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INFLUENZA

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- APHC: U.S. Army Influenza Activity Report
- ECDC: Flu News Europe

NOTE:
If you are viewing the Army Public Health Weekly Update using Internet Explorer on a government computer with Windows 10, the external hyperlinks will be disabled per the Security Technical Implementation Guide (V-64927).
As a workaround, opening the Update using Chrome will enable the links.
We’re sorry for the inconvenience.

Approved for public release, distribution unlimited.
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<th>Pakistan/U.S.: CDC reports 5 US cases of XDR typhoid infections</th>
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**USNORTHCOM**

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<th>Bolivia: Study finds diarrheal pathogens, resistance genes in Bolivian river</th>
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<td>Brazil: Brazil imported measles outbreak tops 10,000 cases last year</td>
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<td>Venezuela: As Venezuela’s denied crisis deepens, local aid groups shift tactics</td>
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Adrenal gland disorders, Active Component, U.S. Armed Forces, 2002–2017

December 2018 - During 2002–2017, the most common incident adrenal gland disorder among male and female service members was adrenal insufficiency and the least common was adrenomedullary hyperfunction. Adrenal insufficiency was diagnosed among 267 females (crude overall incidence rate: 8.2 cases per 100,000 person-years [p-yrs]) and 729 males (3.9 per 100,000 p-yrs). In both sexes, overall rates of other disorders of adrenal gland and Cushing’s syndrome were lower than for adrenal insufficiency but higher than for hyperaldosteronism, adrenogenital disorders, and adrenomedullary hyperfunction. Crude overall rates of adrenal gland disorders among females tended to be higher than those of males, with female: male rate ratios ranging from 2.1 for adrenal insufficiency to 5.5 for adrenogenital disorders and Cushing’s syndrome. Medical Surveillance Monthly Report

Army looks to give its old combat boot the boot

11 January - The Army is testing new combat boots at select boot camps in a push to better compete with the more comfortable commercial brands favored by many soldiers for their lightness. The U.S. Army Research, Development and Engineering Command Soldier Center in Natick, Mass., has developed prototypes that soldiers will wear at three different basic training and active duty sites during the next four months. ... The prototypes, which utilize more flexible types of leather and lighter outsoles, will be fielded to 800 new recruits at Fort Leonard Wood, Mo., and Fort Jackson, S.C. Stars and Stripes

Food stamp programs to remain available through February for troops, vets

11 January - The Agriculture Department has issued assurances that funding is in place to continue its food stamp program through February, despite the partial government shutdown. Thousands of active-duty troops and an estimated 1.4 million veterans benefit from the program. Agriculture Department funding expired Dec. 21 with the onset of the shutdown, but officials announced Wednesday that full benefits for the Supplemental Nutrition Assistance Program (SNAP) will continue through February. Military.com

More than 17,000 uniformed medical jobs eyed for elimination

10 January - The Army, Navy and Air Force are finalizing plans to eliminate over the next few years more than 17,000 uniformed medical billets -- physicians, dentists, nurses, technicians,
Cold Weather Injury
Report
December 2018

Forty-nine cold weather injuries (CWIs) were reported in December 2018, representing a 16% increase from the 41 CWIs reported in November 2018 and a 75% increase in the December average (n=29) from 2014-2017.

medics and support personnel. The reduction will allow those billets to be repurposed as war fighters or combat-support skills to increase lethality and size of operational units. Another goal is to deepen the workload of remaining medical billets at base hospitals and clinics to strengthen medical skills and also to improve quality of care for beneficiaries, defense officials explained. Military.com

Pentagon recruits rejected scientist for massive pollution fight

13 January - The Defense Department has sought to hire a controversial scientist who was blocked from joining the Trump administration as the Pentagon fights state and federal chemical regulations that could lead to billions of dollars in cleanup costs and legal settlements, according to documents obtained by POLITICO. The scientist, Michael Dourson, withdrew from consideration to be an assistant administrator at the EPA in December 2017 following bipartisan opposition to his past research that downplayed the risks of a chemical found in consumer products like Teflon and firefighting foam used by the military. Nearly a year later, a Defense Department official sought to hire Dourson to lead a new study on the health risks of that same class of chemicals. ... Public health experts say new scientific reviews are unnecessary and would only delay important steps to clean up the chemicals that are showing up in drinking water supplies around the country. Politico

Supreme Court rejects appeal from veterans in burn pit lawsuit against KBR, Halliburton

14 January - The U.S. Supreme Court has rejected an appeal in which veterans sought to hold private companies responsible for their use of open-air burn pits that have been linked to scores of often fatal illnesses, from cancers to neurological damage. The high court let stand an appellate court ruling that decided more than 60 separate lawsuits could not move forward. Plaintiffs allege that KBR, formerly owned by Halliburton Corporation, and other companies dumped tires, batteries, medical waste and other materials into the burn pits downrange. The smoke from those pits caused health issues in more than 800 veterans in the lawsuits, attorneys claim. At least a dozen affected have since died. Judges with the Virginia-based 4th U.S. Circuit Court of Appeals, who issued the ruling in last year's appeal, said that KBR had little discretion in how to dispose of the waste, as they were under military control. Military Times

Valneva announces new contract with DOD to supply Japanese encephalitis vaccine

16 January - Biotech company, Valneva announced today the signing of a new $59 million contract with the U.S. government Department of Defense for the supply of its Japanese
Bone Regeneration Efforts in the DoD

Bone regeneration is an emerging technology in the Department of Defense. The application of bone regeneration could prove effective in helping injured warfighters return to a normal, pain-free life.

Together with Dr. David Anderson, Professor and Head of Large Animal Clinical Services at the University of Tennessee, Knoxville, HDIAC Subject Matter Expert Greg Nichols discusses this technology and the role DoD is playing in its development.

GLOBAL

3D-printed scaffold helps treat severed spinal cords in rats

15 January - Patients with severed spinal cords once had no hope of regaining limb function. But a method that helps new nerve cells bridge the damage by growing through a scaffolding structure might one day change that, researchers say. For now though, it's only been shown to work in rats. In a proof of principle, researchers used neural progenitor cells to grow a kind of splice reconnecting severed nerve fibers coming from the rats' brains to the lower parts of the rodents' bodies. Though the rats weren't able to get up and walk afterward, they were able to move their legs in a purposeful way. Reuters

A silver bullet against the brain-eating amoeba?

14 January - The brain-eating monsters are real enough — they lurk in freshwater ponds in much of the United States. Now scientists may have discovered a new way to kill them. Minuscule silver particles coated with anti-seizure drugs one day may be adapted to halt _Naegleria fowleri_, an exceptionally lethal microbe that invades through the sinuses and feeds on human brain tissue. The research ... showed that repurposing seizure medicines and binding them to silver might kill the amoebae while sparing human cells. Scientists hope the findings will lay an early foundation for a quick cure. The New York Times

Anti-vaxxers among top 'threats to global health,' WHO says

16 January - Anti-vaxxers, or those who oppose vaccines, were deemed a top "threat to global health" in 2019 by the World Health Organization (WHO). "Vaccine hesitancy," as the United Nations agency calls it, "threatens to reverse progress made in tackling vaccine-preventable diseases." The organization in a recently released list said that while vaccines are "one of the most cost-effective ways of avoiding disease," there are several reasons — including "complacency, convenience and confidence" — that are to blame. Fox News
Bacteria in worms make a mosquito repellent that might beat DEET

16 January - The next great insect repellent might come from a strain of bacteria that lives inside a common parasitic worm. A study published Wednesday in *Science Advances* has found that a compound derived from these bacteria is three times more potent than DEET in repelling mosquitoes. More research must be done to demonstrate its safety, but this bacterial chemical could play an important role in the fight against mosquito-borne illness. ... [Researchers] were studying bacteria called *Xenorhabdus budapestensis*, which lives inside the tiny roundworms called nematodes. ... [They] put the bacteria into the artificial blood supply she feeds to her mosquito colonies, hoping they would ingest the bacteria and she could track whether the mosquitoes were harmed. But her mosquitoes wouldn’t go anywhere near the treated blood, much less ingest it. *NPR*

CEPI funds Australia-based rapid vaccine response pipeline

16 January - The Coalition for Epidemic Preparedness and Innovations (CEPI) has provided $14.7 million in funding for a partnership led by scientists at the University of Queensland to develop a rapid response pipeline to develop and test new vaccines against novel and existing infectious disease threats in as little as 16 weeks, according to a press release today from the university. Keith Chappell, PhD, one of the leaders of the project, said the goal is to make 200,000 doses of a new vaccine, demonstrate safety and the likelihood of efficacy, and have it ready for field deployment in as little as 6 months. The research group has patented a "molecular clamp" technology designed to stabilize viral proteins that are the main target of the immune system. *CIDRAP News Scan* (second item)

Gene-editing tool CRISPR/Cas9 shown to limit impact of certain parasitic diseases

15 January - For the first time, researchers ... have successfully used the gene-editing tool CRISPR/Cas9 to limit the impact of parasitic worms responsible for schistosomiasis and for liver fluke infection, which can cause a diverse spectrum of human disease including bile duct cancer. "The genes we ‘knocked out' using CRISPR/Cas9 resulted in markedly diminished symptoms of infection in our animal models," said [the] lead author. "Our research also showed that this revolutionary new biomedical procedure -- CRISPR/Cas9 -- can be adapted to study helminth parasites, which are a major public health problem in tropical climates." *ScienceDaily*

Global fight against killer diseases seeks £11bn

11 January - A key fund which finances the fight against AIDS, tuberculosis and malaria is seeking fresh investment worth £11bn. The French President Emmanuel Macron is launching
Human trafficking reaches 'horrific' new heights, declares U.N. report

14 January - Human trafficking has taken on "horrific" dimensions, according to the 2018 Global Report on Trafficking in Persons released this month by the United Nations Office of Drugs and Crime (UNODC). The report, which looked at data from 142 countries between 2014 and 2016, points to two particularly disturbing trends, says Angela Me, chief of the research and trend team at UNODC. The first is the increasing number of girls forced into trafficking, most frequently for sexual exploitation. The other is the growing prevalence of trafficking as a tool of war. Nearly 25,000 cases of human trafficking were reported to UNODC in 2016, up from approximately 20,000 in 2014 and 17,000 in 2013. NPR

Lone star ticks prefer females' breath over males', study says

14 January - The lone star tick exhibited a clear preference for human female breath over the breath of males, according to a new study. ... The findings suggest either that chemical compounds in female breath attract the disease-carrying vectors, or that male breath repels the bugs, the authors say. To conduct the study, researchers at Oklahoma State University had 20 men and 20 women breathe into tubes containing 10 Amblyomma americanum ticks. An average of 42.5% of ticks chose a female host, 18% chose a male host, and 39.5% did not make a choice, the authors said. This is the first study to demonstrate human sex preferences for lone star ticks. CIDRAP News Scan (fourth item)

