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Army Public Health Weekly Update

Army Public Health Center

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Invictus Games

The 2016 Invictus Games are just wrapping up in Orlando, Florida, and after Queen Elizabeth and Prince Harry challenged President Obama and First Lady Michelle Obama to “bring it,” the media coverage on the event has been blowing up. Photographs of many of the athletes this year were provided by Boston photographer Craig Orsini, whose experience with Invictus begins with his commitment to advocating for veterans.



- Germany looks set to abstain in EU glyphosate vote
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U.S. MILITARY

Absolute and relative morbidity burdens attributable to various illnesses and injuries, active component, U.S. Armed Forces, 2015

April 2016 - ... The “morbidity burdens” attributable to various “conditions” were estimated based on the total number of medical encounters attributable to each condition, ... numbers of service members affected by each condition, ... and total bed days during hospitalizations for each condition. In 2015, more service members (n=550,283) received medical care for injury/poisoning than any other morbidity-related category. In addition, injury/poisoning accounted for more medical encounters (n=2,134,133) than any other morbidity category and one-fifth (21.2%) of all medical encounters overall. Mental disorders accounted for more hospital bed days (n=147,457) than any other morbidity category and 42.8% of all hospital bed days overall. Together, injury/poisoning and mental disorders accounted for more than half (54.8%) of all hospital bed days and almost two-fifths (39.6%) of all medical encounters. Of note, maternal conditions (including pregnancy complications and delivery) accounted for a relatively large proportion of all hospital bed days (n=54,620; 15.8%), but a much smaller proportion of medical encounters overall (n=168,877; 1.7%).

[Medical Surveillance Monthly Report](#)

New DoD mobile app helps diffuse nightmares for better sleep

Nightmares are a normal way for the brain to process a traumatic event. Isolated nightmares are normal, but when dreams that consist of flashbacks, unwanted memories, visceral fear or anxiety recur often, they can become a debilitating sleep disorder

The Defense Department's National Center for Telehealth & Technology (T2) has developed a new mobile application to help users rewrite bad dreams to reduce the frequency and intensity of nightmares. The app, called Dream EZ, is based on a nightmare treatment called imagery rehearsal therapy.



Army takes a hard look at creating a combat readiness test

11 May - As the Army rolls out a new physical assessment for its newest soldiers, the service also is studying the possibility of creating a combat readiness test for troops already in the ranks. The test, if senior Army leaders decide to pursue one, will be one way to assess soldiers' abilities to meet the demands of their jobs after leaving the training environment. ... Acting Army Secretary Patrick Murphy and Army Chief of Staff Gen. Mark Milley have made readiness their top priority. [Army Times](#)

Genetic variants may put some soldiers at higher risk of PTSD

11 May - In a massive analysis of DNA samples from more than 13,000 U.S. soldiers, scientists have identified two statistically significant genetic variants that may be associated with an increased risk of post-traumatic stress disorder (PTSD). ... Two coordinated, genome-wide association studies (GWAS) were conducted in two cohorts of consenting soldiers in the Army Study to Assess Risk and Resilience in Servicemembers (Army STARRS). ... "We found two notable genetic variants," said co-principal investigator Murray B. Stein. ... "The first, in samples from African-American soldiers with PTSD, was in a gene (ANKRD55) on chromosome 5. In prior research, this gene has been found to be associated with various autoimmune and inflammatory disorders. ... The other variant was found on chromosome 19 in European-American samples." [UC San Diego Health](#)

Pesticides, military service may be tied to ALS risk

9 May - People with Lou Gehrig's disease, or ALS, are more likely to have been exposed to toxic pesticides or to have served in the military than similar people without the condition, according to a new study. ... Participants completed questionnaires on their exposure to toxins at work and provided blood samples. Their blood was tested for environmental pollutants including those found in pesticides and flame retardants as well as polychlorinated biphenyls (PCBs). Using age, sex, educational level, smoking status and occupational risk factors as well as blood test results, the researchers compared 101 adults with diagnosed or probable ALS and 110 adults without ALS, on average around age 60. Those with ALS were more likely to report pesticide exposure or to have ever served in the military than those without the disease. [Reuters](#)

