

QUALITY
SHAPING THE
FUTURE
UHS

Infection Prevention *eBug Bytes*

April 2016



Wisconsin waited months to make Elizabethkingia outbreak public



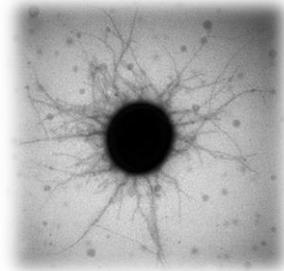
- News broke in March of a bacterial bloodstream infection in Wisconsin that was linked to 18 deaths but the state knew about the outbreak months prior to its March public announcement. The Department of Health Services was notified of a possible outbreak at the end of December 2015. The department told healthcare facilities in the state to look out for *Elizabethkingia* infections in the beginning of January, but didn't tell the public until March. The department acted immediately when it was notified of a potential outbreak by reaching out to healthcare providers, labs and infection preventionists throughout the state, as well as notifying the CDC. The outbreak has proven to be very unique and complex, and CDC has yet to find the source of the bacteria, which limits the directives we can offer to the public related to prevention. The health department eventually released information to the public after weighing the risk of inspiring fear with the value of transparency.
- As of April 13, Elizabethkingia has sickened 63 people in Wisconsin and killed 18. There is also an additional death among a possible Elizabethkingia case, bringing the total number of deaths to 19 in Wisconsin. Cases of Elizabethkingia have also been identified in Michigan and Illinois. Source:

Elizabethkingia outbreak spreads; source still a mystery



- The Illinois Department of Public Health confirmed one case of Elizabethkingia in a resident who died earlier this year. The individual had the same strain of Elizabethkingia that has been confirmed in 57 patients in Wisconsin since November. Eighteen of those individuals have died. All of those infected had "at least one serious underlying illness" and most are older than 65, according to the Wisconsin Department of Health Services. It's unknown whether the deaths were caused by the infection, the existing health conditions or the combination of both. The number of cases in Wisconsin may continue to rise as the state health department continues to investigate possible cases. Last month, the Michigan Department of Health and Human Services reported a case of the infection in their state. At the time, CDC spokesman Tom Skinner told CNN the Michigan case was not a complete surprise, given that health departments across the country were asked to be on the lookout for Elizabethkingia infections after the outbreak in Wisconsin was identified. The bacteria are commonly found in soil, river water and reservoirs but do not commonly cause illness in humans. People with compromised immune systems or serious underlying health conditions are more at risk of infection. Previous outbreaks have been associated with healthcare settings. Illinois health officials said they will join Wisconsin and Michigan in working with the CDC to investigate this outbreak for which a source has not yet been identified.
- Source: <http://www.cnn.com/2016/04/12/health/elizabethkingia-illinois-bacterial-infection/>

Researchers discover new type of 'pili' used by bacteria to cling to hosts



- Many bacteria interact with their environment through hair-like structures known as pili, which attach to and help mediate infection of host organisms, among other things. Researchers from the Department of Energy's SLAC National Accelerator Laboratory, has discovered that certain bacteria prevalent in the human gut and mouth assemble their pili in a previously unknown way -- information that could potentially open up new ways of fighting infection. The bacteria belong to the Bacteroidia class, whose relationship with humans is best described as a mutual "give and take:" We depend on them for food processing, and they depend on us as a food source. Disturbances of this delicate balance can have severe consequences, ranging from gum disease to inflammatory bowel disease to cancer. Scientists already knew that pili are made of individual protein building blocks, or pilins, stacked on top of one another. The pili grow by adding more and more pilins to the elongating structure until their growth is terminated by anchoring them to the microbe's surface. However, while the molecular details of pili formation have been studied extensively in a variety of microorganisms, they were not known for Bacteroidia.
- Source: Qingping X, et al. A Distinct Type of Pilus from the Human Microbiome. *Cell*, 2016