NIH researchers rescue photoreceptors, prevent blindness in animal models of retinal degeneration

16 January - Using a novel patient-specific stem cell-based therapy, researchers at the National Eye Institute (NEI) prevented blindness in animal models of geographic atrophy, the advanced "dry" form of age-related macular degeneration (AMD), which is a leading cause of vision loss among people age 65 and older. The protocols established by the animal study ... set the stage for a first-in-human clinical trial testing the therapy in people with geographic atrophy, for which there is currently no treatment. NIH
No quick fix for physician burnout, depression

16 January - Close to 44 percent of U.S. physicians are burned out, and 15 percent are depressed and thinking about suicide, according to a survey conducted by Medscape. More than one doctor per day commits suicide - a rate higher than in any other profession and more than twice that of the general population, Medscape reports. … The Medscape survey found that male physicians are more likely to cope with burnout by exercising (51 percent males vs. 43 percent females), whereas female physicians are more likely to talk with friends and family (52 percent females vs. 37 percent males). More women eat junk food to cope (38 percent vs. 27 percent) and similar percentages of men and women drink alcohol (23 percent men; 21 percent women). Reuters

Pesticide, metal exposure tied to increased risk of heart disease

14 January - Workers who are exposed to pesticides or metals on the job may be significantly more likely to develop cardiovascular diseases, a U.S. study suggests. Researchers examined data on occupational exposure to solvents, metals and pesticides for 7,404 workers who were part of a Hispanic/Latino health study in four cities: Chicago, San Diego, Miami and New York. Overall, 6.5 percent of participants reported exposure to solvents at work, 8.5 percent encountered potentially toxic metals and 4.7 percent had pesticide exposure. Individuals who were exposed to pesticides were more than twice as likely overall to have conditions such as heart disease, heart failure or an irregular rapid heartbeat known as atrial fibrillation. Metal exposure was associated with a fourfold increase in risk for atrial fibrillation. The Washington Post

Protective glove and gown use when administering antineoplastic drugs

9 January - Female nurses who administer antineoplastic drugs – medications used to treat cancer – don’t always wear protective clothing, according to a new NIOSH study. … Nurses are exposed to antineoplastic drugs, or chemotherapeutic drugs, when they administer these drugs in pill or liquid form to patients who are battling all forms of cancer. The drugs, while working to kill rapidly dividing cancerous cells of a patient can also be harmful to the healthy dividing cells of the nurse, including the cells of a developing baby. … Of the non-pregnant nurses and pregnant nurses who said they administered antineoplastic drugs during the study period:

- Twelve percent of non-pregnant nurses and 9% of pregnant nurses indicated that they never wore gloves when administering antineoplastic drugs.
- Forty-two percent of non-pregnant nurses and 38% of pregnant nurses reported never using a gown.
- During the first 20 weeks of pregnancy, about one in 10 pregnant nurses did not
always wear gloves and one in two did not always wear a protective gown when administering these drugs. **NIOSH Update**

**Public spaces should stock bleeding-control kits for mass casualties, experts say**

11 January - As mass-casualty events and violent attacks in the U.S. continue to increase, military and emergency medicine experts are recommending that public venues install bleeding-control kits for at least 20 victims. These kits, equipped with nitrile gloves, a basic tourniquet, wound dressing to stop severe bleeding, rolled gauze and trauma scissors, could allow bystanders to help save lives after bombings, mass shootings and stabbings, the study authors write in the American Journal of Public Health. ... Soldiers who have learned hemorrhage-control skills have reduced battlefield deaths from 16 percent to 10 percent by being able to respond before medics arrive, the authors write. **Reuters**

**Scientists in Hong Kong claim antiviral breakthrough**

14 January - Scientists in Hong Kong say they have made a potential breakthrough discovery in the fight against infectious diseases - a chemical that could slow the spread of deadly viral illnesses. ... [Researchers] described the newly discovered chemical as "highly potent in interrupting the life cycle of diverse viruses". The scientists told AFP news agency on Monday that it could one day be used as a broad-spectrum antiviral for a host of infectious diseases - and even for viruses that have yet to emerge - if it passes clinical trials. ... The HKU team tested their chemical "AM580" on mice in a two-year study and found it stopped the replication of a host of flu strains - including H1N1, H5N1 and H7N9 - as well as the viruses that cause SARS and MERS. It also stopped the replication of the mosquito-borne Zika virus and Enterovirus 71 which causes hand, foot and mouth disease. **Al Jazeera**

**The diet to save lives, the planet and feed us all?**

17 January - A diet has been developed that promises to save lives, feed 10 billion people and all without causing catastrophic damage to the planet. Scientists have been trying to figure out how we are going to feed billions more people in the decades to come. Their answer - "the planetary health diet" - does not completely banish meat and dairy. But it is recommending we get most of our protein from nuts and legumes (such as beans and lentils) instead. Their diet needs an enormous shift in what we pile on to our plates and for us to turn to foods that we barely eat. **BBC News**

**The invisible warning signs that predict your future health**

17 January - ... With the help of artificial intelligence, patients and doctors could be alerted to potential changes in their health months, or even years, before symptoms appear.
Futurist Ross Dawson … highlights studies in which AI is better able to anticipate people who are likely to suffer heart attacks by constant monitoring of their pulse. One study even pulled out variables that cardiologists had not thought of as having predictive value – a home visit from the GP requested by the patient, for example. A recent study by researchers at Google showed that AI algorithms could also be used to predict if someone might suffer a heart attack by looking into their eyes. They trained an AI on retina scans from 284,335 patients. By looking for patterns in the crisscross of blood vessels, the machine learned to spot the tell-tale signs of cardiovascular disease. **BBC News**