Problem drinking starts before military deployment

6 May - Binge drinking and alcoholism is a big issue in the U.S. Navy and Marine Corps. ... More than a quarter of sailors and marines who were anonymously surveyed within two weeks before their deployment admitted to binge drinking regularly, and nearly 40 percent reported dangerous drinking. [The pre-deployment] period could be a time of higher stress and people may drink more because they will not be able to drink while aboard ship, the researchers write. ... Just under 39 percent of the sailors and marines reported hazardous

Zika Virus: Tools for Health Care Providers

View printable and easy-to-use CDC fact sheets, guidance documents, and testing algorithms for Zika virus infection.



drinking before deployment. This was significantly higher for men, at 40 percent, than for women, at 34 percent. Thirty-six percent of those under age 21 had engaged in hazardous drinking. [Reuters](#)

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GLOBAL

Abortion rates fall to historic low in wealthy countries, little changed elsewhere

12 May - Abortion rates have dropped dramatically in the past 25 years to historic lows in wealthy countries, but dipped only slightly in poorer developing nations. ... The study ... also found that imposing restrictive laws does little to lower abortion rates, but is more likely to force people into having unsafe terminations. ... The overall findings highlight a lack in poorer countries of access to modern contraception methods - such as the pill, implants and coils - to reduce unwanted pregnancies, the researchers said. [Reuters](#)

Air pollution levels skyrocketing in world's poorest cities

12 May - A study finds more than 80 percent of urban dwellers are exposed to alarmingly high levels of air pollution, responsible for an estimated seven million premature deaths every year. This latest report on urban air quality by the World Health Organization finds those most affected live in the world's poorest cities. The study finds urban air pollution has nearly doubled over the past two years in 3,000 cities in 103 countries. It notes a whopping 98 percent of cities in poorer countries with more than 100,000 inhabitants are exposed to air pollution levels above those recommended by the WHO. That figure decreases to 56 percent in richer countries. ... The report found cities and towns that have the poorest air quality are in the Eastern Mediterranean and South East Asian regions, followed by countries in Africa. [VOA](#)

CDC labs repeatedly faced secret sanctions for mishandling bioterror germs

11 May - A laboratory operated by the Centers for Disease Control and Prevention is among the handful of facilities that have secretly had their permits suspended in recent years for serious safety violations while working with bioterror pathogens, according to documents obtained by USA TODAY after winning a Freedom of Information Act appeal. The CDC's own labs also have been referred for additional secret federal enforcement actions six times because of serious or repeated violations in how they've handled certain viruses, bacteria and toxins that are heavily regulated because of their potential use as bioweapons, the CDC admitted for the first time on Tuesday. [USA Today](#)

Egg Safety: What You Need to Know

Fresh eggs, even those with clean, uncracked shells, may contain bacteria called *Salmonella* that can cause foodborne illness, often called "food poisoning." The U.S. Food and Drug Administration (FDA) estimates that 79,000 cases of foodborne illness and 30 deaths each year are caused by eating eggs contaminated with *Salmonella*.



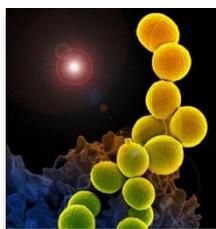
Database helps researchers connect exposures to health effects, compare diseases

12 May - Two new studies from a group at North Carolina State University give researchers new strategies for connecting environmental exposures to human health effects. The Comparative Toxicogenomics Database (CTD) is a public database that manually curates and codes data from the scientific literature describing how environmental chemicals interact with genes to affect human health. "CTD is the only freely available database of its sort," says Carolyn Mattingly, ... principal investigator of the CTD program. "It centralizes scientific data on thousands of chemicals and their relationships to genes, molecular pathways and diseases, and combines this information with tools to help scientists explore the impact of environmental exposures on human health." [Science Daily](#)