Baystate Noble Hospital faces lawsuit from 25 colonoscopy patients



- Baystate Noble Hospital in Westfield, Mass., is facing lawsuits from 25 colonoscopy patients who say they were potentially exposed to hepatitis B, hepatitis C and HIV in 2012 and 2013 through improperly disinfected equipment, according to the [*Boston Herald*](#).
- According to attorney Robert DiTusa, nearly 300 patients at the hospital could have been exposed to the diseases. The Massachusetts Public Health Department found new endoscopes used in the patients' colonoscopies were being sanitized under protocol designed for older equipment, the *Boston Herald* reported.
- The hospital was independent in 2012 and 2013, but has since become part of Springfield, Mass.-based Baystate Health network.
- The patients were not informed about the possible exposure until January.
- As of April 6, Baystate said there is no evidence the endoscopes transmitted any illness, but 50 of the 300 patients have yet to be tested, according to the report.
- Source: <http://www.beckershospitalreview.com/legal-regulatory-issues/baystate-noble-hospital-faces-lawsuit-from-25-colonoscopy-patients.html>

Hot-air hand dryers 'worst' at spreading germs than paper towels



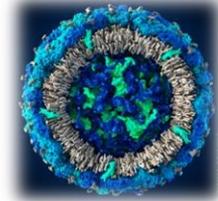
- Paper towels and hot air dryers are commonly used to dry washed hands. In public places, specifically, people prefer to use air hand dryers as it dries up their hands quickly and hygienically in just few seconds without requiring them to actually touch anything. For the study, researchers at the University of Westminster in London tested three different drying methods- warm air drying, jet air drying and paper towel drying- and found that the jet air dryer similar to the Dyson Airblade was likely to spatter 60 times more germs than regular dryers and up to 1,300 times more viruses than a paper towel.
- Furthermore, the researchers found that the Airblade also spread contaminants much farther than the other two hand drying methods. They blasts about 430 mph of air and spread germs about three meters or nearly 10 feet across the room, while a regular dryer and paper towels spread air 75 centimeters and 25 centimeters, respectively.
- The viruses sprinkled by the jet dryer would float beyond the 15 minutes, and some 70 percent of those viral particles float at the height of a small child's face.
- Source: <http://www.healthnewsline.net/hot-air-hand-dryers-worst-spreading-germs-paper-towels-study/2535170/>

Hepatitis C outbreak in Utah linked to former nurse



- An investigation that began last fall has confirmed at least 16 people were infected with hepatitis C at two Utah hospitals. The cases are linked to a healthcare worker formerly employed at both hospitals, according to a release from the Utah Department of Health.
- The employee is 49-year-old Elet Neilson, also known as Elet Hamblin, a former nurse who was employed at McKay-Dee Hospital in Ogden, Utah, where 15 of the hepatitis C cases were confirmed. Prior to her position at McKay-Dee, Ms. Neilson worked in the emergency department at Davis Hospital in Layton, Utah, where an additional infection has been confirmed.
- According to a report from the [Desert News](#), the former nurse was fired from McKay-Dee in 2014 after being confronted with evidence suggesting she'd stolen opioids from the hospital. Intravenous drug use is one of the most prominent ways in which hepatitis C is spread.
- In similar cases, healthcare workers have been known to recirculate injection equipment after use to avoid detection.
- Source: <http://www.beckershospitalreview.com/quality/hepatitis-c-outbreak-in-utah-linked-to-former-nurse.htm>

Zika Is Coming



- There are many theories for Zika's rapid rise, but the most plausible is that the virus mutated from an African to a pandemic strain a decade or more ago and then spread east across the Pacific from Micronesia and French Polynesia, until it struck Brazil. There, it infected more than a million people over the last one to two years. Today, the extremely poor cities of Brazil's northeastern states make up the epicenter of the epidemic. There are three reasons that Zika has slammed this particular part of Brazil: the presence of the main mosquito species that carries the virus and transmits it to humans, *Aedes aegypti*; overcrowding; and extreme poverty. Poor people often live in proximity to garbage, including old tires, plastic containers and drainage ditches filled with stagnant water, where this species of mosquito lives and breeds. And they often have homes with torn screens on their windows. The combination creates ideal conditions for the Zika virus to spread. The same factors are present in the poorest urban areas of coastal Texas, Louisiana, Mississippi and Alabama, in addition to South Florida, and an area around Tucson. In the Fifth Ward of Houston (a historically African-American neighborhood that was populated by freed slaves after the Civil War), just a few miles from the medical center where I work, there is an astonishing level of extreme poverty. A brief tour reveals water-filled drainage ditches in place of gutters, as well as evidence of dumping — a common practice in which people toss old tires and other garbage into residential areas rather than designated landfill sites — right next to shabby and crumbling housing. These are also the major areas in the continental United States where *Aedes aegypti* is found. This mosquito has transmitted viruses such as yellow fever and dengue throughout the Gulf Coast for centuries. Source: NY Times April 8 2016