**WHO lists 10 threats to global health, aims to improve health for billions**

15 January - Yesterday the World Health Organization (WHO) officially launched a new 5-year strategic plan, which focuses on 10 global health threats the world faces in 2019 and beyond. Among the 10 are 6 infectious disease threats: pandemic flu, antimicrobial resistance, Ebola and other high-threat pathogens, vaccine hesitancy, dengue, and HIV. The WHO said the overall goal of the 5-year plan is a triple-billion target, ensuring that 1 billion more people benefit from access to universal health coverage, 1 billion more people are protected from health emergencies, and 1 billion more people enjoy better health and well-being. **CIDRAP News Scan** (fourth item)

**ZIP code or genetic code?**

14 January - … In what the researchers describe as a coup for big data and a scientific first, [a research] team has used a massive insurance database of nearly 45 million people in the U.S., including thousands of twin pairs, to determine the effects of genes and environment in 560 common conditions. … Nearly 40 percent of the diseases in the study (225 of 560) had a genetic component, while 25 percent (138) were driven at least in part by factors stemming from sharing the same household, social influences, and the like. Cognitive disorders demonstrated the greatest degree of heritability — four out of five diseases showed a genetic component — while connective tissue diseases had the lowest degree of genetic influence. Of all disease categories, eye disorders carried the highest degree of environmental influence, with 27 of 42 diseases showing such effect. They were followed by respiratory diseases, with 34 out of 48 conditions showing an effect from sharing a household. **The Harvard Gazette**
AFHSB: DoD Seasonal Influenza Surveillance Summary

For Week 1:

- **NORTHCOM**: Influenza activity increased across the US, with half of the country experiencing moderate to high activity.
- **EUCOM**: Influenza activity continued to increase in EUCOM. Germany had moderate activity, while Italy, Greece, and Turkey had low activity.
- **PACOM**: Influenza activity increased in PACOM, with low activity in the Republic of Korea, Japan, and Hawaii.
- **CENTCOM**: Influenza activity ranged from minimal to high in CENTCOM locations with available data.
- **AFRICOM**: In Djibouti, influenza activity remained minimal and the percentage of outpatient visits due to ILI remained high, but similar to last week at 8.6%.
- **SOUTHCOM**: Influenza activity remained minimal in Honduras and Cuba during week 01.

APHC: U.S. Army Influenza Activity Report

For the week ending 5 January 2019 (week 1)

The number of positive respiratory specimens in week 1 decreased by 7% from the previous week, with 277 positive specimens in week 1 compared to 297 positive specimens in week 52 (with 84% of installations reporting influenza data in week 1). Influenza A and RSV accounted for 74% and 21% of the total respiratory specimen tests, respectively. The percentage of influenza-like illness visits in the Active Duty population increased by 35% when compared to the previous week. Four non-AD cases of influenza-associated hospitalization with an onset date in week 1 were reported to DRSi. The peak of this influenza season has yet to hit, so it is strongly recommended for leadership to encourage proper hand hygiene and respiratory etiquette, as well as to urge troops to seek medical attention for influenza like symptoms.

CDC: Flu View - Weekly U.S. Influenza Surveillance Report

2018-2019 Influenza Season Week 1 ending January 5, 2019

Influenza activity remains elevated in the United States. Influenza A(H1N1)pdm09, influenza A(H3N2), and influenza B viruses continue to co-circulate. Below is a summary of the key influenza indicators for the week ending January 5, 2019:

- Viral Surveillance: The percentage of respiratory specimens testing positive for influenza viruses in clinical laboratories decreased slightly. Influenza A viruses have predominated in the United States since the beginning of October.
A(H1N1)pdm09 viruses have predominated in most areas of the country, however influenza A(H3) viruses have predominated in the southeastern United States (HHS Region 4).

- Surveillance: The proportion of outpatient visits for influenza-like illness (ILI) decreased from 4.0% to 3.5%, but remains above the national baseline of 2.2%. All 10 regions reported ILI at or above their region-specific baseline level. CDC

**ECDC: Flu News Europe**

Week 1/2019 (31 December 2018–6 January 2019)

- Influenza activity continued to increase in the European Region. Of the individuals sampled after presenting with ILI or ARI to sentinel primary health care sites, 44.6% tested positive for influenza viruses.
- The majority of influenza virus detections were type A in both inpatients and outpatients.
- Both influenza A(H3N2) and A(H1N1)pdm09 viruses were detected.
- Data from the 21 Member States and areas reporting to the EuroMOMO < Caution-http://www.euromomo.eu/ > project indicated all-cause mortality was at expected levels for this time of year.

European Center for Disease Prevention and Control/WHO

**NHRC: Operational Infectious Diseases - Weekly Surveillance Report**

For Week 52 FY18 (23 Dec–29 Dec 2018), febrile respiratory illness surveillance data among military recruit, DoD beneficiary, and U.S.-Mexico border (CDC-BIDS) populations indicated 18 positive samples out of 28 received.

- Military Recruits - 6 positive
- DoD Beneficiaries – 18 positive
- CDC Border Infectious Disease Surveillance – 4 positive

Naval Health Research Center

**Preliminary in-season U.S. influenza burden estimates**

11 January - This web page provides weekly preliminary estimates of the cumulative in-season numbers of flu illnesses, medical visits and hospitalizations in the United States. CDC has estimated the burden of flu since 2010 using a mathematical model that is based on observed rates of laboratory-confirmed collected through a surveillance network that covers approximately 8.5% of the U.S. population (~27 million people). CDC
### Week 1 ending January 5, 2019

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<th>Symptomatic Illnesses</th>
<th>Medical Visits</th>
<th>Hospitalizations</th>
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<td>6,150,000 – 7,280,000</td>
<td>2,920,000 – 3,510,000</td>
<td>69,300 – 83,500</td>
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**Up to 84,000 Americans hospitalized with flu in past three months: CDC**

11 January - An estimated 69,000 to 84,000 Americans were hospitalized due to the flu in the last three months, the Centers for Disease Control and Prevention (CDC) said on Friday. The nation saw one of the worst flu outbreaks in nearly a decade during the 2017-2018 season, with more than 900,000 cases of hospitalizations and over 80,000 deaths, the CDC estimates here. Between Oct. 1, 2018 and Jan. 5, 2019, about 6 million to 7 million people were reported to have contracted the flu, according to data collected by the health agency. Health regulators have been trying to combat flu outbreaks in the United States and the U.S. Food and Drug Administration approved the first new flu medication in nearly two decades last year. [Reuters](https://www.reuters.com/)

**USAFSAM & DHA: DoD Global Respiratory Pathogen Surveillance Program**

During 23 December 2018 - 5 January 2019 (Surveillance Weeks 52 & 01), a total of 299 specimens were collected and received from 47 locations with influenza-like illness (ILI). Results were finalized for 296 specimens from 47 locations. The influenza percent positive for Weeks 52 and 01 were approximately 21% and 22%, respectively. The influenza percent positive for the season is approximately 6.5%.

[U.S. Air Force School of Aerospace Medicine & Defense Health Agency](https://www.dhahq.osd.mil/)

**VETERINARY/FOOD SAFETY**

Auditors find EU chemical hazards system is ‘overstretched’

17 January - The European Union’s system for protecting consumers from chemical hazards in food is overstretched, according to a report from the European Court of Auditors (ECA). The audit between December 2017 and May 2018 concentrated on chemical hazards — poisonous substances that occur naturally or are added during food production or handling. ... It concluded the model is soundly based and respected worldwide. However, the European Commission and member states do not have the capacity to fully implement...
the system. Auditors found the EU legal framework on chemicals in food, feed, plants and live animals remains a work in progress and has not yet achieved the level of implementation envisaged in EU food law. Food Safety News top of page...

U.S. shutdown taking toll on FDA, USDA inspection roles: experts

16 January - Workers in public health laboratories are reporting disruptions in the analysis of DNA from food samples involved in foodborne outbreaks, and have raised concerns about a USDA program that tests agricultural commodities for unsafe levels of pesticides, they said. The shutdown is "putting our nation's food supply at risk," Connecticut Representative Rosa DeLauro, a Democrat, said ... Wednesday. Only about a third of the FDA's regular inspections are being carried out, she said. The FDA has furloughed 41 percent of its workforce of more than 17,000 employees, Thomas Gremillion of the Consumer Federation of America told the briefing. About 90 percent of the USDA's 9,500 Food Safety and Inspection Service (FSIS) employees remain on the job but are working without pay, he said. FDA Commissioner Dr. Scott Gottlieb said on Twitter on Tuesday that he is bringing back 150 food inspectors. Foodborne disease outbreaks are investigated jointly by the Centers for Disease Control and Prevention and the FDA and FSIS, which trace the source of outbreaks back to food producers. The CDC is fully funded and continuing to investigate, coordinate and communicate about such outbreaks may be delayed" as a result of the shutdown, CDC spokesman Tom Skinner said. Reuters top of page...

WELLNESS

Long-acting contraceptive designed to be self-administered via microneedle patch

14 January - A new long-acting contraceptive designed to be self-administered by women may provide a new family planning option, particularly in developing nations where access to healthcare can be limited, a recent study suggests. The contraceptive would be delivered using microneedle skin patch technology originally developed for the painless administration of vaccines. Long-acting contraceptives now available provide the highest level of effectiveness, but usually require a healthcare professional to inject a drug or implant a device. Short-acting techniques, on the other hand, require frequent compliance by users and therefore are often not as effective. In animal testing, an experimental microneedle contraceptive patch provided a therapeutic level of contraceptive hormone for more than a month with a single application to the skin. ScienceDaily top of page...
Mental health patients missing GP appointments 'at risk'

11 January - Mental health patients who miss two or more GP appointments within the space of a year are eight times more likely to die in the subsequent 18 months than those who miss none, a study suggests. The University of Glasgow study looked at 274,547 patients with long-term mental health conditions, at surgeries across Scotland between 2013 and 2016. Of those who missed appointments, 32.1% were addicted to alcohol and drugs. And among those who subsequently died, the average age of death was 49. ... Prof Helen Stokes-Lampard, who chairs the Royal College of GPs, said: "People miss appointments for a range of reasons - but this study highlights why it's more important to show compassion to people who fail to attend, rather than punishing them. BBC News

One in five U.S. women delay birth control, increasing unwanted pregnancies

15 January - One in five American women don’t start using birth control when they first start having sex, increasing their risk of unwanted pregnancies, a U.S. study suggests. Women who don’t use condoms, birth control pills or any other forms of contraception when they first become sexually active are almost four times more likely to have an unwanted pregnancy in the next three months than their counterparts who use birth control from the start, researchers report in Pediatrics. ... American women today typically become sexually active around age 17, and unintended pregnancy rates are highest among women ages 18 to 24, researchers report in Pediatrics. Reuters

Report: Americans are now more likely to die of an opioid overdose than on the road

14 January - For the first time in U.S. history, a leading cause of deaths — vehicle crashes — has been surpassed in likelihood by opioid overdoses, according to a new report on preventable deaths from the National Safety Council. Americans now have a 1 in 96 chance of dying from an opioid overdose, according to the council’s analysis of 2017 data on accidental death. The probability of dying in a motor vehicle crash is 1 in 103. NPR

Sleeping less than 6 hours a night tied to heart disease

16 January - Sleeping less than six hours a night, and sleeping poorly, are associated with hardening of the arteries, a new study has found. Researchers used accelerometers attached to the waists of 3,974 healthy men and women, average age 46, to monitor the duration and quality of their sleep over seven nights. ... After controlling for smoking, diabetes, fasting glucose, cholesterol and many other factors, they found that compared with people who slept seven to eight hours a night, those who slept less than six hours were 27 percent more likely to be in the highest one-third for the amount of plaque in their arteries. The
scientists also found that various blood markers of inflammation were higher in those who got the least sleep. The people who moved the most during sleep also had higher accumulations of plaque than those who slept soundly. The New York Times

The science is clear: with HIV, undetectable equals untransmittable

10 January - In recent years, an overwhelming body of clinical evidence has firmly established the HIV Undetectable = Untransmittable (U=U) concept as scientifically sound, say officials from the National Institutes of Health. U=U means that people living with HIV who achieve and maintain an undetectable viral load-the amount of HIV in the blood-by taking and adhering to antiretroviral therapy (ART) as prescribed cannot sexually transmit the virus to others. NIH

U.S. substance abuse helpline largely unknown

14 January - The U.S. government’s toll-free substance abuse helpline, which provides free referral services to those looking for treatment, gets little publicity, a new study finds. By contrast, suicide helplines are regularly publicized, the research team points out. ... The Substance Abuse and Mental Health Services Administration (SAMHSA) helpline, 800-662 HELP, is the only federally managed and endorsed addiction treatment referral service. "It's a place where people can get social support," Ayers said. Reuters

Want to prevent the deadliest diseases? Eat more fiber

10 January - If you want to eat something for better health, make it fiber. That’s the advice from nutrition experts and the latest national dietary guidelines. Now, a large new review of studies on fiber, published in The Lancet, shows just how beneficial fiber can be. The nutrient substantially lowers the risk of at least four diseases—many of which don’t even directly relate to the gut. Compared to those who ate less fiber, people who ate more fiber lowered their risk of heart disease, stroke, type 2 diabetes and colon cancer, as well as their risk of dying early from any cause, by 15% to 30%. Time

Democratic Republic of Congo: Ebola infects 5 more in DRC outbreak, 663 total

16 January - The Democratic Republic of the Congo (DRC) Ebola outbreak grew by five cases today, with illnesses reported in four different location, according to the health
ministry's daily update. Of the latest confirmed cases, two are from Katwa, with one each reported in Butembo, Kyondo, and Oicha. The illnesses bring the outbreak number to 663, which includes 614 confirmed and 49 probable cases. Health officials are still investigating 123 suspected Ebola cases, down from 200 noted yesterday. Five new deaths were reported, including three that occurred in community settings in Katwa, Butembo, and Kyondo. Community deaths raise the risk of further transmission, because the patients weren't isolated and caregivers likely weren't protected at a point during illnesses when viral levels are highest. The two other deaths were reported from the Butembo Ebola treatment center. Vaccination with Merck's unlicensed VSV-EBOV continues, and today's report said 60,715 people have received it. CIDRAP News Scan (first item)

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Ethiopia: Ethiopia detects malaria-carrying mosquito for first time

16 January - For the first time, researchers have detected Anopheles stephensi—a mosquito capable of transmitting malaria and normally found in the Middle East, Indian subcontinent, and China—in Ethiopia. "If these mosquitoes carry malaria, we may see an emergence of malaria in new regions," said lead study author Tamar Carter, PhD. ... The mosquitoes were collected in breeding sites in late 2016 in Kebri Dehar, a city in Ethiopia's semi-arid eastern region. In a phylogenetic analysis, the researchers found the insects to be part of a distinct clade with a sister isolate from Pakistan, possibly suggesting a novel introduction of the species into the Horn of Africa. CIDRAP News Scan (third item)

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Madagascar: Measles

17 January - WHO is supporting the Ministry of Public Health of Madagascar to respond to an unusually large measles outbreak. ... From 4 October 2018 to 7 January 2019, 19 539 measles cases and 39 “facility-based” deaths (case fatality ratio: 0.2%) have been reported by the Ministry of Public Health (MoH) of Madagascar. ... Among the 19 539 measles cases, 375 have been laboratory confirmed (all are IgM+) and 19 164 were confirmed by epidemiological link. WHO

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Mozambique: Mozambique records 2 cases of vaccine-derived polio, first in 2 years

11 January - Mozambique declared an outbreak of circulating vaccine-derived poliovirus type 2 (cVDPV2) after two cases were detected in the Zambezi province. Details of the outbreak are published today in the latest weekly update from the Global Polio Eradication Initiative (GPEI). These are the first polio cases in Mozambique since January of 2017. The case-patients include a 6-year-old girl with no history of vaccination, and a community contact of that patient. The girl experienced an onset of paralysis on Oct 21, 2018. CIDRAP News Scan (first item)

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Pakistan/U.S.: CDC reports 5 US cases of XDR typhoid infections

11 January - Enhanced surveillance has identified five US cases of extensively drug-resistant (XDR) typhoid infections associated with travel to Pakistan, according to a report today from the Centers for Disease Control and Prevention (CDC). ... The researchers report that, from 2016 through 2018, 29 patients with typhoid fever ... reported travel to or from Pakistan and had isolates tested for antimicrobial susceptibility. Five of those patients had XDR Salmonella Typhi, which is resistant to five classes of antibiotics. ... All patients were children aged 4 to 12 years and had traveled to or from Pakistan from late 2017 through mid-2018. CIDRAP Stewardship/Resistance Scan (first item)

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Saudi Arabia: Second new MERS case reported in Jeddah

15 January - Today Saudi Arabia’s ministry of health (MOH) reported a new MERS-CoV case in the city of Jeddah. The notice came in an epidemiologic week 3 notification. A 52-year-old man is hospitalized for his MERS-CoV (Middle East respiratory syndrome coronavirus) infection. He is listed as a household contact of another case—quite possibly a 75-year-old man from the same city who was hospitalized last week. Neither man had any contact with camels. The new case likely lifts on the global total since 2012 to 2,286 cases, at least 806 of them fatal. It is the fifth Saudi MERS case of 2019. CIDRAP News Scan (first item)

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France: Emergence of enterovirus D68 clade D1, France, August to November 2018

17 January - We report a seasonal increase of enterovirus D68 (EV-D68) cases in France, with 54 cases detected between 19 August and 14 November 2018. Molecular typing revealed that 20 of 32 of the isolates belonged to clade D1, only sporadically detected before in France. Median age of D1-cases was 42 years, 10 developed severe respiratory signs and one had neurological complications. The 2018-D1 viruses showed a genetic divergence of 3.34 % with D1 viruses identified previously. Eurosurveillance
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France: French court cancels Monsanto weedkiller permit on safety grounds

15 January - A French court canceled the license for one of Monsanto’s glyphosate-based weedkillers on Tuesday over safety concerns, placing an immediate ban on Roundup Pro
360 in the latest legal blow to the Bayer-owned business. Germany’s Bayer, which bought Monsanto for $63 billion last year, faces thousands of U.S. lawsuits by people who say its Roundup and Ranger Pro products caused their cancer. A court in Lyon in southeast France ruled that the approval granted by French environment agency ANSES in 2017 for Roundup Pro 360 had failed to take into account potential health risks. Reuters

group of article:

Germany: Healthcare-related MRSA rates drop almost in half in Germany

16 January - From 2007 to 2016, nosocomial transmission of methicillin-resistant *Staphylococcus aureus* (MRSA) dropped significantly in German intensive care units (ICUs) and surgical departments, according to a study published in *Journal of Infection*. The study ... included information from 1,218 intensive care units (ICUs) and 1,556 surgical departments. A total of 14,408 nosocomial MRSA infections were documented during the study period. The overall decrease in the proportion of MRSA among all healthcare-associated *S aureus* infections dropped from 37.1% to 20.0% during the 10-year period, a 46.1% decline. CIDRAP Stewardship/Resistance Scan (second item)

USINDOPACOM

New Zealand: Thousands of New Zealand doctors strike over pay, work conditions

14 January - Nearly 80 percent of junior doctors across New Zealand have walked off work at public hospitals, after a breakdown in union talks with the government over working conditions and wages. ... More than 3,300 government-employed junior doctors, of a national tally of 3,700, are staying away from hospitals and clinics after the talks broke down last week. ... Thousands of surgeries, non-essential appointments and medical services have been cancelled, although emergency and life-preserving services will continue as senior doctors, who are not part of the strike, are asked to step in. Al Jazeera

North Korea: North Korea’s less-known military threat - biological weapons

15 January - Pound for pound, the deadliest arms of all time are not nuclear but biological. A single gallon of anthrax, if suitably distributed, could end human life on Earth. Even so, the Trump administration has given scant attention to North Korea’s pursuit of living weapons — a threat that analysts describe as more immediate than its nuclear arms. ... According to an analysis issued ... last month, North Korea is collaborating with foreign researchers to learn biotechnology skills and build machinery. As a result, the country’s capabilities are
increasing rapidly. “North Korea is far more likely to use biological weapons than nuclear ones,” said Andrew C. Weber, a Pentagon official in charge of nuclear, chemical and biological defense programs under President Obama. “The program is advanced, underestimated and highly lethal.” The New York Times

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USNORTHCOM

U.S.: CDC records 3 more acute flaccid myelitis cases, 196 total

14 January - The US Centers for Disease Control and Prevention (CDC) today recorded 3 new cases of acute flaccid myelitis (AFM), bringing the total for 2018 to 196 confirmed cases. The confirmed cases are among the 357 reports that CDC received of patients under investigation. 2018 has seen the most AFM cases of any year since the CDC began tracking the mysterious illness in 2014. CIDRAP News Scan (first item)

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U.S.: FDA approves Sanofi Tdap vaccine for repeat vaccination

15 January - Sanofi announced yesterday that the US Food and Drug Administration (FDA) has approved expanded use of its Adacel tetanus, diphtheria, and acellular pertussis (Tdap) vaccine for repeat vaccination, making it the first to be cleared for that purpose. The approval for repeat vaccination applies to people ages 10 through 64, 8 or more years after first vaccination. ... David Greenberg, MD, Sanofi’s regional medical head for North America, said in the statement that despite strong vaccination programs for young adolescents, a single Tdap immunization doesn’t offer lifetime protection against pertussis because of waning immunity. CIDRAP News Scan (second item)

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U.S.: Federal work at Superfund sites suspended during shutdown

12 January - The government shutdown has suspended federal cleanups at Superfund sites around the nation and forced the cancellation of public hearings, deepening the mistrust and resentment of surrounding residents who feel people in power long ago abandoned them to live among the toxic residue of the country’s factories and mines. ... [T]he 3-week-old partial government shutdown has stopped federal work on Superfund sites except for cases where the administration deems “there is an imminent threat to the safety of human life or to the protection of property.” Federal Times

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U.S.: Financial stress linked to heart disease risk among African-Americans

17 January - ... In a new study, researchers ... found that African-Americans who experienced moderate to high financial stress had greater risk of developing heart disease than those who did not ... African-American men and women who experienced moderate to high financial stress had almost three times greater risk of heart disease events — including heart attacks and procedures to investigate or treat heart disease — than those who did not experience financial stress. Individuals with mild financial stress had nearly two times the risk. The combination of three key factors — depression, smoking, and diabetes — appeared to explain some of the connection between financial stress and heart disease risk.

The Harvard Gazette

U.S.: New York confronts its worst measles outbreak in decades

17 January - Through the fall, traveler after traveler arrived in the ultra-Orthodox Jewish communities of New York from areas of Israel and Europe where measles was spreading. They then spent time in homes, schools and shops in communities where too many people were unvaccinated. Within months, New York State was facing its most severe outbreak of the disease in decades, with 180 cases confirmed by Thursday, almost exclusively among ultra-Orthodox Jews. Health officials in New Jersey have reported 33 measles cases, mostly in Ocean County, driven by similar conditions. In 2018, New York and New Jersey accounted for more than half the measles cases in the country. ...[S]ome religious schools, or yeshivas, in ultra-Orthodox communities in Rockland County had vaccination rates as low as 60 percent

The New York Times

U.S.: U.S. cancer deaths down 27% in 25 years, but socioeconomic gaps widening

8 January - The overall rate of cancer deaths in the U.S. has declined by 27% during the past 25 years, with approximately 2.6 million fewer cancer deaths reported between 1991 and 2016, according to data from Cancer Statistics 2019, American Cancer Society’s annual report on cancer rates and trends. However, cancer remains the second leading cause of death in the U.S. after heart disease among men and women, and it was responsible for 22% of U.S. deaths in 2016. Additionally, while racial disparities in cancer deaths are slowly narrowing, socioeconomic gaps are widening, with poorer counties facing increasingly imbalanced cancer death rates. This disproportionate burden is particularly pronounced among the most preventable cancers, such as lung and cervical cancer.

Healio
Bolivia: Study finds diarrheal pathogens, resistance genes in Bolivian river

15 January - A team of Bolivian and Swedish researchers has found evidence of diarrheal pathogens and antibiotic-resistant bacteria in samples from an urban waterway in Bolivia, according to a study yesterday in *PLOS One*. In the study, the researchers aimed to analyze the occurrence and bacterial load of diarrheal pathogens in water, soil, and vegetable samples from the Choqueyapu River—which receives wastewater from urban, medical, and industrial sources—and other affluent rivers in the La Paz River basin. ... The most abundant genes found in the water, soil, and vegetable samples were gapA, which indicates the presence of enterobacteria, and eltB, an indicator of enterotoxigenic *E coli* carrying the heat labile toxin. [CIDRAP Stewardship/Resistance Scan](second item)

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Brazil: Brazil imported measles outbreak tops 10,000 cases last year

12 January - The Brazil Ministry of Health reported this week (computer translated) on the measles situation in the country. From the beginning of 2018, until January 8 of this year, 10,274 cases were confirmed in Brazil. 12 fatalities have been reported. Currently, the country faces two outbreaks of measles: in Amazonas with 9,778 confirmed cases and in 355 cases in Roraima. The outbreaks that occurred last year are related to importation, since the genotype of the virus (D8), which is circulating in Brazil, is the same that circulates in Venezuela, a country with a disease outbreak since 2017. [Outbreak News Today](top of page...)

Haiti: Madariaga virus reported in several children

15 January - Madariaga virus (MADV), or South American eastern equine encephalitis virus (EEEV), has—until now—been found primarily in animals of South and Central America, with the first human outbreak occurring in Panama in 2010. Now, scientists writing in *PLOS Neglected Tropical Diseases* report the identification of MADV in eight children in Haiti in 2015 and 2016. Madariaga is a mosquito-borne disease transmitted to humans from animals including horses, mice, rats and bats. Little is known about its epidemiology or life cycle. While MADV can cause serious encephalitis. [Outbreak News Today](top of page...)

Venezuela: As Venezuela’s denied crisis deepens, local aid groups shift tactics

17 January - ... As his contested second term in office begins, Venezuelan leader Nicolás Maduro faces mounting opposition at home and abroad. In November, the country quietly
agreed to receive assistance from the UN’s emergency response fund for the first time. But analysts say the $9.2 million in funding for existing UN programmes is a drop in the bucket compared to a humanitarian emergency that has left households without stable food supplies and medicine. Facing glaringly inadequate government services and a lack of official aid, struggling local NGOs have found themselves trying to fill the gap. IRIN top of page...