Death after surgery three times more likely in lower-income countries

12 May - How many people survive after emergency surgery is one measure of the quality of care they have access to, and post-surgery death rates in low- and middle-income countries suggest quality needs to be better, researchers say. Using mortality rates within 24 hours and 30 days after emergency abdominal surgery as a measure, the study covered 58 countries and found risk of death was three times higher in low-income compared to high-income nations. "Safety practices ... are less routinely used in low and middle income countries, due to a lack of resources and training in safety cultures," which may include equipment sterility, availability of antibiotics, and type of skin preparation used at the time of surgery. [Reuters](#)

Household MRSA contamination may fuel repeat infections



11 May - Patients who were recently treated for a community-associated methicillin-resistant *Staphylococcus aureus* (CA-MRSA) infection face a higher risk of recurrent infections if their households are contaminated with the same MRSA strain, a small study ... suggests. Researchers ... report that patients had about twice the risk of a recurrent infection if objects in their household harbored the same clinical MRSA isolate they had the first time, compared with patients from households without the same isolate in the environment. [CIDRAP](#)

Investing in adolescent health and wellbeing could transform global health for generations to come

9 May - Decades of neglect and chronic underinvestment have had serious detrimental effects on the health and wellbeing of adolescents aged 10-24 years. ... Two-thirds of young

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<http://phc.army.smil.mil>

Look under Hot Topics & Current Issues.

To access this version, you will need a **SECRET** clearance and a SIPRNet account.

people are growing up in countries where preventable and treatable health problems like HIV/AIDS, early pregnancy, unsafe sex, depression, injury, and violence remain a daily threat to their health. ... Adolescents today also face new challenges, including rising levels of obesity and mental health disorders, high unemployment, and the risk of radicalization. ... Most health problems and lifestyle risk factors for disease in later life also emerge during these years. ... But because adolescence is generally thought to be the healthiest time of life, young people have attracted little interest and too few resources. Indeed, adolescents aged 10-24 years have the poorest health-care coverage of any age group. [See [article](#) for key findings of the Global Burden of Health paper.] [EurekAlert!](#)

Mosquito-repellent soap invention seeks to wash away Africa malaria threat

12 May - Two former students from Burkina Faso have designed a mosquito-repellent soap, which they hope could be a simple and affordable solution in the fight to end malaria, but more funds are needed to test the idea, according to the startup behind it. ... Faso Soap must be tested to ensure it is safe for human use and effective at preventing malaria before it can be mass produced by soap manufacturers in Africa. ... The soap is designed to repel mosquitoes up to six hours after being applied, and once soapy water is thrown away on the street, hinder the insects from breeding in stagnant water. [Reuters](#)

Rise in heat waves tied to kidney disease ‘epidemics’

11 May - An increase in heat waves worldwide linked to climate change may be behind epidemics of kidney disease detected in workers who are increasingly exposed to heat and dehydration, according to a research review. ... [Researchers] studied reports of upticks in cases of chronic kidney disease detected in hot climates and among populations without regular access to healthcare. ... A recent epidemic of chronic kidney disease in Central America, particularly among male sugarcane workers on the Pacific coast, was initially suspected to be linked to chemicals or other toxins, for example. But the kidney damage was found to be more common among sugarcane cutters than among pesticide applicators and less common at higher altitudes where temperatures are cooler - suggesting that workers with the greatest exertion and heat exposure had the highest risk. [Reuters](#)

‘Second skin’ may reduce wrinkles, eyebags, scientists say

9 May – The idea sounds like fantasy: an invisible film that can be painted on your skin and give it the elasticity of youth. ... Scientists ... say a “second skin” composed of commonly used chemicals deemed safe by the Food and Drug Administration can accomplish that — and in small studies of it, so far no one has reported irritation or allergic reactions. ... You can [also] soak the film with sunscreen and protect yourself without worrying about sweat or water washing it away, researchers said. They expect it can be used to treat eczema, psoriasis and other skin conditions by covering dry itchy patches with a film that moistures and soothes. ... It can be removed with a solution that dissolves the polymer.

