September 2017 · Volume 8, Issue 1

HAI High Sign

News from the Virginia Department of Health
Healthcare-Associated Infections and Antimicrobial Resistance Program

In this issue:

Upcoming events:

October 12	APIC-VA Pre-Conference
October 13	APIC-VA Annual Conference
October 15-21	International Infection Prevention Week

Notes from VDH

We are back with a new format and expanding team! The VDH Healthcare-Associated Infections and Antimicrobial Resistance Program has updated our newsletter to better reflect the purpose it serves.

What is a high sign? It is a gesture used as a signal to give warning or indicate that all is well. Giving a high sign might involve a wave, thumbs up, or pointing to something that others should be aware of. The gesture is often made with a hand held high enough to be visible to those in the area. We will be giving you the high sign about HAI-related information.

The Antibiotic Resistance Crisis and the Need for a One Health Approach

Karen Gruszynski, DVM, MPH, PhD, DACVPM and Michael Stevens, MD, MPH, FACP, FIDSA

Antibiotics have been critical to many of the advances in human and animal medicine and have radically improved health around the world. However, despite being widely deployed for less than one hundred years, we are already facing an antibiotic resistance crisis. If aggressive action is not taken now, by the year 2050 it is estimated that there will be 10 million deaths per year from antibiotic resistant infections [https://amr-review.org/sites/default/files/160525_Final%20paper_with%20cover.pdf].

Antibiotics are often used sub-optimally in both human and animal medicine. It is estimated that up to 50% of antibiotics used in U.S. hospitals are unnecessary or inappropriate [CDC: https://www.cdc.gov/getsmart/healthcare/implementation/core-elements.html]. Antibiotics have also been used widely for growth promotion in animals [https://amr-review.org/sites/default/files/160525_Final%20paper_with%20cover.pdf]. Antibiotics that are used in agriculture can promote resistance that is then acquired by humans when they come in contact with animal products, or fruits and vegetables contaminated by animal waste. Combating antibiotic resistance will take collaborative effort across the continuum of antibiotic use.

The National Action Plan for Combating Antibiotic-Resistant Bacteria [https://www.cdc.gov/drugresistance/pdf/carb_national_strategy.pdf] and the United Nations recognize the need for a One Health approach to the resistance crisis. One Health refers to the concept that human health, animal health, and environmental health are all intertwined. Across the board we need better data on antibiotic use, better surveillance for antibiotic resistance, and improvement in community hygiene and sanitation. We also need novel diagnostic tests and new drug treatments.

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The Antibiotic Resistance Crisis and the Need for a One Health Approach (Continued from page 1)

There recently has been cause for hope. The FDA recently enacted the Veterinary Feed Directive (VFD) which will no longer allow the sale of medically important antibiotics over-the-counter, but will instead require veterinary oversight whenever such antibiotics are administered to any food animal species. Additionally, in human medicine there are new Joint Commission and Centers for Medicare & Medicaid Services requirements that target improving antibiotic use.

Although we have taken some important first steps towards addressing the crisis of antibiotic resistance there is still much to do if we want to preserve these miraculous drugs for future use. Antibiotic resistance does not respect borders or species. A One Health approach offers our best hope for addressing this public health crisis.

Infographics on One Health and Antibiotic Resistance:

- https://www.cdc.gov/drugresistance/pdf/2-2013-508.pdf
- http://www.onehealth.se/ohs/sites/default/files/attachments/One_Health_Umbrella_v11.pdf

What's New for the 2017-2018 Flu Season

Flu season will soon be upon us and we want to make sure you and your patients are prepared. We can't ever predict what the flu season will bring, but we typically see peak activity between December and February. There are important steps you and your patients can take to stay healthy this season. VDH recommends that Virginia residents take precautions to fight the flu, including:

