

# SYNERGY: COMBINING EFFORTS FOR HAI PREVENTION

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News from the Virginia Department of Health's  
Healthcare-Associated Infections (HAI) Program

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## Notes from VDH

From October to December 2013, Virginia hospital adult intensive care units reported 31 central line-associated bloodstream infections (CLABSIs), the lowest number of infections (quarterly) since reporting to VDH began in July 2008! This equated to a standardized infection ratio of 0.36, meaning that our hospitals observed 64% fewer infections than predicted based on national historical data. Congratulations to our 77

reporting hospitals! Keep up the great prevention work!

Be sure to check out the article below to learn more about a recently published CDC report that shares information on CLABSIs, catheter-associated urinary tract infections, surgical site infections, and other HAIs reported by hospitals in Virginia and other states in 2012.

## National and State-Specific HAI Progress Report, 2012

This month, CDC released an annual report describing state progress toward preventing central line-associated bloodstream infections (CLABSIs), catheter-associated urinary tract infections (CAUTIs), surgical site infections (SSIs) after colon surgery, and SSIs after abdominal hysterectomy surgery. National progress is reported for these measures as well as for SSIs following eight other surgical procedures, hospital-onset *C. difficile* infection and hospital-onset methicillin-resistant *Staphylococcus aureus* bacteremia.

For nearly all infection and location or procedure types, in 2012, Virginia observed significantly fewer infections than predicted, based on the national baseline population. Overall, Virginia hospitals reported a significant decrease in CLABSIs between 2011 and 2012, indicating that CLABSI prevention efforts have been successful.

Compared to the 2012 national standardized infection ratio (SIR), the Virginia SIR was statistically lower (better) for CAUTI in all inpatient units as well as CAUTI in intensive care units. Nationally, hospitals have

experienced a 3% increase in CAUTIs since 2009 while Virginia hospitals have observed an 11% decrease. The only Virginia 2012 SIR that was significantly higher than the national SIR was CLABSI in inpatient ward locations (non-critical care units). However, it is important to note that the use of NHSN for tracking CLABSIs in these locations is not mandated by Virginia state reporting regulations nor by the Centers for Medicare and Medicaid Services (CMS) and relatively few hospitals (14) reported data from these locations.

Numerous infection prevention, quality improvement, and patient safety initiatives are underway in hospitals around the state to continue to make progress toward reducing HAIs and saving patient lives. Patients play a key role in preventing infections, too. A new patient-friendly infographic is available here: <http://www.cdc.gov/hai/pdfs/patientsafety/HAI-Patient-Empowerment.pdf>

To access the HAI Progress Report directly, go to: <http://www.cdc.gov/hai/progress-report/index.html>

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### Upcoming Events:

**April 3 (Roanoke) and April 15 (Williamsburg):** NoCVA HEN regional (free!) learning sessions on science of safety and learning from defects. Contact Ashlee McDearmon with questions ([amcdearmon@vhha.com](mailto:amcdearmon@vhha.com), 804-965-5714) - registration open to all hospitals in the state

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## CDC Vital Signs: Improving Antibiotic Use in Hospitals

A new *Vital Signs* report from the Centers for Disease Control and Prevention (CDC) published in March 2014 highlights the importance of improving antibiotic prescribing practices in hospitals. “Antibiotic Rx In Hospitals: Proceed with Caution” describes a critical problem in the hospital setting and offers steps to help facilities develop antibiotic stewardship programs.

The CDC report acknowledges that antibiotics can be lifesaving, but poor prescribing practices put patients at risk for serious complications and consequences, including multidrug-resistant infections, allergic reactions, and *Clostridium difficile* diarrhea, and contribute to antibiotic resistance, making these drugs less likely to work in the future.

Problems highlighted in the report include:

- ◇ **More than half** of all hospital patients receive an antibiotic
- ◇ Doctors in some hospitals prescribed **three times as many** antibiotics as doctors in other hospitals
- ◇ Reducing the use of high-risk antibiotics by **30%** can lower *C. difficile* infections by **26%**

Recommended steps for hospital CEOs, medical personnel, and patients are available in the report, including core elements of a hospital antibiotic stewardship program and a companion checklist to assess key elements and actions. The CDC recommends that **all** hospitals implement an antibiotic stewardship program that include the following core elements:

- ◇ **Leadership Commitment:** Dedicating necessary human, financial and information technology resources
- ◇ **Accountability:** Appointing a single leader responsible for program outcomes. Experience with successful programs show that a physician leader is effective
- ◇ **Drug Expertise:** Appointing a single pharmacist leader responsible for working to improve antibiotic use
- ◇ **Action:** Implementing at least one recommended action, such as systemic evaluation of ongoing treatment need after a set period of initial treatment (i.e. “antibiotic time out” after 48 hours)
- ◇ **Tracking:** Monitoring antibiotic prescribing and resistance patterns
- ◇ **Reporting:** Regularly reporting information on antibiotic use and resistance to doctors, nurses and relevant staff
- ◇ **Education:** Educating clinicians about resistance and optimal prescribing

Learn more about the importance of improving antibiotic prescribing practices and CDC’s helpful resources. Visit CDC Vital Signs: <http://www.cdc.gov/vitalsigns/antibiotic-prescribing-practices/>

Efforts to address this issue are underway in Virginia. Eastern Virginia Medical School (EVMS) has developed educational videos about antibiotic resistance. These resources and an accompanying article have been added to the VDH antibiotic stewardship website. Please visit [www.vdh.virginia.gov/Epidemiology/Surveillance/HAI/AntibioticStewardship.htm](http://www.vdh.virginia.gov/Epidemiology/Surveillance/HAI/AntibioticStewardship.htm) to view these resources.

## HAI Prevalence Study

Results from a CDC HAI prevalence survey published in the March 27th issue of the *New England Journal of Medicine* provide an updated national estimate of the overall morbidity and mortality of HAIs in United States hospitals.

The study concluded that on any given day, about **1 in 25 hospital patients** (4%) has at least one HAI. In total, there were an estimated **722,000** HAIs in U.S. acute care hospitals in 2011. About **75,000** hospital patients with HAIs died during their hospitalizations. More than half of all non-procedure-related HAIs occurred outside of intensive care units.

Based on a large sample of U.S. acute care hospitals, the most common infection types were pneumonia and surgical site infections (22% each), gastrointestinal infections (17%), urinary tract infections (13%), and

bloodstream infections unrelated to an infection at another site (10%). Device-associated infections, a major focus of HAI prevention efforts to date, accounted for only 26% of all HAIs detected in this survey.

The most common organisms causing HAIs were *C. difficile* (12%), *Staphylococcus aureus*, including MRSA (11%), *Klebsiella* (10%), *E. coli* (9%), *Enterococcus* (9%), and *Pseudomonas* (7%). The high prevalence of *C. difficile* underscores the need to improve antibiotic prescribing in inpatient and outpatient environments.

These findings indicate that progress on preventing HAIs is being made, but there is more work to be done to prevent the wide spectrum of infections still common in hospitals.

To access the article, go to: <http://www.cdc.gov/HAI/surveillance/index.html> (click top link)

## NHSN Notes

### Surveillance Case Study—MRSA LabID Event:

Patient A is admitted Jan 1 to the ICU via the ED. A blood culture collected in the emergency department on the date of admission is positive for MRSA. A LabID Event is entered and NHSN attributes it to the ICU, defining it as community onset (CO). The patient continues to be hospitalized and is moved to another inpatient unit (3W). A blood culture collected Jan 7<sup>th</sup> while patient is housed on 3W is also positive for MRSA. Because the patient changed location, a new LabID event must be entered. The second LabID event will be attributed to 3W and classified by NHSN as healthcare onset (HO). Per NHSN case definition, a LabID event entered into the application for the same patient, but a different location, will be categorized as HO if the specimen was collected more than 3 days after inpatient admission to the facility. However, please note: with FacWideln reporting, duplicate LabID events will be removed during analysis. This means unit-level LabID events reported ≤ 14 days from another LabID event will be removed and excluded from the standardized infection ratio.

**Training:** NHSN just held in-person and web-based Patient Safety Component trainings (3/12-3/14). If you missed them, updated slides and recordings will be available on the NHSN website in the near future – stay tuned!

## A New Tool for Infection Prevention in Anesthesia Practice

A new tool to assess the risk of and compliance with infection prevention in anesthesia practices is available for use in surgical and procedural healthcare sites. In conjunction with the current American Society of Anesthesiologists' recommendations and other regulatory organizations, this resource may be used to develop infection prevention policies and define safe practices.

The tool, developed by a team of pediatric infection preventionists in consultation with anesthesiologists, is highlighted in the November 2013 issue (Vol 14, Issue 11) of the *American Journal of Infection Prevention* (AJIC).

Areas addressed in the tool include: policies and procedures, hand hygiene/glove use, personal protective

**Surveillance Case Study—CLABSI:** *If a patient has two positive blood cultures within a few days of each other, how does a facility determine whether the events are two separate CLABSIs or one event with continuation?*

At the present time, NHSN does not have a set time period during which only one infection of the same event type may be reported for the same patient [with the exception of ventilator-associated event (VAE) and LabID event reporting—there is a 14-day window (see individual protocols for VAE and LabID events)] following an infection that is present on admission (POA) or a healthcare-associated infection (HAI). Facilities should use the clinical information available to determine if the original infection has resolved before reporting a second. Negative blood cultures and/or resolution of signs/symptoms in between episodes are generally an indication (from a surveillance standpoint) that the initial infection resolved and that a new bloodstream infection (BSI) should be considered. However, a new blood organism without resolution of signs/symptoms and/or completion of treatment for the previous BSI is not necessarily indicative of a new BSI.

**FAQs:** Did you know that NHSN now has frequently asked questions (FAQs) available about protocols, analysis, locations, Clinical Document Architecture (CDA), and the annual survey? Click on your facility type then an infection type to see available FAQs and their answers. <http://www.cdc.gov/nhsn/settings.html>

equipment/attire, environment assessment, workflow, safe injection practices and medications, intravenous supplies and therapy, neuraxial procedures, respiratory care procedures / equipment, disinfection, and blood/body fluid exposure management. An accompanying evidence-based reference list is also provided addressing each assessment area.

A strong partnership with anesthesiology is crucial to infection prevention and patient safety efforts in the surgical suite. In addition, many of the areas assessed using the tool can be applicable to other settings where anesthesia services are provided.

This article is available to AJIC subscribers at: [http://www.ajicjournal.org/article/S0196-6553\(13\)01028-6](http://www.ajicjournal.org/article/S0196-6553(13)01028-6).

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### WEBEX INFORMATION

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