

Delaware Healthcare-Associated Infections



2022 ANNUAL REPORT



DELAWARE HEALTH AND SOCIAL SERVICES

Division of Public Health

Delaware Healthcare-Associated Infections 2022 Annual Report

Delaware Department of Health and Social Services
Division of Public Health

June 2023

For more information, contact:
Office of Infectious Disease Epidemiology
Division of Public Health
Jesse Cooper Building
417 Federal Street
Dover, DE 19901
302-744-4825
<http://www.dhss.delaware.gov/dph/hp/healthstats.html>



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Acronyms

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	<i>Clostridioides difficile</i> (<i>C. diff</i>) 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
LTAC	Long-Term Acute Care Hospital
MRSA	Methicillin-Resistant <i>Staphylococcus aureus</i> infection
MRSA-CA	Community-acquired MRSA infection
MRSA-HA	Healthcare-associated MRSA infection
NHSN	National Healthcare Safety Network
SIR	Standardized Infection Ratio
SSI	Surgical Site Infection
UTI	Urinary Tract Infection

June 20, 2023

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 2022 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 use these data to improve health outcomes within all hospitals in Delaware.

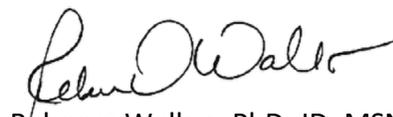
Sincerely,



Kelly Gardner BSN, RN, CIC
Chair, Healthcare Associated Infections Advisory Committee
Kelly_gardner@bayhealth.org



Steven Blessing, Director
DHSS, Division of Public Health
Steven.Blessing@delaware.gov



Rebecca Walker, PhD, JD, MSN
Deputy Director, DHSS, Division of Public Health
Director of Clinical Sciences Operations
Rebecca.Walker@delaware.gov

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 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 healthcare-associated infections (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.

Key Findings

- In 2022, the number of central line-associated bloodstream infections (CLABSIs) in Delaware acute care hospitals was **fewer** than predicted, with 72 infections compared to 74.56 predicted (SIR = 0.97, 95% CI = (0.76, 1.21)).

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>

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- In 2022, there were **fewer** catheter-associated urinary tract infections (CAUTIs) in Delaware acute care hospitals than predicted, with 38 infections compared to the 57.55 predicted. (SIR = 0.66, 95% CI = (0.47, 0.90)).
- In 2022, there were **fewer** surgical site infections (SSIs) following colon surgery in Delaware acute care hospitals than predicted, with 21 infections compared to 28.91 predicted. (SIR = 0.73, 95% CI = (0.46, 1.09)).
- In 2022, the number of surgical site infections (SSIs) following an abdominal hysterectomy in Delaware acute care hospitals was **fewer** than predicted, with 3 infections compared to the 3.54 predicted. (SIR = 0.85, 95% CI = (0.21, 2.31)).
- In 2022, there were **fewer** *Clostridioides difficile* infections (C. diff) in Delaware acute care hospitals than predicted, with 123 infections compared to the 274.15 predicted. (SIR = 0.45, 95% CI = (0.37, 0.53)).
- In 2022, the number of methicillin-resistant *Staphylococcus aureus* infections (MRSA) in Delaware acute care hospitals was **fewer** than predicted, with 38 infections compared to the 46.76 predicted. (SIR = 0.81, 95% CI = (0.58, 1.10)).

The findings reveal that many hospitals showed a fewer number of infections as compared to predictions. There were very few instances of a hospital having more infections than predicted. It is important to note that healthcare facilities in Delaware continue to implement prevention initiatives to reduce the number of HAIs in their facilities.

Background

Healthcare-associated infections (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 Centers for Disease Control and Preventions (CDC) survey that sampled many U.S. acute care hospitals 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 National Healthcare Safety Network (NHSN).⁶ CDC's NHSN is the nation's most widely used tracking system for healthcare-associated infections. 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 January 1, 2022, to December 30, 2022. As required by law, this annual report will be made available to anyone upon request. The annual report can be found here: [Delaware Hospital Infection Reports - Delaware Health and Social Services - State of Delaware](#)

The Healthcare-Associated Infections Advisory Committee (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 September 1, 2013.⁸

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>

This report includes data on the following types of healthcare-associated infections:

- (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 (SSIs)** 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 total 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 as shown below.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 \(cdc.gov\)](https://www.cdc.gov/nhsn/sir/)

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
- 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) Score¹⁰, 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 2022, there were eight acute care hospitals in Delaware and their data contributed to this report. As mentioned previously, there are different risk factors that adjust the SIR baselines. These eight hospitals have all conducted an annual survey based on the NHSN standards. The following risk-related information came from the completed 2022 surveys:

Bayhealth Medical Center, Kent Campus has a total of 243 beds that can be staffed, with 44 of those beds being ICU beds (including adult, pediatric, and neonatal levels II/III, III, or higher). 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.

Bayhealth Medical Center, Sussex Campus has a total of 152 beds that can be staffed, with 10 of those beds being ICU beds (including adult, pediatric, and neonatal levels II/III, III, or higher). 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.

¹⁰ American Society of Anesthesiologists', Statement on ASA Physical Status Classification System
[ASA Physical Status Classification System \(asahq.org\)](https://www.asahq.org/asa-physical-status-classification-system)

Beebe Healthcare has a total of 177 beds that can be staffed, with 20 of those beds being ICU beds (including adult, pediatric, and neonatal levels II/III, III, or higher). This campus provides patients with care in several specialty divisions including, but not limited to, cardiology, intensive care, oncology, neurology, and obstetrics/gynecology. Beebe is also a teaching institution.

Christiana Hospital has a total of 999 beds that can be staffed, with 151 of those beds being ICU beds (including adult, pediatric, and neonatal levels II/III, III, or higher). This campus provides patients with care in several specialty divisions including, but not limited to, cardiology, intensive care, oncology, neurology, and obstetrics/gynecology. Christiana Hospital is also a teaching institution.

Christiana Wilmington Hospital has a total of 244 beds that can be staffed, with nine of those beds being ICU beds (including adult, pediatric, and neonatal levels II/III, III, or higher). This campus provides patients with care in several specialty divisions including, but not limited to, cardiology, intensive care, oncology, neurology, and obstetrics/gynecology. Christiana Wilmington Hospital is also a teaching institution.

Nemours Children's Hospital, Delaware has a total of 208 beds that can be staffed, with 70 of those beds being ICU beds (including adult, pediatric, and neonatal levels II/III, III, or higher). This campus provides pediatric patients with care in several specialty divisions including, but not limited to, cardiology, intensive care, oncology, and neurology. Nemours is also a teaching institution for graduate students only.

St. Francis Hospital has a total of 112 beds that can be staffed, with 16 of those beds being ICU beds (including adult, pediatric, and neonatal levels II/III, III, or higher). 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 is also a teaching institution.

TidalHealth Nanticoke Hospital has a total of 65 beds that can be staffed, with four of those beds being ICU beds (including adult, pediatric, and neonatal levels II/III, III, or higher). 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 is also a teaching institution for undergraduate students.

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**, it indicates that there were fewer infections reported during the surveillance period than would have been predicted given the baseline data.
- If the **SIR is equal to 1.0**, it indicates that 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**, it indicates that there were more infections reported during the surveillance period than would have been predicted given the baseline data.

The SIR is not calculated when the predicted number of infections is less than 1.0, which is due to a small number of device days, procedures, or patient days.