- Vaccination is recommended for all persons aged ≥ 6 months, especially those who are at high risk for flu-related complications or take care of someone at high risk for flu complications. The 2017-2018 trivalent influenza vaccine will contain:
  - A/Michigan/45/2015 (H1N1)pdm09-like virus
  - A/Hong Kong/4801/2014 (H3N2)-like virus
  - B/Brisbane/60/2008-like virus (Victoria lineage)
  - Note: this represents a change in the influenza A (H1N1)pdm09 virus component from the previous season.
- The quadrivalent vaccines will contain the above three strains plus an additional vaccine virus strain, a B/Phuket/3073/2013–like virus (Yamagata lineage).
- The intranasal live attenuated influenza vaccine (LAIV), commonly known as "FluMist", continues to not be recommended for use this season.
- There have been two new vaccine product approvals (Afluria Quadrivalent and Flublok Quadrivalent) and an expansion to the age indication for FluLaval Quadrivalent (from ≥ 3 years to ≥ 6 months)
- Where more than one type of vaccine is appropriate and available, VDH and CDC make no preferential recommendation for use of any influenza vaccine product over another.
- Pregnant women may receive any licensed, recommended, age-appropriate influenza vaccine.
- Ideally, vaccination should occur before onset of flu activity in the community, but vaccination efforts should continue throughout the season.
- Some groups, like young adults, historically have low vaccination rates.
- Please encourage your patients to receive their flu shot!
- We also encourage healthy behaviors like washing your hands and covering your coughs and sneezes with a tissue or your elbow.
- It's also important to stay home from work or school if you're sick and limit your contact with ill people.

For additional information, please see:

- http://www.vdh.virginia.gov/epidemiology/influenza-flu-in-virginia/
- Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices — United States, 2017–18 Influenza Season

NHSN Notes

Excluded Enteric Pathogens for LCBI

Starting in January of 2017, NHSN excluded a list of enteric pathogens previously used to meet laboratory confirmed primary bloodstream infection (LCBI) criterion. While these changes have been added to the protocol, they currently are not yet built into the NHSN application. If you entered any BSI events with these organisms as the only organism, these events will appear in your BSI data. You may wish to run a line list of BSI events to ensure that you have not reported such BSIs, and to delete any that you identify. Please see the list of excluded pathogens below.

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NHSN Notes (continued from page 2)

Exclude the following as primary LCBI reported for any 2017 events, if they are the only pathogens reported for the event:

- *Campylobacter*
- *C. difficile*
- *Shigella*
- *Listeria*
- *Yersinia*
- Enteropathogenic *E. coli*

For more information, see the June 2017 NHSN Newsletter: https://www.cdc.gov/nhsn/pdfs/newsletters/nhsn-nl-jun-2017.pdf

Q&A:

Question: Are SSIs reported as present at the time of surgery (PATOS) included in the SIR calculation?

Answer: No, as of January 2017, PATOS are excluded from procedures (denominator) and SSI events (numerator) in the SIR calculation. For guidance on determining what constitutes PATOS, refer to pages 9-14 and 9-15 of the SSI Event Protocol: https://www.cdc.gov/nhsn/PDFs/pscManual/9pscSSIcurrent.pdf.

Question: What changes were made to the SSI SIR models with the new baseline?

Answer: Under the 2015 SIR baseline, procedures and associated SSI events occurring in adult and pediatric patients are modeled separately.

- There are three SSI SIR models available for inpatient adult procedures and associated SSI events (All SSI, Complex Admission/Readmission, and Complex 30-Day) and two models available for inpatient pediatric procedures and associated SSI events (All SSI and Complex Admission/Readmission).
- Each of these five models have different predictors/risk factors that are used for risk adjustment.

Under the 2015 SIR baseline, procedures, regardless of closure methods, are included in the SIR calculation, as long as the inclusion criteria for the models are met and none of the SSI event exclusion criteria apply. This means that non-primary closure techniques will be included in the SIR calculation.

