

# SYNERGY: COMBINING EFFORTS FOR HAI PREVENTION

June 2015

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

Volume 6, Issue 6

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## Notes from VDH

Congratulations to Alyssa Parr, MPH, CIC for completing her CDC/Council of State and Territorial Epidemiologists Applied Epidemiology HAI Fellowship with the Virginia Department of Health and passing her exam to become certified in infection control! We have enjoyed working with her

tremendously over the past two years and wish her the best of luck in her new position as an infection preventionist at the University of Pittsburgh Medical Center! Thank you, Alyssa for all of your contributions to the VDH HAI program.



## Council of State and Territorial Epidemiologists Conference Recap

VDH staff recently had the opportunity to attend the annual conference of the Council of State and Territorial Epidemiologists (CSTE) in Boston, MA.

Many of the sessions featured healthcare-associated infection outbreak investigations or infection prevention-related topics.

Some highlights to share:

- **Updates on the National Healthcare Safety Network (NHSN): Planned Changes and Improvements**

- ◊ CDC is working with the Ambulatory Surgery Center Quality Collaboration on plans for the NHSN Outpatient Procedure Component.
  - ◆ Would cover same day event surveillance (e.g., wrong site, wrong procedure) as well as SSI surveillance for breast surgeries.
- ◊ CDC is working with the Vermont Oxford Network on plans for the NHSN Neonatal Component.
  - ◆ Would cover late onset neonatal sepsis surveillance as well as antimicrobial use and resistance reporting.
  - ◆ Electronic reporting only.

- **Prevalence of HAIs in 9 Nursing Homes in 4 States**

- ◊ Overall prevalence of HAIs was 5.3%.
- ◊ Most common HAI: gastrointestinal infection (including *C. difficile*) 37%; skin/soft tissue infections 30%.
- ◊ Prevalence highest in short-stay residents, those with medical devices.
- ◊ If both short-stay and had 1+ medical devices, prevalence = 20%.

- **Prevalence of Antimicrobial Use and Documentation Assessment in 9 Nursing Homes**

- ◊ Overall prevalence of antimicrobial use at the time of assessment was 12%. This was higher in short-stay vs. long-stay residents, and higher in residents with medical devices vs. those without.
- ◊ Six main prescribing elements documented only 55% of the time.
- ◊ Antimicrobials were most commonly used for urinary tract infections (32%) or respiratory tract infections (26%).
- ◊ *Nursing Home Core Elements for Antimicrobial Stewardship* is anticipated to be published in August 2015.

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## Upcoming Events:

**Jun 27-29:** APIC National Conference, Nashville, TN

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## **CDC Health Advisories: Avian Influenza, MERS-CoV, and Travelers from Liberia to the United States**

In June, the Centers for Disease Control and Prevention (CDC) released Health Advisories on several health topics:

### **Avian influenza:**

On June 2nd, the CDC notified healthcare personnel of the potential for humans to become infected with highly-pathogenic avian influenza (HPAI) viruses H5N2, H5N8, and H5N1, and to advise healthcare workers on proper methods of patient investigation and testing, infection control, and treatment if human infection is suspected or confirmed.

Though over 40 million birds in the U.S. have been infected by or exposed to HPAI viruses, the CDC believes that the risk of human infection in the general public is *low*. However, individuals who are exposed to infected birds or contaminated areas do encounter an increased risk of becoming infected. These persons should avoid unprotected exposure to any potentially contaminated birds or areas, but, if exposure does occur, the individual should be monitored closely for flu-like illness.

The CDC recommends that patients who meet both the clinical and exposure criteria (see link below) be tested for HPAI. For any suspected or confirmed cases of avian influenza, standard, contact, and airborne precautions should be used. Antiviral treatment should be administered immediately for any suspected cases, and in some circumstances, chemoprophylaxis can be given to individuals who meet exposure criteria.

To read the full Health Advisory, visit: <http://emergency.cdc.gov/han/han00378.asp>

### **Middle East Respiratory Syndrome Coronavirus (MERS-CoV):**

On June 11, the CDC distributed a Health Advisory regarding the recent MERS-CoV cases identified in China and the Republic of Korea. The advisory provides updated guidance for evaluating patients for a MERS-CoV infection.