Confidence Interval of the Standardized Infection Ratio (SIR)

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. Approximately, 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. In fact, hospitals across the U.S. saw a 46% decrease in CLABSIs from 2008-2013.¹²

CLABSIs for each Delaware acute care hospital and all acute care hospitals combined for 2022 are detailed in Table 1. Table 1 contains the total number of central line device days (sum of the daily number of patients in a patient care location with a central line); numbers of infections observed and predicted; SIR; and corresponding 95% confidence interval (95% CI). For 2022, there were 72 CLABSIs identified in all ACHs, and based on the NHSN 2015 baseline data, 74.56 CLABSIs were predicted. The results of SIR (72/74.56) were 0.97; signifying that during this time period, Delaware identified less CLABSIs than were predicted, and because the 95% confidence interval (0.76, 1.21) includes the value of 1, we can conclude that the SIR is not statistically significant; in other words, ACHs did not observe a statistically significantly different number of CLABSIs than predicted in Delaware.

¹² Centers for Disease Control and Prevention, National Healthcare Safety Network; Patient Safety Component Manual 2022 [2022 NHSN Patient Safety Component Manual \(cdc.gov\)](#)

Table 1. Central Line-Associated Bloodstream Infections (CLABSIs) by Delaware Acute Care Hospital, January 1 – December 31, 2022

Hospital	Central Line Device Days ^a	Number of Infections		SIR ^b	95% CI ^c		Interpretation of Standardized Infection Ratio (SIR)
		Observed	Predicted		Lower ^d	Upper	
ALL ^e	70,079	72	74.56	0.97	0.76	1.21	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Bayhealth Medical Center, Kent Campus	5,896	5	6.32	0.79	0.64	1.75	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Bayhealth Medical Center, Sussex Campus	1,083	0	1.05	0.00	---	2.84	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Beebe Healthcare	4,409	0	4.01	0.00	---	0.75	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Christiana Hospital	35,914	35	39.69	0.88	0.62	1.21	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Christiana Wilmington Hospital	6,918	2	6.92	0.29	0.05	0.96	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Nemours Children's Hospital	11,235	29	13.20	2.20	1.50	3.11	More HAIs were observed than predicted, based on the 2015 national aggregate data.
St. Francis Hospital	1,849	1	1.67	0.60	0.03	2.95	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
TidalHealth Nanticoke Hospital	2,775	0	1.69	0.00	---	1.77	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.

NOTE: Data contained in this report were generated on June 9, 2023.

- 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; Christiana Hospital; Nemours Children's Hospital; St. Francis Hospital; TidalHealth Nanticoke Hospital; Christiana Wilmington Hospital)

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, 2022.

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. Each day that the urinary catheter remains, a patient has a 3% to 7% increased risk of acquiring a CAUTI.¹³

In 2015, urinary tract infections (UTIs) were the fifth most common type of healthcare-associated infection in the United States, with approximately 62,700 UTIs in acute care hospitals.¹³ Approximately 75% of UTIs acquired in the hospital are associated with a urinary catheter¹⁴. CAUTIs can lead to numerous complications, causing discomfort to the patient, prolonged hospital stays, or increased mortality.¹⁵ CAUTIs for each Delaware ACH and all ACHs combined for 2022 are in table 2. Table 2 contains Urinary Catheter Device Days (sum of days patients are in a patient care location with a urinary catheter); numbers of infections observed and predicted; SIR; and corresponding 95% confidence interval (95% CI). For 2022, there were 38 infections observed in all ACHs, and based on the NHSN 2015 baseline data, 57.55 CAUTIs were predicted. The results of all ACHs SIR (38/57.55) were 0.66; signifying that during this time period, Delaware identified less CAUTIs than were predicted, and because the 95% confidence interval (0.47, 0.90) does not include the values of 1, we can conclude that the SIR is statistically significant; in other words, ACHs did observe a statistically significantly different number of CAUTIs than predicted in Delaware.

¹³ 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 \(cdc.gov\)](https://www.cdc.gov/nhsn/dataqueries/2015baseline/cauti.html)

¹⁴ Centers for Disease Control and Prevention, Catheter-associated Urinary Tract Infections (CAUTI) [Catheter-associated Urinary Tract Infections \(CAUTI\) | HAI | CDC](https://www.cdc.gov/nhsn/dataqueries/2015baseline/cauti.html)

¹⁵ 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.