Please refer to the NHSN Guide to the SIR (Updated July 2017) for details on the inclusion and exclusion criteria as well as predictive risk factors for the SIR models: https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/nhsn-sir-guide.pdf.

Question: Are laboratory-identified (LabID) *Clostridium difficile* infections (CDI) that are classified as "recurrent" in NHSN included in the SIR calculation?

Answer: In NHSN, CDI Assay is the indicator variable used to determine if the reported CDI lab result met the NHSN definition of a CDI-positive laboratory assay. A duplicate CDI event is a specimen obtained ≤14 days after the most recent CDI LabID event for that patient and location (across calendar months and readmissions to the same facility). A recurrent CDI event is a specimen obtained >2 weeks (>14 days) and ≤8 weeks (≤56 days) after the most recent CDI LabID event for that patient. Note that the date of first specimen collection is considered day 1. Both events are labeled as "recurrent" for CDI Assay and therefore not included in the SIR calculation. Only events classified as "incident", where the specimen was obtained >8 weeks after the most recent CDI LabID event (or with no previous CDI LabID event documented) for that patient, are included in the SIR calculation.

Data Quality Update

Thank you to all hospitals that submitted their 2017Q1 data cleaning report. We appreciate all the work you do to collect, enter, and quality assure HAI data for your hospital.

Links to Resources:

- NHSN Training: https://www.cdc.gov/nhsn/training/index.html
- NHSN Quick Learn Videos: https://www.cdc.gov/nhsn/training/quicklearns.html
- Patient Safety Analysis Quick Reference Guides: https://www.cdc.gov/nhsn/ps-analysis-resources/reference-guides.html

If there are any IP changes in your facility, please update the HAI Team at HAI@vdh.virginia.gov.

2017 HICPAC-CDC Guideline for Prevention of Surgical Site Infection: What the IP needs to know

In May of this year, the Centers for Disease Control and Prevention (CDC) published its "Guidelines for the Prevention of Surgical Site Infection" with updated recommendations for the prevention of surgical site infections (SSIs). SSIs are associated with a mortality rate of 3 percent and significant cost. In 2013, the CDC healthcare-associated infection (HAI) prevalence survey found that there were an estimated 157,500 SSIs occurring after inpatient surgeries. The results indicated that SSIs were the most common of all HAIs, comprising about 30 percent. Due to recent expanded efforts to reduce SSIs, the 2016 HAI Progress

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2017 HICPAC-CDC Guideline for Prevention of Surgical Site Infection: What the IP needs to know (Continued from page 3)

Report from CDC reports that U.S. hospitals saw an overall decrease in SSIs since 2014 compared to the national baseline set in 2008. Approximately 55 percent of SSI cases may be preventable with the use of evidence-based strategies.

The updated 2017 guidelines are evidence-based and were developed based on a systematic review of more than 5,000 studies published between 1998 and 2014, while the 1999 guidelines were mainly informed by expert opinion. CDC's Healthcare Infection Control Practice Advisory Committee (HICPAC) used a rating system to evaluate the guidelines, assigning categories based on the strength of the recommendation and quality of the evidence on which it is based.

The guidelines cover 14 main domains including a new section on prosthetic joint arthroplasty. Infection preventionists should note updates such as the recommendation to discontinue antimicrobial prophylaxis after the incision is closed in clean and clean-contaminated procedures. This is a deviation from the previous recommendation to discontinue surgical prophylaxis 24 hours after the incision. An additional update to previous guidelines is the implementation of perioperative glycemic control using blood glucose target levels ≤200 mg/dL in both diabetic and nondiabetic patients. These guidelines are not comprehensive and prevention strategies from prior guidelines still apply. Infection preventionists are recommended to have a thorough understanding of the new CDC guidelines, to identify and collaborate with stakeholders, and to be an integral part of the surgical team.

To read more, go to:
https://apic.org/Resource_/TinyMceFileManager/Periodical_images/API-Q0414_L_SSI_Guidelines_Final.pdf

FDA Recall Alert

On August 10, 2017, FDA posted an expanded alert regarding possible product contamination in certain manufactured liquid products. The distribution firms Leader Brand, Major Pharmaceuticals, and Rugby Laboratories jointly issued a nationwide voluntary recall of all liquid products manufactured by PharmaTech LLC at its FDA-registered facility in Davie, Florida due to possible product contamination. This voluntary recall resulted from adverse event reports to FDA regarding *Burkholderia cepacia* infections in patients. The full FDA safety alert is available by visiting: https://www.fda.gov/Safety/MedWatch/SafetyInformation/SafetyAlertsforHumanMedicalProducts/ucm570997.htm

If a product contains *B. cepacia*, its use could result in infections in patients with compromised immune systems and in patients with chronic lung conditions such as cystic fibrosis.

You may recall in 2016, the CDC and the FDA advised against using any liquid docusate drug products. A multistate outbreak investigation identified *B. cepacia* in more than 10 lots of oral liquid docusate sodium manufactured by PharmaTech, which was linked to patient infections that required intensive medical treatment. The 2016 investigation also detected *B. cepacia* in the water system used to manufacture the product.

FDA encourages health care professionals and patients to report adverse events or quality problems experienced with the use of these products to FDA's MedWatch Safety Information and Adverse Event Reporting Program at: https://www.fda.gov/Safety/MedWatch/default.htm

FDA will provide additional information as it is available.

The Fungus Among Us

The CDC established a national observance this year, Fungal Disease Awareness Week- August 14-18, 2017. The theme, "Think Fungus", was aimed to increase awareness about fungal diseases and the need to diagnose and treat appropriately for better health outcomes. Visit CDC's site https://www.cdc.gov/fungal/awareness-week.html to see fungal disease materials that can be used to improve early recognition and subsequent treatment.

An increasing problem throughout the world, fungal diseases frequently go undiagnosed. The CDC reports that the exact prevalence is difficult to quantify. CDC is working to identify groups of people at highest risk and focus on prevention strategies. Challenges include developing improved methods for earlier diagnosis, and providing education to healthcare providers and the public.

A growing public health concern is antifungal resistance. Some species of *Candida* and *Aspergillus* have shown increasing resistance to antifungal treatments; *Candida auris* presents a serious threat globally with some strains resistant to all three major classes of antifungals. Alt-

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The Fungus Among Us

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hough just discovered in 2009, *C. auris* has quickly spread and caused serious infections in more than a dozen countries. As a result of the growing number of cases and multidrug resistance, CDC has developed recommendations to identify, treat, and provide infection control measures to help prevent the spread of *C. auris.*

A CDC fact sheet discussing *C. auris* can be found by visiting: https://www.cdc.gov/fungal/diseases/candidiasis/c-auris-drug-resistant.html. CDC is working with public health partners in the U.S and globally to learn more and update guidance.

Recommendations for infection control measures can be found by visiting: https://www.cdc.gov/fungal/diseases/candidiasis/c-auris-infection-control.html

CDC encourages all U.S. laboratory staff that identify *C. auris* to notify their state or local public health authorities.

Reporting Antimicrobial Use and Resistance Data

As of January 2017, any facility enrolled in the National Healthcare Safety Network (NHSN) infection tracking system may register their intent to report antimicrobial use and resistance (AUR) data through the CMS Meaningful Use Stage 3 (MU3) Program. AUR reporting is one option for eligible hospitals to meet the Public Health Registry reporting requirement. AUR MU3 includes antimicrobial resistance events as well as summaries of antimicrobial use and resistance. This reporting option will provide a standardized evaluation of antimicrobial resistance data within hospitals, and will facilitate regional and national assessments of antimicrobial resistance.

If a facility meets the prerequisites for AUR MU3 (see link below for more information), there are three steps to begin reporting: 1) Registration of intent to submit data; 2) Testing and validation of data files; and 3) Submission of data according to monthly reporting plans.

For more information, visit:
www.vdh.virginia.gov/meaningful-use/aur/

Reminder!!

The 43rd **APIC Virginia Annual Education Conference** will be held in Richmond at the Embassy Suites Hotel & Conference Center on Friday, October 13, 2017.

This year's conference titled, "Getting our Hands Dirty" will offer subject matter experts addressing regulatory and accreditation issues and changes; NHSN; time management and adult education; and, antimicrobial stewardship. A panel of infection preventionists from APIC-VA will discuss and share successful stories in managing healthcare-associated infections. Additionally, the conference day offers time to network with infection prevention colleagues; visit with multiple vendors and see product demonstrations; attend APIC-VA business meeting; and, enjoy the lunch and snacks provided.

The APIC-VA preconference will be held on Thursday, October 12, 2017 at the Richmond Embassy Suites location. This year the focus will be on Nuts and Bolts: The Basics of Infection Prevention and Control.

Please visit the registration online site to sign up for this year's education offerings and view associated costs.

Registration Online: https://www.regonline.com/apicva2017

AGENDA

Thursday, October 12, 2017

7:30 AM	Registration
7:45 AM	Welcome – Linda Sokos Crane, BSMT(ASCP) SM, CIC Duke Infection Control Outreach Network
8:00 AM	Basics of the Infection Prevention and Control Program. Instructor: Deborah Smith, MLT (ASCP), BSN, CIC, CPH Health Quality Innovators
9:00 AM	Laboratory Medicine/Microbiology for the Infection Preventionist. Instructor: Linda Crane
10:00 AM	BREAK
10:15 AM	Cleaning, Sterilization, Disinfection, Asepsis. Instructor: Linda Adcock, RN, BSN, CIC Duke Infection Control Outreach Network
11:00 AM	The Big Four Healthcare-Associated Infections. Instructors: Linda Crane and Linda Adcock
12:15 PM	LUNCH
12:45 PM	Multidrug-Resistant Organisms/Antibiotic Stewardship. Instructor: Linda Crane
1:30 PM	Basic Statistics for the Infection Preventionist. Instructor: Linda Adcock

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Thursday, October 12, 2017

2:00 PM	Occupational Health. Instructor: Bonita Allen, RN, BSN, CIC Infection Preventionist/Bon Secours St. Mary's Hospital
2:30 PM	Facilities Management and the Environment of Care for the Infection Preventionist. Instructor: Deb Smith
3:15 PM	Special Populations/Emerging Technologies. Instructor: Bonita Allen
4:00 PM	Caveats of NHSN: Making It Work for You! (Case Studies). Instructors: All
5:00 PM	Evaluation and Wrap Up

AGENDA

Friday, October 13, 2017

6:30 AM	Registration
7:45 AM	Welcome – Karen McGoldrick, 2017 President APIC VA
8:00 AM	Joint Commission/CMS Regulatory Review – Judie Bringhurst, MSN, RN, CIC
10:00 AM	Break with vendors
10:30 AM	HAI Success Stories Panel – APIC Members
11:15 AM	NHSN Data Presentation Sarah Lineberger, Virginia Department of Health
12:00 PM	Business Meeting
12:20 PM	Lunch/Vendors
2:00 PM	Time Management/Adult Education – Emily White – BSHSI Learning Institute
3:00 PM	Antimicrobial Stewardship – Dr. Mike Stevens, Virginia Commonwealth University
4:00 PM	Evaluations/Wrap Up

Embassy Suites Hotel & Conference Center
2925 Emerywood Parkway
Richmond, Virginia 23294
Phone: 804-672-8585

HAI Team Bios

Seth Levine, Epidemiology Program Manager
Seth has held numerous positions over his 18 years with VDH, and is now responsible for a large federal grant and oversees both the HAI and Foodborne Disease Programs. He has a Master of Public Health in Epidemiology from Virginia Commonwealth University.

