

**Delaware
Healthcare-Associated Infections in Hospitals
2012 Fourth Quarter Cumulative Report
(January 1, 2012 – December 31, 2012)**

What are healthcare associated infections (HAIs)?

Health-care associated infections (HAIs) are infections that are caused by a wide variety of bacteria, fungi, and viruses during the course of receiving medical care. These infections are acquired while a patient is in the hospital (or other healthcare facility); the pathogens associated with these infections are not present or incubating at the time of the patient’s admission to the facility.

What types of HAIs are reported in Delaware?

<p>Catheter-Associated Urinary Tract Infections (CAUTI)</p> <p>A urinary tract infection (UTI) is an infection involving any part of the urinary system including the urethra, bladder, ureters, and kidney. Urinary catheters are tubes inserted into the bladder through the urethra to drain urine. One out of four hospitalized patients receives urinary catheters during their hospital stay.</p>	<p>Central Line-Associated Bloodstream Infections (CLABSI)</p> <p>A “central line” is a tube that is placed into a patient’s large vein or artery, usually in the neck, chest, arm, or groin. The catheter is often used as a device to draw blood, to give fluids, or to 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 blood.</p>	<p>Surgical Site Infections (SSI)</p> <p>A surgical site infection is an infection that occurs after surgery in the part of the body where the surgery took place. Surgical site infections can sometimes be superficial infections involving the skin only while others are more serious and can involve tissues under the skin, organs, or implanted material.</p>
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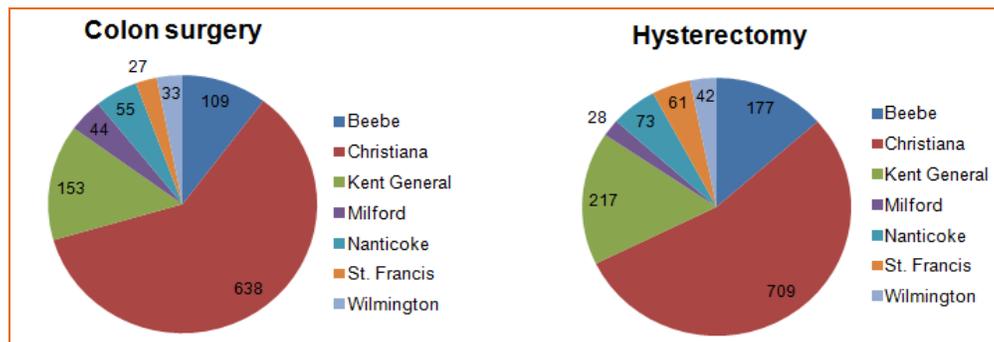
What surgical site infections are monitored in Delaware healthcare facilities?

Surgical site infections occurring during inpatient colon surgeries and hysterectomies are monitored in Delaware. An inpatient procedure is a procedure that is performed on a patient whose date of admission to the healthcare facility and the date of discharge are different calendar days.

How many colon surgeries and hysterectomies are performed on patients in Delaware hospitals?

The pie charts below show the total (inpatient and outpatient) number of colon surgeries and hysterectomies performed at each healthcare facility. There were 1,059 inpatient colon surgeries and 1,307 hysterectomies performed in 2012. More than half of these procedures were performed at Christiana. A smaller proportion of inpatient colon surgeries and hysterectomies were performed at other healthcare facilities in Delaware.

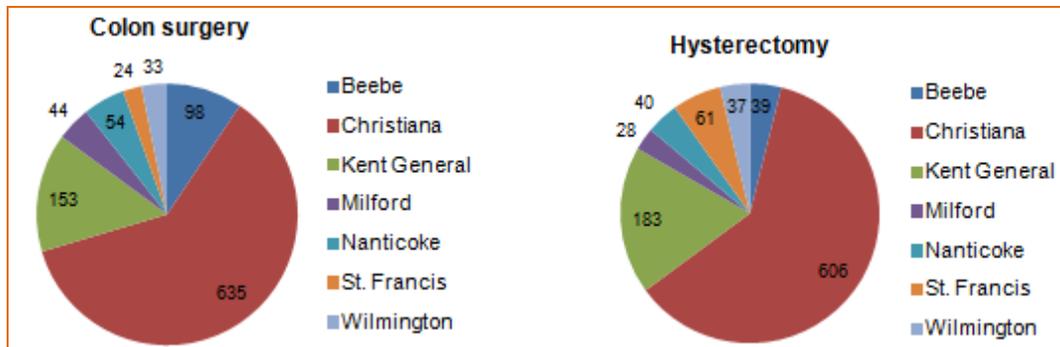
Number of total surgical procedures (inpatient and outpatient) by healthcare facility in 2012



How many inpatient colon surgeries and hysterectomies are performed on patients in Delaware?

The pie charts below show the number of inpatient only colon surgeries and inpatient hysterectomies performed at each healthcare facility, which is a subset of the total number of procedures performed in Delaware. There were 1,041 inpatient colon surgeries and 994 inpatient hysterectomies performed in 2012. More than half of these procedures were performed at Christiana. A smaller proportion of inpatient colon surgeries and hysterectomies were performed at other healthcare facilities in Delaware.

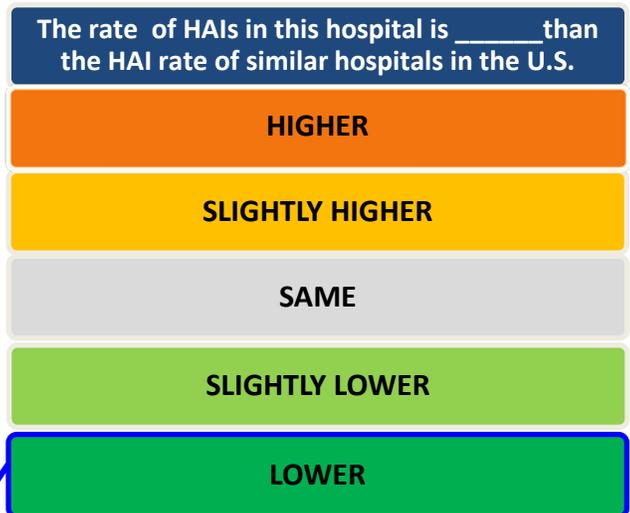
Number of inpatient surgical procedures by healthcare facility in 2012



Healthcare-Associated Infections in Delaware by Hospital January 1, 2012 – December 31, 2012

How does the HAI rate in my hospital compare to HAI rates of similar hospitals in the U.S.?

To the right is a key that can be used to assess how your hospital's HAI rate compares to HAI rates of similar hospitals in the U.S. (i.e. a standard population used for comparison purposes in statistical analyses). Each block includes HAIs for a hospital in Delaware. Based on the color indicated, you can then fill in the blank of the statement "The rate of HAIs in this hospital is _____ than the HAI rate of similar hospitals in the U.S.". Lower or similar rates are ideal. It's not appropriate to compare one hospital's SIR in Delaware to another hospital's SIR because each hospital has characteristics (bed size, patient care location, etc.) that differ from the other hospital. That's why the comparison made is to similar hospitals in the U.S. Because some hospitals have very few procedures (e.g. hysterectomies) or devices (e.g. central lines), the SIRs are very difficult to interpret; we are uncertain whether the SIR would stay the same, decrease, or increase if the hospital had more procedures or devices. The full report referenced [here](#) provides a detailed description of the background and methods for estimating and interpreting standardized infection ratios (SIRs).



* Note that a **box outlined in blue** means that there were a small number of procedures/devices in this hospital, so we are uncertain about these estimates; whether they would stay the same, decrease, or increase if the hospital had more procedures/devices.

Understanding SIRs and 95% Confidence Intervals (CI)

SIR= the infection rate observed in the hospital of interest (i.e. observed) divided by the infection rate in a standard population (i.e. expected).

95% CI= a range of values that accounts for random error in the estimation of the SIR. The width of the CI depends on the amount of random variability in the data-collection process. We typically calculate 95% confidence intervals (95% CI), an arbitrary level that specifies the degree of compatibility between the limits of the interval and the data.

*Note that a **box outlined in blue** means that there were a small number of devices/procedures in this hospital, so we are uncertain about these estimates, whether they would stay the same, decrease, or increase if the hospital had more procedures/devices.

STATEWIDE

Interpretation of the statewide HAI data

CLABSI SIR= 0.44 (0.30 - 0.61)
CAUTI SIR= 1.3 (1.0 - 1.7)
SSI Colon Surgery SIR= 0.71 (0.51 - 0.96)
SSI Hysterectomy SIR= 1.2 (0.71 - 1.9)

- None of the boxes are outlined in blue, so we can assume that there is a relatively large number of devices/procedures, so we have more certainty about these SIR estimates.
- CLABSI**: The rate of central line-associated bloodstream infections (CLABSIs) for all hospitals statewide is lower than the CLABSI rate of similar hospitals in the U.S.
- CAUTI**: The rate of catheter-associated urinary tract infections (CAUTI) for all hospitals statewide is slightly higher than the CAUTI rate of similar hospitals in the U.S.
- Colon surgery**: The rate of surgical site infection with colon surgery for all hospitals statewide is lower than the surgical site infection rate of similar hospitals in the U.S.
- Hysterectomy**: The rate of surgical site infection with hysterectomy for all hospitals statewide is slightly higher than the surgical site infection rate of similar hospitals in the U.S.

NEW CASTLE COUNTY

Al Dupont	Christiana	St. Francis	Wilmington
CLABSI SIR= 0.37 (0.16 - 0.73)	CLABSI SIR= 0.52 (0.31 - 0.81)	CLABSI SIR= 0.91 (0.11 - 3.3)	CLABSI SIR= 0 (--- - 2.8)
CAUTI SIR= 0.97 (0.26 - 2.5)	CAUTI SIR= 1.6 (1.2 - 2.1)	CAUTI SIR= 0.77 (0.09 - 2.8)	CAUTI SIR= 0.37 (0.01 - 2.1)
SSI Colon Surgery* N/A	SSI Colon Surgery SIR= 0.67 (0.44 - 0.97)	SSI Colon Surgery SIR= 0.95 (0.02 - 5.3)	SSI Colon Surgery SIR= 0 (--- - 2.4)
SSI Hysterectomy* N/A	SSI Hysterectomy SIR= 1.6 (0.90 - 2.6)	SSI Hysterectomy Numbers too low to calculate	SSI Hysterectomy Numbers too low to calculate

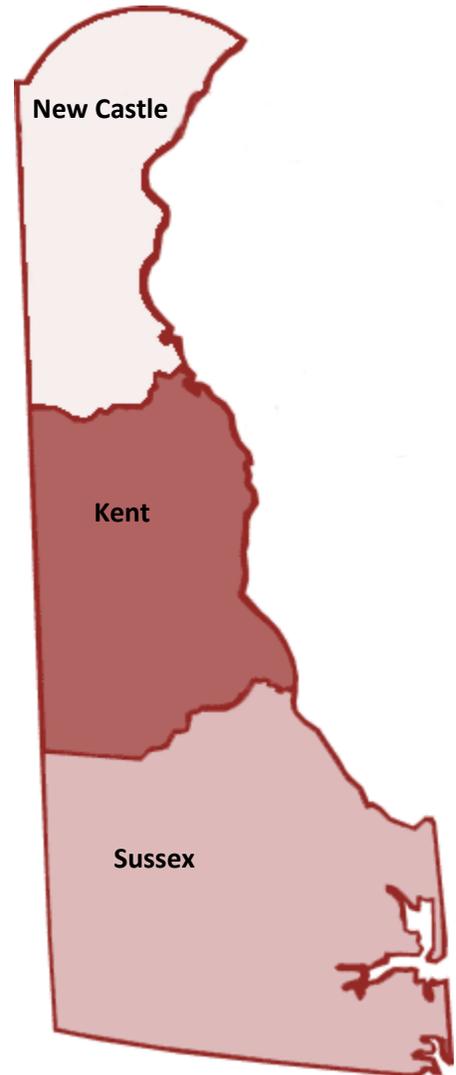
*Procedures not routinely performed at this hospital.

KENT COUNTY

Kent General	Milford
CLABSI SIR= 0.50 (0.06 - 1.8)	CLABSI SIR= 0 (--- - 2.9)
CAUTI SIR= 1.3 (0.47 - 2.8)	CAUTI SIR= 0.88 (0.02 - 4.9)
SSI Colon Surgery SIR= 0.46 (0.13 - 1.2)	SSI Colon Surgery SIR= 2.4 (0.90 - 5.3)
SSI Hysterectomy SIR= 0 (--- - 1.1)	SSI Hysterectomy Numbers too low to calculate

SUSSEX COUNTY

Beebe	Nanticoke
CLABSI SIR= 0.24 (0.01 - 1.3)	CLABSI SIR= 0 (--- - 2.0)
CAUTI SIR= 0 (--- - 1.1)	CAUTI SIR= 1.6 (0.34 - 4.7)
SSI Colon Surgery SIR= 0.19 (0.01 - 1.1)	SSI Colon Surgery SIR= 1.6 (0.54 - 3.8)
SSI Hysterectomy Numbers too low to calculate	SSI Hysterectomy Numbers too low to calculate



What is Delaware doing to reduce the number of HAIs?

The Centers for Disease Control and Prevention (CDC) provides guidelines and tools to the healthcare community to help control and prevent HAIs. Hospitals in Delaware are engaged with the Delaware Division of Public Health, Centers for Medicare and Medicaid Services (CMS), CDC, and regional quality improvement organizations such as Quality Insights of Delaware to reduce HAIs through prevention, surveillance (monitoring and detection), and response activities.

Delaware HAI prevention activities include but are not limited to:

1. Collaborating with local and regional partners (e.g., state hospital associations, professional societies for infection control and healthcare epidemiology, academic organizations, laboratorians and networks of acute care hospitals and long term care facilities) to identify specific HAI prevention targets to reduce HAIs in Delaware healthcare facilities.

2. Improving overall use of surveillance data to identify and prevent HAI outbreaks or transmission in healthcare settings through development and dissemination of provider and patient education materials.
3. Conducting validation studies to assess the quality of HAI data reported in Delaware and providing guidance for reducing HAIs in healthcare facilities.
4. Providing consumers access to useful healthcare quality measures through quarterly reports such as this one.

Prevention of HAIs is of the utmost importance among the healthcare and public health communities. Ongoing efforts to reduce the occurrence of HAIs occur routinely at hospitals and other healthcare facilities across Delaware.

For more information about HAIs, see the following state and national resources:

- Delaware Healthcare-Associated Infections Website: <http://dhss.delaware.gov/dph/epi/haihomepage.html>
- Centers for Disease Control and Prevention HAI Website: <http://www.cdc.gov/hai/>