[The New York Times](#)

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Study: Colistin-resistant bacteria may elude detection

9 May - Colistin-susceptible *Enterobacter cloacae* can harbor resistant bacterial colonies that are missed by diagnostic testing, increase in number when exposed to colistin, and cause lethal infections. ... The authors say that multidrug-resistant *Enterobacter* species are a growing cause of hospital-acquired infections, with colistin used as a last-line treatment. With some bacterial infections, they add, antibiotic treatment fails in about 10% of cases even when the strain is classified as antibiotic-susceptible. [CIDRAP](#)

Takeda gets \$38 million Gates grant to boost polio vaccine supply

9 May - Takeda Pharmaceutical Company today announced a \$38 million grant from the Bill and Melinda Gates Foundation, part of a partnership to develop a safe, effective, and affordable Sabin-strain inactivated polio vaccine (IPV) for developing countries. Japan-based Takeda said in a statement that it will use the funding to supply at least 50 million IPV doses per year to more than 70 developing nations. [CIDRAP News Scan](#) (first item)

Tea, honey, hops and sponges: The antibacterials hunt



6 May - What do tea, beer, honey and marine sponges have in common? They are all among the natural products Welsh scientists are targeting in the hunt for sources of new antimicrobials. ... Cardiff University's School of Pharmacy and Pharmaceutical Science has turned to some unlikely Welsh sources - including a few

found in ancient remedies. "Much of what we do is based on whizzy machines and science, but there's a lot to learn from history," said Prof Les Baillie. "While some of these ancient remedies might well be hokum or snake oil, it's likely that over thousands of years our ancestors hit on something that actually worked." [BBC News](#)

Yellow fever epidemic: New global health emergency?

9 May - Evidence is mounting that the current outbreak of yellow fever is becoming the latest global health emergency. ... [The] ongoing spread, and potential future spread, of yellow fever coupled with a limited vaccine supply should compel the WHO to "urgently convene an emergency committee to mobilize funds, coordinate an international response, and spearhead a surge in vaccine production." An epidemic of yellow fever ... has been spreading rapidly in Angola. As of last month, the country had 2,023 suspected yellow fever cases and 258 deaths. The Pan American Health Organization (PAHO) declared an epidemiological alert on April 22 for yellow fever in Latin America. ... Vaccine "supply shortages could spark a health security crisis," say the professors, pointing out that spread of yellow fever has already taken place in Kenya and the Democratic Republic of Congo. [ScienceDaily](#)

WHO recommends new test, treatment plan for superbug strains of TB

12 May - The World Health Organization on Thursday recommended a speedier, cheaper treatment plan for patients with superbug forms of tuberculosis (TB) - a change that should help cure thousands of the killer disease. ... [The WHO] said the new treatment plan could now be completed in 9-12 months rather than the two years previously recommended. The shorter treatment regimen also costs significantly less - at just under \$1,000 per patient in developing countries, said Mario Raviglione, director of the WHO's global TB program. "The new WHO recommendations offer hope to hundreds of thousands of MDR-TB patients who can now benefit from a test that quickly identifies eligibility for the shorter regimen, and then complete treatment in half the time and at nearly half the cost," he said in a statement.

[Reuters](#)

ZIKA VIRUS

A race to unravel the secrets of the Zika virus

9 May - ... How does the Zika virus cause brain damage, including the abnormally small heads in babies born to infected mothers? ... The [Johns Hopkins] laboratory's initial breakthrough, published in March with researchers at two other universities, showed that the Zika virus attacked and killed so-called neural progenitor cells, which form early in fetal development and generate neurons in the brain. In April, the team and other collaborators published a study ... showing that this assault by Zika resulted in undersize brain organoids: Damaged progenitor cells created fewer neurons, leading to less brain volume. ... The experiments here suggest other worrisome aspects of Zika infection: that even low doses of the virus for short periods can cause damage and that it is most dangerous in the first trimester of pregnancy but can also be harmful in the second. "The really sad news is not only can the virus infect neural progenitor cells, but it turns them into a factory," Dr. Song said. [The New York Times](#)