Table 2. Catheter-Associated Urinary Tract Infections (CAUTIs) by Delaware Acute Care Hospitals, January 1 – December 31, 2022

Hospital	Urinary Catheter Device Days ^a	Number of Infections		SIR ^b	95% CI ^c		Interpretation of Standardized Infection Ratio (SIR)
		Observed	Predicted		Lower	Upper	
ALL ^e	42,268	38	57.55	0.66	0.47	0.90	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Bayhealth Medical Center, Kent Campus	7,585	5	12.64	0.40	0.15	0.86	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Bayhealth Medical Center, Sussex Campus	1,456	1	1.54	0.65	0.03	3.20	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Beebe Healthcare	4,003	1	4.12	0.24	0.01	1.20	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Christiana Hospital	20,354	20	30.91	0.65	0.41	0.98	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Christiana Wilmington Hospital	3,045	4	3.82	1.05	0.33	2.53	More HAIs were observed than predicted, based on the 2015 national aggregate data.
Nemours Children’s Hospital	1,557	3	1.38	2.18	0.55	5.92	More HAIs were observed than predicted, based on the 2015 national aggregate data.
St. Francis Hospital	1,835	2	1.89	1.06	0.18	3.49	More HAIs were observed than predicted, based on the 2015 national aggregate data.
TidalHealth Nanticoke Hospital	2,433	2	1.25	1.60	0.27	5.28	More HAIs were observed than predicted, based on the 2015 national aggregate data.

NOTE: Data contained in this report were generated on June 9, 2023

- a. Device day is a count of patients with a specific device in the patient care location during a specific 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; Christiana Hospital; Nemours Children’s Hospital; St. Francis Hospital; TidalHealth Nanticoke Hospital; Christiana Wilmington Hospital)

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, 2022.

Surgical Site Infections Results

In 2019, an estimated 13 million operative procedures were performed in acute care hospitals in the United States.¹⁶ A 2009 prevalence study found that surgical site infections (SSIs) were the most common healthcare-associated infection, accounting for 31% of all HAIs among hospitalized patients.¹⁷

All inpatient surgical procedures performed that are assigned one or more specific ICD-9-CM and corresponding CPT codes by CDC that comprise “abdominal hysterectomy” and “colon surgery” procedures must be monitored for SSIs and included in SSI data submitted to NHSN.¹⁸

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 infection preventionists. Only SSIs with an onset within 30 days of the procedure and SSIs identified in patients who were 18 years or older at time of surgery are included in data that CDC reports to CMS.¹⁹

Colon Surgery

SSIs Associated with Colon Surgery for each Delaware ACH and all ACHs combined for 2022 in table 3. Table 3 contains inpatient procedures (Inpatient surgery per NHSN is defined as when a NHSN operative procedure is performed on a patient whose date of admission to the healthcare facility and the date of discharge are different calendar days); numbers of infections observed and predicted; SIR; and corresponding 95% confidence interval (95% CI). For 2022, there were 21 infections observed in all ACHs, and based on the NHSN 2015 baseline data, 28.91 were predicted for SSIs associated with colon surgeries. The results of SIR (21/28.91) were 0.73; signifying that during this time period, Delaware identified less SSIs than were predicted, and because the 95% confidence interval (0.46, 1.09) includes the value of 1, we can conclude that the SIR is not statistically significant; in other words, ACHs did not observe a statistically significantly different number of SSIs associated with colon surgeries than predicted in Delaware.

¹⁶ National Library of Medicine, Trends in US Surgical Procedures and Health Care System Response to Policies Curtailing Elective Surgical Operations During the COVID-19 Pandemic [Trends in US Surgical Procedures and Health Care System Response to Policies Curtailing Elective Surgical Operations During the COVID-19 Pandemic - PubMed \(nih.gov\)](#)

¹⁷ 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.