Globally, as of June 10, 2015, the World Health Organization has confirmed 1,219 cases of MERS-CoV. Though the U.S. has only seen two lab-confirmed cases of MERS-CoV (in May 2014), with both cases determined to be imported from Saudi Arabia, the CDC still recommends that health departments and healthcare providers be prepared to detect and manage cases of

MERS-CoV infection in the U.S.

Healthcare providers should identify patients under investigation (PUIs) who meet the case definition for MERS-CoV (see link below), immediately report PUIs to the health department, collect multiple specimens from different sites for testing, and adhere to proper infection control measures.

The CDC also recently updated its guidance on infection prevention and control recommendations for patients with MERS-CoV (see link below).

To read the full Health Advisory, visit: <http://emergency.cdc.gov/han/han00380.asp>

To view the updated infection control guidelines, visit: <http://www.cdc.gov/coronavirus/mers/infection-prevention-control.html>

### **Clinical Considerations for the Evaluation of Ill Travelers from Liberia to the United States:**

The CDC distributed its third Health Advisory of the month on June 19, providing updated information regarding ill travelers from Liberia returning to the United States.

Liberia has been Ebola-free for over two months, earning it the CDC classification of a “country with former widespread Ebola virus transmission and current, established control measures.” To remain at zero cases of Ebola virus disease (EVD), Liberia has established a stronger surveillance and response system, which includes the capacity for integrated laboratory testing and rapid isolation and treatment of suspected EVD cases, as well as a prevention program to limit the possibility of sexual transmission of EVD from survivors to partners.

When evaluating ill travelers from Liberia, the CDC recommends that healthcare providers first consider other more common travel-related illnesses, such as malaria, influenza, and other respiratory or gastrointestinal illnesses. Though the risk of EVD from Liberia is low, the CDC advises healthcare personnel to use clinical judgment when evaluating any patient returning from West Africa who is presenting with non-specific signs and symptoms consistent with EVD.

To read the full Health Advisory, visit: <http://emergency.cdc.gov/han/han00381.asp>

## VDH Commissioner's Update: Ebola and MERS-CoV

VDH recently distributed a letter detailing changes to Virginia's Ebola post-arrival active monitoring program and providing updated information regarding MERS-CoV infections. After Liberia was declared an Ebola-free country in early May, the CDC modified its guidelines (effective June 17) for the Ebola screening and monitoring of travelers from Liberia. As a result of these modifications, VDH will **no longer actively monitor travelers who have returned from Liberia**, though these individuals will still be screened at their arrival airport and will be advised to watch their health for 21 days after returning. Travelers from Liberia also no longer require Ebola-specific infection control precautions in healthcare facilities. Patients who have recently returned from Liberia and are presenting with a febrile illness should be evaluated for other travel-related illnesses, such as malaria, and placed in a private room if

their symptoms are of particular concern. The protocol for Ebola screening and monitoring of travelers from Sierra Leone and Guinea has not changed.

The letter also contains information concerning the recent cases of MERS-CoV infection in South Korea. Updated guidelines for evaluation of patients for MERS-CoV infection are provided and readers are encouraged to reference the June 11 CDC Health Advisory (see pg 2) for additional details.

Lastly, healthcare providers are reminded to always conduct a thorough patient travel history, follow standard protocols for infection control, and continue to report any confirmed or suspected reportable conditions to their local health department.

To read the entire letter, visit: <http://www.vdh.virginia.gov/clinicians/pdf/UpdateTravelersEbolaandMERSCoV.PDF>

## Guidance on Developing Hospital Respiratory Protection Programs

In May 2015, the U.S. Occupational Safety and Health Administration (OSHA) published a Hospital Respiratory Protection Program Toolkit online. The toolkit is designed to guide hospitals in establishing respiratory protection programs that are effective in preventing the transmission of aerosol-transmissible diseases (i.e., diseases caused by pathogens that require droplet and/or airborne isolation precautions).

The toolkit contains both mandatory safety and health standards as well as suggestions provided by public health to promote respiratory protection measures.

In addition, the Joint Commission recently released a monograph entitled "Implementing Hospital Respiratory Protection Programs: Strategies from the Field," which intends to demonstrate the importance of incorporating respiratory protection programs into hospitals, raise awareness regarding these programs, and highlight ways to overcome potential challenges that could occur during implementation.

To view the OSHA toolkit, visit: <https://www.osha.gov/Publications/OSHA3767.pdf>

To read the Joint Commission's monograph, visit: <http://www.jointcommission.org/assets/1/18/>

## White House Hosts Forum to Combat Antimicrobial Resistance

The White House hosted a forum on June 2, bringing together over 150 animal and healthcare organizations, businesses, retailers, and companies to discuss commitments to reduce the number of drug-resistant bacteria and implement antimicrobial stewardship programs.

During the forum, the White House announced that the President will sign a memorandum "directing Federal departments and agencies to create a preference for meat and poultry produced according to responsible antibiotic use." The White House highlighted commitments that key companies, such as hospitals, retailers, pharmaceuticals, and organizations, have planned to reduce antibiotic resistance throughout the next five years.

This forum is just one step in a continued White House effort to combat drug-resistant bacteria; prior steps include the establishment of the National Strategy on Combating

Antibiotic-Resistant Bacteria and the National Action Plan for Combating Antibiotic-Resistant Bacteria, which detail a framework for enhanced diagnosis, treatment, and measures to limit the spread of drug-resistant bacteria.

Though the White House Forum marks an important step in decreasing antimicrobial resistance, the White House recognizes that more work needs to be done, including enhanced diagnostic procedures, increased implementation of antimicrobial stewardship programs, and better surveillance of antibiotic use.

To read a fact sheet about the forum, visit: <https://www.whitehouse.gov/the-press-office/2015/06/02/fact-sheet-over-150-animal-and-health-stakeholders-join-white-house-effo>

## Study Characterizes U.S. Antibiotic Prescribing Practices

In a recent study in *Clinical Infectious Diseases*, researchers analyzed outpatient antibiotic prescribing data, including provider specialty, region, antibiotic category, and patient age, sex, and race. With an estimated 2 million antibiotic-resistant illnesses and 23,000 deaths occurring each year, the study intended to identify key areas in which antibiotic prevention programs could reduce drug resistance.

In 2011, 262.5 million antibiotics (842 prescriptions per 1,000 people) were prescribed by healthcare providers. Of the 17 provider specialty groups, family practitioners prescribed the highest number of antibiotics (64.1 million), followed by pediatricians (32.4 million), internal medicine providers (32.1 million), and dentists (25.6 million). However, dermatologists had the highest rate of prescriptions per number of providers in the field (724

prescriptions per 1,000 people). Of the antibiotic categories, penicillins and macrolides were most likely to be prescribed (60.3 million and 59.1 million, respectively).

The study also found that the South census region (which includes Virginia) consistently prescribed more antibiotics than other U.S. regions, across all age groups. In addition, high prescription rates were found in areas with higher proportions of obese individuals, infants and children  $\leq 2$  years, providers per population, and females.

Researchers concluded that appropriate antibiotic use education should be targeted to providers in the South and primary care settings (especially family practitioners).

To read the full journal article (subscription required), visit: <http://cid.oxfordjournals.org/content/60/9/1308>

## New Study on Hospital Prevention of *Clostridium difficile* Infections

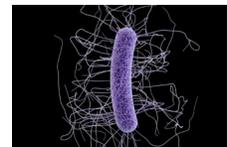
In a recent study conducted by Sanjay Saint, et al. published online in *Infection Control and Hospital Epidemiology*, it was found that almost half of the surveyed American hospitals lack antimicrobial stewardship programs to prevent *Clostridium difficile* infections (CDI).

While nearly all hospitals (97%) had established a system of monitoring CDI, only 52% reported using antimicrobial stewardship to limit the amount of antibiotics being prescribed for treatments. In fact, more than 60% of hospital patients receive antibiotics, and according to the researchers, at least half of these prescribed antibiotics are inappropriate. The study also found that only 24% of hospitals had a written policy to

require routine testing for CDI in patients who were both on antibiotics and had diarrhea—two characteristics that are warning signs for a potential CDI.

Additionally, Saint et al. concluded that most hospitals are aware of the supporting evidence behind CDI prevention strategies and are acting on many of the procedures, but still have not implemented key components, such as an antimicrobial stewardship program or a written *C. diff* policy for testing high-risk patients.

For additional information, please visit: <http://dx.doi.org/10.1017/ice.2015.81> (subscription required)



## *Clostridium difficile* Infection (CDI) Rate Trends

In a recent study published in the *American Journal of Infection Control*, researchers from the University of Texas reviewed hospital discharge data, quantifying over 2 million cases of CDI between 2001 and 2010.