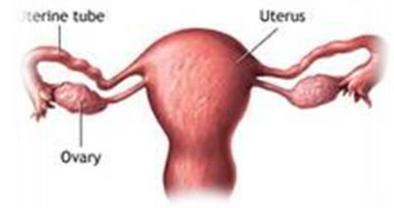
Investor group launches campaign to curb antibiotic use in food



- Fifty four large investors managing 1 trillion pounds (\$1.41 trillion) in assets have launched a campaign to curb the use of antibiotics in the meat and poultry used by ten large U.S. and British restaurant groups. McDonalds and JD Wetherspoon were among those to receive a March 15 letter from institutions including Aviva Investors asking them to set a timeline to stop the use of medically important antibiotics in their supply chains. The other eight approached were Domino's Pizza Group, Brinker International, Darden Restaurants, Mitchells & Butlers, Restaurant Brands International, Restaurant Group, The Wendy's Company and Yum! Brands. The move follows warnings from the World Health Organization that the world is moving towards a post-antibiotic era in which many infections would no longer be treatable because of the overuse of antibiotics. Eighty percent of antibiotics produced in the United States are given to livestock, the coalition said in a statement, adding that failure to confront their "irresponsible" use threatens both health and investor returns. Drug-resistant infections could cost the world about \$100 trillion in lost output by 2050, the coalition statement said, citing recent academic research. Among other investors to sign the letter were Boston Common Asset Management, Impax Asset Management and EdenTree Investment Management. Drug-resistant infections could cost the world about \$100 trillion in lost output by 2050, the coalition statement said. Among other investors to sign the letter were Boston Common Asset Management, Impax Asset Management and EdenTree Investment Management.

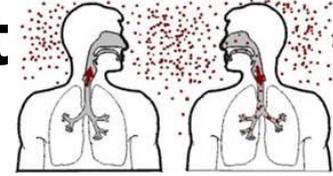
<http://www.reuters.com/article/us-funds-engagement-antibiotics-idUSKCN0X70YN>

First US uterus transplant failed because of yeast infection



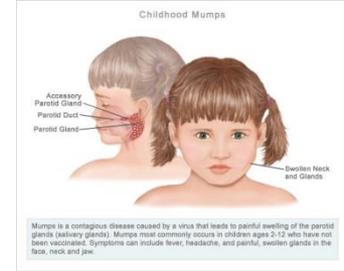
- The first uterus transplant in the US failed because of a yeast infection, Cleveland Clinic revealed on April 8. The failure of the operation was confirmed just two weeks after the procedure, which was on March 8, but it was only now that a definitive reason has been confirmed. The 26-year-old patient, Lindsey McFarland, was looking forward to having the surgery for it is her dream to become pregnant and have a child. That dream was fulfilled temporarily, but it only took an infection to cut it short. Preliminary results suggest that the complication was due to an infection caused by an organism that is commonly found in a woman's reproductive system. The infection was caused by a fungus called *Candida albicans*. This organism commonly harbors in the vagina and co-exists with other bacteria and organisms. However, diseases or medications may disrupt the balance between these organisms, leading to an abnormally excessive growth of yeasts. The yeast in this case could have come from either the donor or the recipient. Such possibility has prompted doctors to develop protocols of cleaning the organs to be transplanted in future operations. McFarland underwent the nine-hour surgery on Feb. 24 and recovered well. However, on March 7, she bled tremendously, causing doctors to rush and make assessments. Now that the doctors are sure about the causative agent of the infection, they have prescribed antifungal medications. The patient has also stopped taking anti-rejection drugs, boosting her immunity to recover and fight the infection more efficiently. Source: <http://www.techtimes.com/articles/148678/20160409/first-us-uterus-transplant-failed-because-of-yeast-infection.htm>

Hospital air: A potential route for transmission of infections caused by β -lactam-resistant bacteria