Brazil scientists seek to unravel mystery of Zika twins

6 May - Scientists struggling to unravel the mysteries of a Zika epidemic in Brazil hope they can learn from cases of women giving birth to twins in which only one child is afflicted by the microcephaly birth defect associated with the virus. ... Recent studies have shown evidence of Zika in amniotic fluid, placenta and fetal brain tissue. Zatz said the placenta of one twin may be permeable to Zika, while the other may not, barring the virus from attacking the fetus. Another possibility is that the virus penetrates both placentas but that the neurons of one baby are resistant, while the other's are not. "The third possibility that we want to investigate is that certain genes predispose the child to microcephaly, and they are altered by the presence of the Zika virus," Zatz said, noting that around 15 genes are believed to govern microcephaly. [Reuters](#)

Interim guidance for Zika virus testing of urine — United States, 2016

10 May - ... On the basis of the newly available data, CDC recommends that Zika virus rRT-PCR be performed on urine collected <14 days after onset of symptoms in patients with suspected Zika virus disease. Zika virus rRT-PCR testing of urine should be performed in conjunction with serum testing if using specimens collected <7 days after symptom onset. ... CDC recommendations for Zika virus testing of serum and other clinical specimens remain unchanged at this time. CDC will continue to review and update guidance for Zika virus testing as new data become available. [Morbidity and Mortality Weekly Report](#)

Puerto Rico baseball games moved due to players' Zika fears

6 May - Two Major League Baseball games that were scheduled to be played in Puerto Rico have been moved due to players' concerns about the Zika virus. The games between the Pittsburgh Pirates and Miami Marlins have been moved to Miami instead. Players said they were worried about contracting the virus and passing it to their partners. ... Major League Baseball (MLB) and the Major League Baseball Players Association (MLBPA) said Commissioner of Baseball Robert D Manfred Jr "had no choice" but to relocate the games because so many players had partners who were pregnant or trying to become pregnant. [BBC News](#)

Rapid Zika test is introduced by researchers

6 May - A paper-based rapid test for the Zika virus was introduced on Friday by a consortium of research groups. The core of the test kit is a piece of paper covered with yellow dots that turn purple in the presence of Zika virus RNA. Although the test is relatively fast and simple, it requires preliminary heating to amplify a sample's RNA, which can be done in most laboratories. The test, which gives results in two to three hours, "is much faster and cheaper than the P.C.R. tests used now," said ... one of the test designers. It should cost less than \$1 per test, said ... another test designer. [The New York Times](#)

Senate negotiators zero in on Zika virus funding

12 May - U.S. Senate negotiators on Wednesday tried to reach a deal to provide more than \$1 billion to battle the Zika virus that is feared will creep north into the United States with the onset of warmer weather, which breeds mosquitoes that could carry the disease. Senior Senate Democratic aides said details were still being worked out, but votes could come by next week on whether to approve the new money. In February, President Barack Obama requested \$1.9 billion in emergency funds, but Republicans balked, with some arguing that \$1.1 billion is more in line with what is needed. Many Republicans also want any Zika funds to be offset with spending cuts elsewhere. [Reuters](#)

Studies of pregnant mice with Zika cement microcephaly link

11 May - Studies from three different teams of scientists offered proof on Wednesday that Zika can reach and destroy brain cells in the fetuses of pregnant mice, findings that solidify the link between the mosquito-borne virus and birth defects. ... The studies ... showed Zika invading brain cells in fetal mice, demonstrating convincingly that Zika can attack fetal brain tissue and cause injury. ... Experts say the new findings will pave the way toward testing vaccines and treatments in mice before trying them on humans. [Reuters](#)

WHO urges pregnant women to avoid Rio Olympics

12 May - World Health Organization on Thursday warned women against traveling to areas with ongoing Zika virus transmissions, including Rio de Janeiro, site of the 2016 Olympics. ... WHO urged the sex partners of pregnant women to practice safe sex or abstain from sex for the remainder of the pregnancy, if they have recently returned from visits to Rio or other areas where the virus is circulating. The agency also advised all Olympics visitors and athletes heading for Rio or other virus-affected areas to wear clothing that covers much of the body and to use insect repellent. In addition, they should stay in rooms that are air-conditioned and keep windows closed, the agency said. Because Zika can be transmitted through unprotected sex, WHO said travelers should use condoms while in Rio, and for four weeks after leaving the country, they should abstain from sex altogether. [VOA](#)

Zika threat hits home: Which U.S. military hubs are most at risk?

11 May - The Defense Department will monitor installations in 27 states, the District of Columbia, Guam and Puerto Rico for mosquitoes that can carry the Zika virus, according to a Pentagon memo released in March. ... Senior defense officials have instructed installation managers to increase surveillance for certain mosquito species and to eradicate them in housing areas, near child development and youth centers, around barracks and elsewhere. According to the memo, 190 DoD installations are located in areas where mosquitoes capable of carrying Zika ... may spread during the summer. The memo calls for monitoring, trapping, testing and eliminating water sources that can act as breeding grounds for the pests. [Military Times](#)

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INFLUENZA

AFHSB: DoD Seasonal Influenza Surveillance Summary

For Week 17:

- NORTHCOM: Influenza activity continued to decrease and was minimal across most of

NORTHCOM.

- EUCOM: Influenza activity remained minimal across EUCOM.
- PACOM: Influenza activity remained minimal throughout PACOM.
- CENTCOM and AFRICOM: Influenza activity remained minimal across CENTCOM and AFRICOM.

SOUTHCOM: Influenza activity in Honduras was minimal based on DMSS data.

[DHA -Armed Forces Health Surveillance Branch](#)

APHC: U.S. Army Influenza Activity Report

For the week ending 30 May 2016 (Week 17):

All regions demonstrated an overall decline in influenza activity since a peak in week 10. This decrease in influenza activity has also been noticed in the civilian population.

- ILI Activity: Army incident ILI outpatient visits in week 17 decreased from week 16. ILI visits were 4% lower than last week.
- Influenza cases: Two hospitalized influenza cases were reported to APHC (Prov) through DRSi in week 17; both non-AD beneficiaries. The cases were vaccinated but one had an underlying condition.
- Viral specimens: During week 17, 123 of 730 (17%) laboratory specimens tested positive for respiratory pathogens. RHC-A reported 16 influenza A-positive specimens, RHC-C reported 10, RHC-P reported 9, and RHC-E reported 1. CENTCOM did not report any positive influenza A specimens. [APHC](#)

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

During week 17 (April 24-30, 2016), influenza activity decreased in the United States.

- Viral Surveillance: The most frequently identified influenza virus type reported by public health laboratories during week 17 was influenza B. The percentage of respiratory specimens testing positive for influenza in clinical laboratories decreased.
- Pneumonia and Influenza Mortality: The proportion of deaths attributed to pneumonia and influenza (P&I) was below their system-specific epidemic threshold in both the NCHS Mortality Surveillance System and the 122 Cities Mortality Reporting System.
- Influenza-associated Pediatric Deaths: Four influenza-associated pediatric deaths were reported. [CDC](#)

China: Human infection with avian influenza A(H5N6) virus

6 May - Between 21 and 26 April 2016, the National Health and Family Planning Commission (NHFPC) of China notified WHO of 2 additional laboratory-confirmed cases of human infection with avian influenza A(H5N6) virus. ... [Both were] exposed to live poultry before onset of the disease. [WHO](#)

ECDC: Flu News Europe

Week 17/2016 (25 April-1 May 2016)

- Influenza activity continued to decrease in the WHO European Region. Most countries (92%) reported low intensity, with lower numbers of specimens being collected and fewer testing positive for influenza virus (14%) than in the previous week (22%).
- As is often seen late in the northern hemisphere's influenza season, a shift towards circulation of type B influenza virus has occurred. Type B accounted for 85% of detections in sentinel sources and 76% in non-sentinel sources.
- Fewer cases of severe disease were reported than in previous weeks, although numbers varied between countries. Most severe cases were associated with A(H1N1)pdm09 infection and were in people aged 15–64 years.

[European Center for Disease Prevention and Control/WHO](#)

Mandatory flu shots tied to surge in health worker vaccinations

11 May - Mandatory vaccination policies may encourage more healthcare workers to get annual flu shots and help prevent the spread of influenza to patients. At the University of Texas MD Anderson Cancer Center in Houston, just 56 percent of employees got vaccinated during the 2006-2007 flu season. ... But after several years of stepped up outreach efforts and on-site vaccination programs that culminated in a mandatory vaccination policy, the study found that 94 percent of employees got inoculated for the 2013-2014 flu season. ... [The policy was that] all workers had to display a sticker on their employee badge proving they got vaccinated or wear a surgical mask when caring for patients during flu season. Failure to comply could result in termination. [Reuters](#)

NHRC: Febrile Respiratory Illness Surveillance Update

For 2016 Week 18 (through 7 May 2016):

- Influenza: Two cases of NHRC laboratory-confirmed influenza, one (A/H1) and one type (B), among US military basic trainees.
- FRI surveillance at all eight U.S. military basic training centers indicated FRI rates were elevated at MCRD Parris Island. [Naval Health Research Center](#)

Researchers say genetic traits may influence human susceptibility to H7N9

10 May - Chinese scientists have identified 64 human genetic peculiarities that they think may affect susceptibility to infection with the H7N9 avian flu virus. ... The authors hypothesized that genetic characteristics may influence both susceptibility to H7N9 infection and the severity of illness, since relatively few of the many people exposed to poultry during H7N9 outbreaks have contracted the infection. The team took blood samples from 18 confirmed H7N9 patients, 6 of whom had fatal cases. They extracted the DNA and sequenced the portions of it that encode proteins (exons). This led to the identification of

64 single-nucleotide polymorphisms (SNPs) in 21 genes that were more common in the H7N9 patients than in the general population. [CIDRAP Avian Flu Scan](#) (second item)

USAFSAM: DoD Global, Laboratory-Based, Influenza Surveillance Program

During 24 April - 7 May 2016 (Surveillance Weeks 17 & 18), a total of 150 specimens were collected and received from 35 locations. Results were finalized for 136 specimens from 34 locations. During Week 17, seven influenza A(H1N1)pdm09, two A(H3N2), and 14 influenza B viruses were identified. Three influenza A(H1N1)pdm09, two A(H3N2), and five influenza B viruses were identified during Week 18. Approximately 24% of specimens tested positive for influenza during Week 17. The percent positive for Week 18 decreased to approximately 18%. The influenza percent positive for the season is currently 26%.

[US Air Force School of Aerospace Medicine](#)

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VETERINARY/FOOD SAFETY

FDA requires reports on species-specific animal-antimicrobial sales

11 May - As part of the effort to preserve medically important antimicrobials, pharmaceutical companies will henceforward be required to report sales of antimicrobial drugs for food animals by species, not just overall totals, the US Food and Drug Administration (FDA) announced yesterday. The FDA said it has finalized a rule that ... says companies must report the amounts of antimicrobials sold for use in cattle, swine, chickens, and turkeys. It will apply to reports of sales this year, which must be filed by the end of next year. [CIDRAP News Scan](#) (first item)

Secondary recalls of CRF frozen foods for *Listeria monocytogenes*

10 May - Since there have been so many recalls for frozen vegetable and fruit products for possible *Listeria monocytogenes* contamination and because there is an outbreak linked to these foods, we thought we would gather them all in one place. ... This all started when a *Listeria monocytogenes* outbreak was linked to CRF Frozen Foods products by the CDC. At least eight people in three states are sickened in this outbreak. CRF recalled all of its frozen fruits and vegetables going back to May 2014, and this resulted in many secondary recalls of products packaged and sold by other companies. [Food Poisoning Bulletin](#)