¹⁸ 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](#)

¹⁹ 12 Centers for Disease Control and Prevention, National Healthcare Safety Network; Patient Safety Component Manual 2022 [2022 NHSN Patient Safety Component Manual \(cdc.gov\)](#)

Table 3. Surgical Site Infections (SSIs) Associated with Colon Surgery by Delaware Acute Care Hospital, January 1 – December 31, 2022

Hospital	Inpatient Procedures	Number of Infections		SIR ^b	95% CI ^c		Interpretation of Standardized Infection Ratio (SIR)
		Observed	Predicted		Lower ^d	Upper	
ALL ^e	1,034	21	28.91	0.73	0.46	1.09	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Bayhealth Medical Center, Kent Campus	141	2	3.82	0.52	0.09	1.73	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Bayhealth Medical Center, Sussex Campus	66	1	1.84	0.54	0.03	2.68	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Beebe Healthcare	190	3	5.04	0.60	0.15	1.62	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Christiana Hospital	536	15	15.36	0.98	0.57	1.58	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Christiana Wilmington Hospital	37	0	1.11	0.00	---	2.70	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Nemours Children's Hospital ^f	---	---	---	---	---	---	No conclusion. SIR is not calculated when the predicted number of infections is less than 1.0.
St. Francis Hospital	14	0	0.39	---	---	---	No conclusion. SIR is not calculated when the predicted number of infections is less than 1.0.
TidalHealth Nanticoke Hospital	50	0	1.35	0.00	---	2.22	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.

NOTE: Data contained in this report were generated on June 9, 2023.

- 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 observed number is greater than 0.
- e. Acute Hospitals listed (Bayhealth Medical Center, Kent Campus; Bayhealth Medical Center, Sussex Campus; Beebe Healthcare; Christiana Hospital; Nemours Children's Hospital; St. Francis Hospital; TidalHealth Nanticoke Hospital; Christiana Wilmington Hospital).
- f. Nemours Children's Hospital is not included in the statewide SIR estimate for SSIs because colon surgeries and abdominal hysterectomies are not routinely performed at this hospital (i.e., pediatric population).

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, 2022.

Abdominal Hysterectomy

SSIs Associated with Abdominal Hysterectomy for each Delaware ACH and all ACHs combined for 2022 in table 4. Table 4 contains inpatient procedures (Inpatient surgery per NHSN is defined as when a NHSN operative procedure is performed on a patient whose date of admission to the healthcare facility and the date of discharge are different calendar days.); numbers of infections observed and predicted; SIR; and corresponding 95% confidence interval (95% CI). For 2022, there were 3 infections observed in all ACHs, and based on the NHSN 2015 baseline data, 3.54 were predicted for SSIs associated with Abdominal Hysterectomy were predicted. SIRs were not calculated for several hospitals with less than 1.0 predicted infections. The results of SIR (3/3.54) were 0.85; signifying that during this time period, Delaware identified less SSIs associated with Abdominal Hysterectomy than were predicted, and because the 95% confidence interval (0.22, 2.31) includes the value of 1, we can conclude that the SIR is not statistically significant; in other words, ACHs did not observe a statistically significantly different number of SSIs associated with abdominal hysterectomy than predicted in Delaware ACHs.

Table 4. Surgical Site Infections (SSIs) Associated with Abdominal Hysterectomy by Delaware Acute Care Hospital, January 1 – December 31, 2022

Hospital	Inpatient Procedures	Number of Infections		SIR ^b	95% CI ^c		Interpretation of Standardized Infection Ratio (SIR)
		Observed	Predicted		Lower ^d	Upper	
ALL ^e	401	3	3.54	0.85	0.22	2.31	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Bayhealth Medical Center, Kent Campus	22	1	0.23	---	---	---	No conclusion. SIR is not calculated when the predicted number of infections is less than 1.0.
Bayhealth Medical Center, Sussex Campus	16	0	0.16	---	---	---	No conclusion. SIR is not calculated when the predicted number of infections is less than 1.0.
Beebe Healthcare	28	0	0.29	---	---	---	No conclusion. SIR is not calculated when the predicted number of infections is less than 1.0.
Christiana Hospital	289	2	2.50	0.80	0.13	2.65	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Christiana Wilmington Hospital	9	0	0.07	---	---	---	No conclusion. SIR is not calculated when the predicted number of infections is less than 1.0.
Nemours Children's Hospital ^f	---	---	---	---	---	---	No conclusion. SIR is not calculated when the predicted number of infections is less than 1.0.
St. Francis Hospital	32	0	0.27	---	---	---	No conclusion. SIR is not calculated when the predicted number of infections is less than 1.0.
TidalHealth Nanticoke Hospital	5	0	0.04	---	---	---	No conclusion. SIR is not calculated when the predicted number of infections is less than 1.0.

NOTE: Data contained in this report were generated on June 9, 2023.

- 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; Christiana Hospital; Nemours Children's Hospital; St. Francis Hospital; TidalHealth Nanticoke Hospital; Christiana Wilmington Hospital).
- f. Nemours Children's Hospital is not included in the statewide SIR estimate for SSIs because colon surgeries and abdominal hysterectomies are not routinely performed at this hospital (i.e., pediatric population).

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, 2022.

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*. 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*)

Clostridium 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 along with increasing age. It is estimated that there are almost half a million cases of *C. diff* in the U.S. per year, and one in 11 people over the age of 65 who are diagnosed with *C. diff* will die within one month.²⁰ CDC provides guidelines and tools to the healthcare community to help prevent *C. difficile* infections and provides resources to help the public safeguard their own health.²¹

C. Diff Infections for each Delaware ACH and all ACHs combined for 2022 in table 5. Table 5 contains number of patient days; numbers of infections observed and predicted; SIR; and corresponding 95% confidence interval (95% CI). For 2022, there were 123 infections observed in all ACHs, and based on the NHSN 2015 baseline data, 274.15 *C. Diff* infections were predicted. The results of SIR (123/274.15) were 0.45; signifying that during this time period, Delaware identified less *C. Diff* infections than were predicted, and because the 95% confidence interval (0.27, 0.47) does not include the values of 1, we can conclude that the SIR is statistically significant; in other words, ACHs did observe a statistically significantly different number of *C. Diff* infections than predicted in Delaware ACHs.

²⁰ Centers for Disease Control and Prevention, What is *C.diff*? [What is C. diff? | CDC](#)

²¹ Centers for Disease Control and Prevention, *Clostridioides difficile* Infection [Clostridioides difficile Infection | HAI | CDC](#)

Table 5. *Clostridioides difficile* (C. Diff) Infections, Delaware Acute Care Hospitals, January 1 – December 31, 2022

Hospital	Patient Days	Number of Infections		SIR ^b	95% CI ^c		Interpretation of Standardized Infection Ratio (SIR)
		Observed	Predicted		Lower ^d	Upper	
ALL ^e	596,323	123	274.15	0.45	0.37	0.53	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Bayhealth Medical Center, Kent Campus	89,095	22	40.70	0.54	0.35	0.81	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Bayhealth Medical Center, Sussex Campus	38,654	10	16.26	0.62	0.31	1.10	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Beebe Healthcare	58,859	12	27.6	0.44	0.24	0.74	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Christiana Hospital	252,851	51	140.98	0.36	0.27	0.47	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Christiana Wilmington Hospital	66,663	11	21.45	0.51	0.27	0.89	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Nemours Children’s Hospital	50,290	5	14.71	0.34	0.13	0.75	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
St. Francis Hospital	17,061	6	7.07	0.85	0.34	1.77	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
TidalHealth Nanticoke Hospital	22,850	6	5.40	1.11	0.45	2.31	More HAIs were observed than predicted, based on the 2015 national aggregate data.

NOTE: Data contained in this report were generated on June 9, 2023.

- 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; Christiana Hospital; Nemours Children’s Hospital; St. Francis Hospital; TidalHealth Nanticoke Hospital; Christiana Wilmington Hospital)

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, 2022.

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, such as pimples and boils, 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. MRSA infections included in this report are only those associated with ACHs with LabID event of blood cultures collected on or after hospital day 4 where hospital day 1 is day of admission.

MRSA infections for each Delaware ACH and all ACHs combined for 2022 in table 6. Table 6 contains number of patient days; numbers of infections observed and predicted; SIR; and corresponding 95% confidence interval (95% CI). For 2022, there were 38 infections observed in all ACHs, and based on the NHSN 2015 baseline data, 46.76 MRSA infections were predicted. The results of SIR (38/46.76) were 0.81; signifying that during this time period, Delaware identified less MRSA infections than were predicted, and because the 95% confidence interval (0.58,1.10) includes the value of 1, we can conclude that the SIR is not statistically significant; in other words, ACHs did not observe a statistically significantly different number of MRSA infections than predicted in Delaware.

Table 6. Methicillin-resistant *Staphylococcus aureus* (MRSA) Bloodstream Infections, Delaware Acute Care Hospitals, January 1 – December 31, 2022

Hospital	Patient Days	Number of Infections		SIR ^b	95% CI ^c		Interpretation of Standardized Infection Ratio (SIR)
		Observed	Predicted		Lower ^d	Upper	
ALL ^e	654,030	38	46.76	0.81	0.58	1.10	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Bayhealth Medical Center, Kent Campus	92,186	3	6.27	0.48	0.12	1.30	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Bayhealth Medical Center, Sussex Campus	40,159	2	3.00	0.66	0.11	2.20	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Beebe Healthcare	60,424	0	3.11	0.00	---	0.96	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Christiana Hospital	292,369	23	24.73	0.93	0.60	1.37	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Christiana Wilmington Hospital	66,663	5	6.10	0.82	0.30	1.81	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
Nemours Children's Hospital	59,397	4	1.78	2.25	0.14	5.42	More HAIs were observed than predicted, based on the 2015 national aggregate data.
St. Francis Hospital	18,515	0	1.10	0.00	---	2.72	Fewer HAIs were observed than predicted, based on the 2015 national aggregate data.
TidalHealth Nanticoke Hospital	24,317	1	0.67	---	---	---	No conclusion. SIR is not calculated when the predicted number of infections is less than 1.0.

NOTE: Data contained in this report were generated on June 9, 2023.

- 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; Christiana Hospital; Nemours Children's Hospital; St. Francis Hospital; TidalHealth Nanticoke Hospital; Christiana Wilmington Hospital)

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, 2022.

Summary

Healthcare-associated infections (HAIs) are a serious threat to patient safety and a public health concern. They cause a significant financial burden on the U.S. healthcare system, estimated at \$28 billion to \$45 billion per year. The impact of HAIs, in addition to the economic burden, includes longer hospitalizations, increase of antimicrobial resistant organisms' prevalence, loss of public trust, and potential mortality. Challenges were experienced during COVID-19 pandemic across the United States, which led to increased incidences of HAIs in acute care hospitals. CDC released the *2021 National and State Healthcare-Associated Infections Progress Report*, which showed a national increase in incidence of CLABSI, CAUTI, and MRSA, but showed a decrease in *C. diff* and SSIs from 2020-2021.²² Despite this, Delaware's acute care hospitals performed resoundingly well. Fewer HAIs were observed over predicted levels in most facilities. In 2022, eight Delaware acute care hospitals reported fewer infections than expected in the following HAIs: CLABSIs, CAUTIs, SSIs (Colon Surgery and Abdominal Hysterectomy), *C. diff*, and MRSA.