- A total of 64 air samples were collected in 4 hospital wards. Detection of airborne bacteria was carried out using culture plates with and without β -lactams. BLRB isolates were screened for the presence of 5 common β -lactamase-encoding genes. Sequence analysis of predominant BLRB was also performed.
- Results: The prevalence of BLRB ranged between 3% and 34%. Oxacillin-resistant bacteria had the highest prevalence, followed by ceftazidime- and cefazolin-resistant bacteria. The frequency of β -lactamase-encoding genes in isolated BLRB ranged between 0% and 47%, with the highest and lowest detection for
- OXA-23 and CTX-m-32, respectively. *MecA* had a relatively high frequency in surgery wards and operating theaters, whereas the frequency of *blaTEM* was higher in intensive care units and internal medicine wards. OXA-51 was detected in 4 wards. *Acinetobacter* spp, *Acinetobacter baumannii*, and *Staphylococcus*
- spp were the most predominant BLRB.
- Conclusions: The results revealed that hospital air is a potential route of transmission of BLRB, such as *Acinetobacter* and *Staphylococcus*, 2 important causative agents of nosocomial infections. Therefore, improvement of control measures against the spreading of airborne bacteria in hospital environments is warranted.
- Source: S.H. Mirhoseini et al. American Journal of Infection Control April (2016)

Mumps outbreaks at Indiana colleges draw concern



- Outbreaks of the "highly contagious" Mumps disease have been confirmed at Indiana University in Bloomington, Purdue University in West Lafayette, and these Indianapolis schools: Butler University and Indiana University-Purdue University Indianapolis (IUPUI). In addition to about 50 cases across the different campuses, there have been at least 15 community cases, separate from the outbreaks, in central Indiana, according to the department.
- Kentucky health officials put out a similar warning earlier this year after mumps was reported at the University of Louisville and the University of Kentucky.
- Before reaching kindergarten age, children routinely receive the MMR (measles, mumps and rubella) vaccine for protection. Anyone born in 1957 or later who doesn't have evidence of immunity against mumps should get two doses of the vaccine, the release said. The disease can be spread through infected people's coughs or sneezes or through contact (direct or indirect) with their nose or throat droplets. It's easy for the disease to spread on college campuses because students often have close contact and share things, such as drinks and cigarettes, health officials note. People usually recover in a few weeks, but it's possible to develop severe complications, such as loss of hearing and swelling of the brain. There also may be inflammation of the breasts, ovaries or testicles.
- Source: <http://www.courier-journal.com/story/life/wellness/health-bytes/2016/04/09/mumps-outbreaks-ind-colleges-draw-concern/82835836/>

Zika virus linked to another brain disease



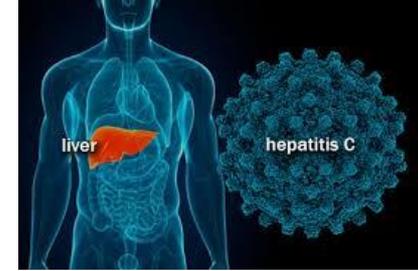
- Researchers have found a new connection between Zika and yet another neurological disorder, according to newly released study that will be presented at the American Academy of Neurology's 68th Annual Meeting in Vancouver, Canada, held from April 15 to April 21. The new study links Zika to an autoimmune disorder that attacks the brain's myelin, much like multiple sclerosis. The disorder is called acute disseminated encephalomyelitis.
- For the study, researchers kept track of people who sought treatment for symptoms compatible with arboviruses like Zika at a hospital in Recife, Brazil, from December 2014 to June 2015. They identified six people who experienced neurological problems after the infection, two of whom developed ADEM. The other four developed Guillain Barré syndrome. Tests later showed that all of the study's participants were infected with Zika and not another arbovirus like dengue. The World Health Organization recently confirmed an international scientific consensus that Zika is indeed connected to the birth defect microcephaly, a condition in which babies are born with abnormally small heads, and Guillain-Barré syndrome.
- Source: <http://www.beckershospitalreview.com/quality/zika-virus-linked-to-another-brain-disease.html>

FDA Dawdles While Patients Die Needlessly



- Every year, more than half a million patients undergoing a common medical procedure risk getting a superbug infection because their doctor is using a contaminated instrument. The Food and Drug Administration, whose job is to ensure the safety of medical devices, has known about this problem since 2012 but dawdled while patients died.
- Three months ago, Olympus, the manufacturer of most of these specialized scopes (duodenoscopes), began recalling them. FDA and another federal agency, the Centers for Disease Control and Prevention, go along with the hush-up about which hospitals are having a problem. These agencies are supposed to work for us — the public — but clearly they're siding with the hospitals. The FDA is stonewalling about where the two most recent deaths occurred. It's been a multi-year saga of incompetence, cover-ups and dying patients. And it's still going on, even after a US Senate report in January 2016 exposed the agencies' blunders and called for reforms. The biggest problem is the unholy alliance between the hospital industry and federal bureaucrats. Publicizing infections is bad for hospital revenues and erodes the public's misplaced confidence that the federal government is performing its oversight function. Doctors were kept out of the loop about the defects in the scopes. But the real victims in this conspiracy of silence are trusting patients.
- Source: <http://nypost.com/2016/04/06/the-feds-dawdle-while-patients-die-needlessly/>