Sarah Lineberger, HAI Program Manager
Sarah served as the VDH HAI Epidemiologist before moving into the Coordinator role. She completed a CDC/CSTE HAI Epidemiology Fellowship in West Virginia before joining VDH 3.5 years ago. She has a Master of Public Health in Global Epidemiology from Emory University, Rollins School of Public Health.

Carol Jamerson, HAI Nurse Epidemiologist
Carol is in her seventh year working with VDH; she was previously an Infection Preventionist at Centra Health where she had a 30 year nursing career. She has a Bachelor of Science in Nursing from the University of Virginia, and is Certified in Infection Control.

Virgie Fields, HAI Epidemiologist
Virgie recently completed a CDC/CSTE HAI Epidemiology Fellowship at the Arkansas Department of Health, and is glad to be back in her home state of Virginia. She has a Master of Science in Epidemiology from the Harvard T.H. Chan School of Public Health.

Sarah Legare, HAI/AR Policy and Prevention Specialist
Sarah joined VDH one year ago to work on the Zika Virus response, and has transitioned to working full-time with the HAI/AR Team. Sarah spent three years in Senegal with the Peace Corps where she focused on malaria prevention. She has a Master of Public Health in Global Health from Emory University, Rollins School of Public Health.

Tisha Mitsunaga, CDC/CSTE HAI Epidemiology Fellow
Tisha just started a two-year fellowship for which she will be working with both the HAI/AR team and the VDH Division of Tuberculosis and Newcomer Health. She has a Doctor of Public Health in International health from Johns Hopkins University, Bloomberg School of Public Health, and a Master of Science in Population and International Health from Harvard T.H. Chan School of Public Health.

Ashley Rose, HAI Program Assistant
Ashley worked with the HAI team during Summer 2016, and is back to work with us during her gap year. She recently graduated from the University of Virginia with a Bachelor of Arts in Biology, and is currently applying to graduate school.

Healthcare-Associated Infections and Antimicrobial Resistance Program

hai@vdh.virginia.gov

(804) 864-8141

http://www.vdh.virginia.gov/surveillance-and-investigation/hai/

Next Steps for Long Term Care:

Infection Prevention, Regulations and Disaster Planning

Thursday, Oct. 12, 2017
8:30am

Embassy Suites
2925 Emerywood Pkwy.
Richmond, VA 23294
855.499.0001

Fee: $15
Includes continuous breaks and lunch.
Hotel accommodations not included.

Register Here: bit.ly/Register-NextStepsforLTC
(Registration closes October 6)

Agenda

8:55 – 9:00
Welcome and Opening Remarks

9:00 – 10:00
NHSN Reporting
Sarah Lineberger, MPH

10:00 – 10:15
Break

10:15 – 11:00
Preparing for a Survey
Mary Chiles, RN, FAC-CT

11:00 – 12:00
Regulatory Overview
Lajuana Jordon, MSN, RN, GNP-BC

12:00 – 1:00
Lunch: Virginia Healthcare Alerting Status System (VHASS) Presentation
Andrew Slater, BS, MS

1:00 – 2:00
Emergency Preparedness/Mutual Aid
Matthew Marry, BS

2:00 – 2:45
CMS Emergency Management
Kelly Parker, MS

2:45 – 3:00
Break

3:00 – 4:00
Unique and Emerging Infectious Diseases: Building Partnerships
T. Ryan, MD, MSHA
D. Woolard, PhD, MPH
L. Jordan, MSN, RN, GNP-BC
M. Chiles, RN, FAC-CT

4:00
Closing Remarks

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VHHA CENTER FOR HEALTHCARE EXCELLENCE
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HQI HEALTH QUALITY INNOVATORS

VDH VIRGINIA DEPARTMENT OF HEALTH

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This continuing nursing education activity was approved by the Virginia Nurses Association, an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation.