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?

Catheter-Associated Urinary Tract Infections (CAUTI)	Central Line-Associated Bloodstream Infections (CLABSI)	Surgical Site Infections (SSI)
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.	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.	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.

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).

The rate of HAIs in this hospital is _____ than the HAI rate of similar hospitals in the U.S.

HIGHER

SLIGHTLY HIGHER

SAME

SLIGHTLY LOWER

LOWER

* 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.

Healthcare-Associated Infections in Delaware by Hospital
January 1, 2012 – September 30, 2012

STATEWIDE

CLABSI
SIR= 0.43 (0.28 - 0.63)

CAUTI
SIR= 1.2 (0.90 - 1.6)

SSI Colon Surgery
SIR= 0.67 (0.47 - 0.92)

SSI Hysterectomy
SIR= 0.78 (0.43 - 1.3)

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 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.

NEW CASTLE COUNTY

Al Dupont

CLABSI
SIR= 0.34 (0.14 - 0.71)

CAUTI
SIR= 0.87 (0.22 - 2.4)

SSI Colon Surgery*
N/A

SSI Hysterectomy*
N/A

*Procedures not routinely performed at this hospital.

Christiana

CLABSI
SIR= 0.51 (0.22 - 0.83)

CAUTI
SIR= 1.5 (1.1 - 2.0)

SSI Colon Surgery
SIR= 0.67 (0.43 - 1.0)

SSI Hysterectomy
SIR= 1.3 (0.71 - 2.2)

St. Francis

CLABSI
SIR= 0.61 (0.03 - 3.0)

CAUTI
SIR= 1.0 (0.17 - 3.4)

SSI Colon Surgery
Numbers too low to calculate

SSI Hysterectomy
SIR= 0 (--- - 3.1)

Wilmington

CLABSI
Numbers too low to calculate

CAUTI
SIR= 0.49 (0.02 - 2.4)

SSI Colon Surgery
SIR= 0 (--- - 2.9)

SSI Hysterectomy
SIR= 0 (--- - 3.1)

KENT COUNTY

Kent General

CLABSI
SIR= 0.65 (0.11 - 2.2)

CAUTI
SIR= 1.1 (0.30 - 2.8)

SSI Colon Surgery
SIR= 0.29 (0.05 -0.96)

SSI Hysterectomy
SIR= 0 (--- - 1.2)

Milford

CLABSI
Numbers too low to calculate

CAUTI
Numbers too low to calculate

SSI Colon Surgery
SIR= 3.2 (1.3 - 6.6)

SSI Hysterectomy
Numbers too low to calculate

SUSSEX COUNTY

Beebe

CLABSI
SIR= 0.31 (0.02 - 1.5)

CAUTI
SIR= 0 (--- - 1.5)

SSI Colon Surgery
SIR= 0 (--- - 0.79)

SSI Hysterectomy
SIR= 0 (--- - 2.3)

Nanticoke

CLABSI
SIR= 0 (--- - 2.8)

CAUTI
SIR= 1.5 (0.24 - 4.8)

SSI Colon Surgery
1.7 (0.53 - 4.0)

SSI Hysterectomy
Numbers too low to calculate
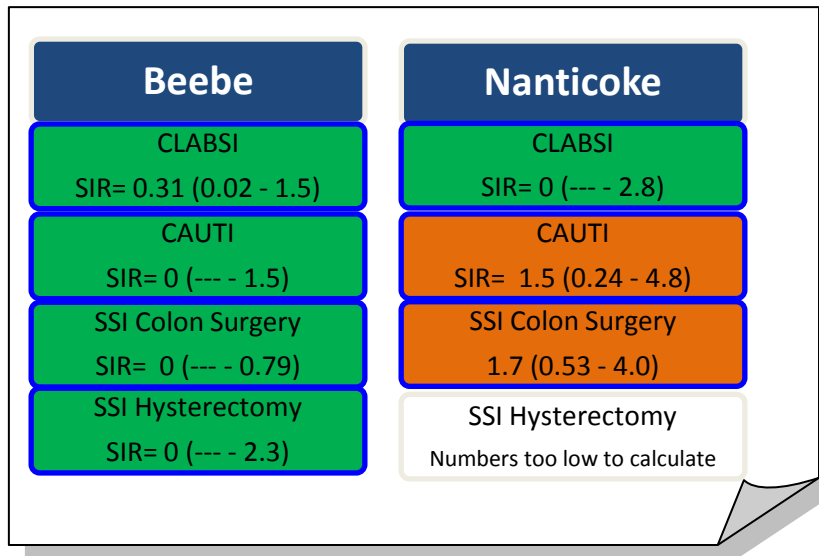
What is Delaware doing to reduce the number of HAIs?

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/