Overall, the Northeastern region of the United States had the highest CDI incidence, with 8.0 CDI hospital discharges per 1,000 total discharges. The Midwest had the second highest CDI rate (6.4 CDIs/1,000 total discharges), followed by the South (5.0/1,000) and the West (4.8/1,000). Deaths from CDIs were most prevalent in the Midwest (7.3%).

Additionally, the researchers found that for adult patients, CDI discharges were highest in the spring season (6.2 CDIs/1,000 total discharges), closely followed by winter (5.9/1,000). For pediatric patients, however, more CDI cases were found in winter (1.5/1,000). Overall, CDI mortality was highest during the winter season (7.9%).

To read the full journal article, visit: [http://www.ajicjournal.org/article/S0196-6553\(14\)01358-3/pdf](http://www.ajicjournal.org/article/S0196-6553(14)01358-3/pdf)

## New APIC Website

The national chapter of the Association for Professionals in Infection Control and Epidemiology (APIC) has organized its infection prevention information onto a single webpage with 14 topic-specific links. This revised webpage is an attempt to aggregate relevant infection prevention resources, allowing healthcare workers to more easily and quickly access the information they need.

The topic-specific links include resources regarding antimicrobial stewardship, *Clostridium difficile* infections,

hand hygiene, long-term care, methicillin-resistant *Staphylococcus aureus* (MRSA), and more.

To access this new APIC website, visit: <http://www.apic.org/resources/topic-specific-infection-prevention>



## Multidrug-Resistant Shigellosis in the United States

It is estimated that *Shigella* bacteria cause 500,000 cases of diarrhea in the United States every year.

The Centers for Disease Control and Prevention (CDC) has identified and reported recent clusters of ciprofloxacin-resistant *Shigella sonnei* in the United States that are largely associated with international travel and subsequent transfer of the resistant bacteria into the U.S. infecting others. The April 3<sup>rd</sup> issue of the *Morbidity and Mortality Weekly Report (MMWR)* reports on a cluster of shigellosis in 32 states and Puerto Rico from May 2014-February 2015 (<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6412a2.htm>).

While ciprofloxacin is the drug of choice to treat shigellosis in adult patients in the United States, diarrhea caused by *Shigella* can resolve without treatment. Patients are often treated with antimicrobials in an effort to reduce the duration of illness as well as shedding of *S. sonnei* in the feces.

The report notes that in the U.S. most *Shigella* bacteria are already resistant to several antimicrobials, including ampicillin and trimethoprim/sulfamethoxazole.

CDC Director, Dr. Tom Frieden, notes *Shigella* spreads easily between people making larger outbreaks a serious concern. Additionally, he notes that robust moves are in place to implement national strategies to curb antibiotic resistance.

The CDC authors suggest that clinicians reserve antimicrobial treatment for immunocompromised patients or those with severe symptoms. Data from culture and sensitivity reports should guide therapy choices. The CDC also recommends that healthcare providers culture stool specimens of patients with

symptoms consistent with shigellosis and reculture the stool of those who fail to improve after antimicrobial therapy.

Additional steps can be taken by travelers to developing countries to avoid diarrhea and minimize infection with resistant bacteria. The CDC recommends choosing safe foods and beverages, such as food that is steaming hot and drinks from sealed containers. Wash hands frequently, particularly before eating and after using the toilet. Take bismuth subsalicylate to prevent travelers' diarrhea and treat it with over-the-counter drugs like bismuth subsalicylate or loperamide. Try to reserve antibiotics for severe cases of travelers' diarrhea. Download CDC's new app, "Can I Eat This?" for quick reference to assist with safe food and beverages choices when traveling:

Healthcare providers are encouraged to talk to patients about strategies to prevent the spread of *Shigella* including frequent hand washing with soap and water, especially after using the toilet and before preparing food or eating; keeping children home from childcare and other group activities while they are sick with diarrhea; avoiding preparing food for others while ill with diarrhea; and avoiding swimming for a week after recovering from diarrhea.

For more information on *Shigella*, please visit: [www.cdc.gov/shigella](http://www.cdc.gov/shigella).

To learn more about food and water precautions to prevent *Shigella* visit: <http://wwwnc.cdc.gov/travel/yellowbook/2014/chapter-2-the-pre-travel-consultation/food-and-water-precautions>.

To view the CDC Health Advisory (June 4, 2015) on this topic: <http://emergency.cdc.gov/han/han00379.asp>