Delaware's HAI program continues to strengthen relationships with healthcare facilities including acute care hospitals, long-term acute care hospitals, and skilled nursing facilities. The program leverages partnerships to enhance response driven initiatives to improve patient safety. In 2022, Delaware's public HAI initiative became fully staffed with a lead epidemiologist, public health treatment program administrator, HAI epidemiologist, antimicrobial stewardship pharmacist, and infection control assessment and response (ICAR) coordinator. Because of this, Delaware has been able to focus on CDC's Healthy People 2030 objectives to reduce hospital acquired *C. diff*, reduce MRSA bloodstream infections, and reduce inappropriate antibiotic use in outpatient settings. This is sustained by the continued initiation of onsite Infection Control Assessments and Responses (ICARS), colonization screenings, multi-drug resistant organisms (MDRO) guidance and education, antimicrobial stewardship education, and proper communication during facility transfers of MDRO patients within the state. Furthermore, adequate staffing afforded membership towards the Association of Professionals in Infection Control and Epidemiology's (APIC's) local subcommittees.

In 2022, Delaware identified the first clinical case of *Candida auris* (*C. auris*). DPH will be working toward promulgation of new regulations to ensure that all *C. auris* cases and Carbapenemase Producing Organisms (CPO) be reported and monitored. Currently, *C. auris* and CPO are nationally notifiable, but not state notifiable. In addition, DHSS is purchasing a new surveillance system to better capture MDRO case information and provide better data analytics capabilities in the future.

A strong collaboration between state, federal, and private partners is crucial. Through the public-private relationship of the Delaware Healthcare Associated Infections Advisory Committee and DPH, the HAI program workforce continues to develop and grow. This enables subject matter experts to be readily available to assist the acute care hospitals noted in this report and facilities such as dialysis centers and correctional facilities. Efforts to reduce HAI morbidity and mortality promote and protect the health of all Delawareans.

²² Centers for Disease Control and Prevention, 2021 National and State Healthcare-Associated Infections Progress Report [Current HAI Progress Report](#)

Appendix A

A1. Membership of the Delaware Healthcare Associated Infections Advisory Committee, 2022

Name	Position in Code²⁵	Affiliation
Abdul-Alim, Lorraine	Quality Member	Select Medical
Achenbach, Robin	Health Insurer	Highmark Blue Cross Blue Shield
Anderson, Donna	Hospital Infection Control	Stockley Center
Briody, Carol	Infection Control Practitioner	Christiana Hospital
Cerri, Anneke	Infection Control Nurse	Delaware Department of Correction
Chasanov, William	Infectious disease Physician	Beebe Healthcare
Drees, Marci	Infectious Disease Physician	Christiana Hospital
Duffalo, Chad	Infectious Disease Physician	Christiana Hospital
Eppes, Stephen	Infectious Disease Physician	Christiana Hospital
Fierro, Amy	Infection Control Prevention Practitioner	DHSS, Division of Substance Abuse and Mental Health
Fischer, Kimberly	Hospital Infection Control	TidalHealth Nanticoke Hospital
Gardner, Kelly (Chair)	Infection Control Prevention Practitioner	Bayhealth Medical Center
Gilman, Margaret	Infection Control Prevention Practitioner	Nemours Children’s Hospital
Heiks, Cheryl	Consumer Organization	Delaware Healthcare Facilities Association
Helmick, Holly	Infection Control Prevention Practitioner	Bayhealth Medical Center
Hong, Rick	Interim Director	DHSS, Division of Public Health
Horney, Jennifer	Academic Researcher	University of Delaware College of Health Sciences
Mills, James V.	Infection Control Prevention Practitioner	Wilmington Veterans Affairs Medical Center
Olurin, Omo	Health Maintenance Organization	Delaware Physicians Care Inc.
Richardson, Elizabeth	Hospital Infection Control	Beebe Healthcare
Sagisi, Alfredo	Dialysis	Fresenius Medical Care
Sanders, Lisa	Organized Labor	United Food and Commercial Workers Local 152
Snow, Jessica	Purchaser of Health Insurance	NA
Tatman, Jill	Direct Care Nursing Staff	Bayhealth Medical Center
Watts, Lynn	Freestanding Surgical Center	Eden Hill Medical Center
Williams, Megan	Healthcare Association	Delaware Healthcare Association

Source: Delaware Healthcare Associated Infections Advisory Committee Membership List, 2022-2023.

Appendix B

Hospital Comments (Not for Publication)