Current hepatitis C virus testing guidelines miss too many cases



- A review of blood samples for nearly 5,000 patients seen at The Johns Hopkins Hospital Emergency Department suggests that federal guidelines for hepatitis C virus (HCV) screening may be missing up to a quarter of all cases and argues for updated universal screening. Currently, the U.S. Centers for Disease Control and Prevention (CDC) recommends one-time HCV testing for all adults born between 1945 and 1965, or for those with risk factors such as injection drug use, HIV or use of clotting factors. In November 2015, The Johns Hopkins Hospital expanded its testing for HCV to all eligible Emergency Department adults 18 and older who have their blood drawn as part of routine clinical care and are not known to be HCV antibody-positive. Johns Hopkins Bayview Medical Center adopted this expanded testing protocol in February 2016. The Johns Hopkins team specifically found that nearly 14 percent of patients among the 5,000 tested positive for HCV, one-third of whom were unaware they were infected.
- Among the 204 Emergency Department patients with undocumented HCV infection, 128 (63 percent) were in the 1945 to 1965 birth cohort, 45 (22 percent) were injection drug users and 10 (5 percent) were known to be infected with HIV. Further assessments by the researchers found that 99 (49 percent) would be diagnosed based on birth cohort testing alone, with an additional 54 (26 percent) identified based on modified CDC risk-based testing (based on injection drug use or known HIV status).
- Source: Hsieh Y et al. Evaluation of the Centers for Disease Control and Prevention Recommendations for Hepatitis C Virus Testing in an Urban Emergency Department. *Clinical Infectious Diseases*, 2016; 62 (9): 1059

HLAC raises concerns over improperly used exchange carts and unused HCTs



- The Healthcare Laundry Accreditation Council (HLAC) is saying there is "legitimate and increasing concern" of a "widespread" and "unsafe" industry practice regarding the back-and-forth on exchange carts of unused healthcare textiles (HCTs) between hospitals and laundries.
- While authorities such as The Joint Commission provide direction on the safe transport of unused linens to the healthcare facility, HLAC says they don't address the return of unused linen from the healthcare facility back to the healthcare laundry.
- HLAC Board President John Scherberger said the nonprofit organization, which inspects and accredits laundries that process reusable healthcare textiles, has begun a process for clarifying its standards regarding exchange cart systems.
- "Mixing unused, unprocessed linens with clean linens and returning all of them to the hospital is a failure of functional separation as is defined in our 2016 Standards," Scherberger said. "However, with regard to exchange cart systems, there seems to be some confusion that we will address and endeavor to clarify with the industry and with healthcare laundries."
- Source: http://media.wix.com/ugd/076879_1cd7c3b875954733bf3e1cd8b1539e5d.pdf

Sterilization wraps vs. rigid containers — Which is best?



- Rigid containers and sterilization wraps are two major sterilization packaging types for sterile instruments used in the healthcare setting. Rigid containers are reusable and come in various sizes and materials, many of which have a filter mechanism to allow sterilizing agents to enter and exit the container; sterilization wraps are a three-layer laminate made of meltblown polypropylene bonded on both surfaces with a layer of spunbonded polypropylene. A recent study published in the American Journal of Infection Control examined the efficacy of rigid containers and sterilization wraps and found almost all — 97 of 111 — rigid containers failed to prevent bacterial ingress post-sterilization. All 161 of the trays wrapped in sterilization wrap maintained sterility.
- The rigid containers and sterilization wrap were tested in hospital-like conditions, but ASCs are also noting the results given their high case volume and increasing "wear and tear" on containers. The rigid containers and sterilization wraps are designed to protect surgical instruments from contamination, but these findings challenge previously-held beliefs that the rigid containers are effective to maintain sterility of their contents. The study also showed the unused containers failed to maintain barrier performance under the study's test conditions. Source: