code | Affiliation |
|---|---|---|
| Anderson, Donna | Infection Control Prevention Practitioner | Stockley Center |
| Briody, Carol | Infection Control Prevention Practitioner | ChristianaCare Hospital |
| Cerri, Anneke | Infection Control Prevention Practitioner | Delaware Department of Correction |
| Drees, Marci | Infectious Disease Physician | ChristianaCare Hospital |
| Eppes, Stephen | Infectious Disease Physician | ChristianaCare Hospital |
| Fierro, Amy | Infection Control Prevention Practitioner | Delaware Division of Substance Abuse and Mental Health |
| Gardner, Kelly | Infection Control Prevention Practitioner | Bayhealth Medical Center, Kent Campus |
| Gilman, Margaret | Infection Control Prevention Practitioner | Nemours Children's Hospital |
| Harris, Lajune | Healthcare Infections Specialist | Delaware Division of Public Health |
| Heiks, Cheryl | Representative from Healthcare Association | Delaware Health Care Facilities Association (DHCFA) |
| Helmick, Holly | Infection Control Prevention Practitioner | Bayhealth Medical Center, Sussex Campus |
| Horney, Jennifer | Academic Researcher | University of Delaware |
| Kilgore, Jeanine | Health Insurer | Centene |
| Mills, James V. | Infection Control Prevention Practitioner | Wilmington Veterans Affairs Medical Center |
| Richardson, Elizabeth | Infection Control Prevention Practitioner | Beebe Healthcare |
| Shapiro, Craig | Infectious Disease Physician | Nemours Children's Hospital |
| Sullivan, Dawn | Infection Control Prevention Practitioner | TidalHealth Nanticoke Hospital |
| Vemulapalli, Ramesh | Infectious Disease Physician | Bayhealth Medical Center, Kent Campus |
| Watts, Lynn | Representative from Freestanding Surgical Center | Eden Hill Medical Center |
| Williams, Megan | Representative from Healthcare Association | Health Maintenance Organization |

*Source: Delaware Healthcare Associated Infections Advisory Committee Membership List, 2024.*

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| Carbon Copy Events | Status | Timestamp |
|---|---|---|
| Maraquita Jenkins<br>maraquita.jenkins@delaware.gov<br>Administrative Specialist III<br>DHSS<br>Security Level: Email, Account Authentication (None)<br>**Electronic Record and Signature Disclosure:**<br>Accepted: 2/15/2024 1:50:46 PM<br>ID: 14c2d5fb-0e73-4b3d-b35b-f6e835016e85 | COPIED | Sent: 12/23/2025 11:55:10 AM<br>Resent: 12/23/2025 11:55:14 AM |

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You may contact us to let us know of your changes as to how we may contact you electronically, to request paper copies of certain information from us, and to withdraw your prior consent to receive notices and disclosures electronically as follows:
To contact us by email send messages to: dee.myers@delaware.gov

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To let us know of a change in your email address where we should send notices and disclosures electronically to you, you must send an email message to us at dee.myers@delaware.gov and in the body of such request you must state: your previous email address, your new email address. We do not require any other information from you to change your email address.

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