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WELLNESS

'Chemsex': Health experts on dangers

9 May - ... GHB (commonly known as "G") and mephedrone (also known as "meow-meow") ... along with crystal meth, have become associated with chemsex due to their ability to induce heightened arousal, sexual stamina, and reduce inhibition. The emergence of these drugs over the last decade, combined with the rise of geo-targeted networking apps, has created a new kind of gay chemsex scene, say health experts. ... Dr Adam Bourne ... says GHB (also known as G) is "the most troubling" of these drugs, as it's particularly easy to overdose on, and potentially lethal when mixed with alcohol. ... With lowered inhibition, and an increase in sexual partners, also comes the risk of Sexually Transmitted Infections (STIs). "Users of these drugs can feel invulnerable to harm, supremely confident, dismissive of consequences, sexually adventurous, experience a heightened sense of pleasure, and can possess a stamina and endurance that may keep them awake for many days," said David Stuart. [CNN](#)

Delays in 3-dose DTaP schedule may heighten pertussis burden in infants

11 May - Delays in each scheduled dose of the diphtheria-tetanus-pertussis (DTaP) vaccine may cause more than 250 pertussis cases and more than 100 hospitalizations in infants each year. ... Researchers ... evaluated the effects of DTaP vaccine delays in a sample of 17,000 US infants 12 months or younger. ... The Advisory Committee on Immunization Practices recommends that the DTaP regimen adhere to a strict schedule of vaccination at 60, 120, and 180 days. On average, infants received their first, second, and third DTaP doses at 76 days, 147 days, and 224 days, respectively, representing delays of 16, 27, and 44 days for the three doses. When the effects were modeled, dose delays contributed to 278 pertussis cases, 103 hospitalizations, and 1 death. [CIDRAP News Scan](#) (fourth item)

Does putting on a few pounds help you cheat death?

10 May - A body mass index under 25 is deemed normal and healthy, and a higher BMI that's "overweight" or "obese" is not. But that might be changing, at least when it comes to risk of death. The ... BMI, associated with the lowest risk of death has increased since the 1970s, a study finds, from 23.7, in the "normal" weight category, to 27, which is deemed "overweight." The researchers came to that conclusion by looking at data from three studies of people in Copenhagen. ... [who] sliced and diced the data to see what could account for the shift. They looked at age, sex, smoking, cancer and heart disease. The most relevant was the decline in smoking since the 1970s. But when they looked at the mortality rates in nonsmokers who had never had cancer or heart disease, it also became associated with a higher BMI over time. So what's going on? ... [The senior author says,] "One option certainly is over these three decades we have become much better at treating the cardiovascular risk factors that come with overweight and obesity." [NPR](#)

FDA Re-evaluates labels for 'healthy' and 'natural' foods

10 May - ... The FDA has strict guidelines about what can be labeled “healthy” in terms of nutrient content. Currently, the definition involves falling below a certain threshold of total fat, saturated fat, sodium and cholesterol, while containing a particular amount of “beneficial nutrients.” ... The FDA has been very receptive to re-evaluating the definition of “healthy,” said Kotwicki, the agency's spokeswoman. “Consumers want to make informed food choices and it is FDA’s responsibility to help them by ensuring labels provide accurate and reliable nutrition information,” Kotwicki said. “In light of evolving nutrition research, forthcoming Nutrition Facts Labeling final rules, and a citizen petition, we believe now is an opportune time to reevaluate regulations concerning nutrient content claims, generally, including the term ‘healthy.’” She said the FDA plans to solicit public comment on these issues. [ABC News](#)

Global sleeping patterns revealed by app data

7 May - The world's sleeping patterns have been revealed by scientists analysing data collected from an app. It showed the Dutch have nearly an hour more in bed every night than people in Singapore or Japan. The study, published in Science Advances, also found women routinely get more sleep than men, with middle-aged men getting the least of all. ... The team at the University of Michigan released the Entrain app in 2014 to help people overcome jetlag. But users could choose to share data on their sleeping habits with the research group. The study found people in Japan and Singapore had an average of seven hours and 24 minutes sleep while the people in the Netherlands had eight hours and 12 minutes. ... The later a country stays up into the night, the less sleep it gets. But what time a country wakes up seems to have little effect on sleep duration. [BBC News](#)

House passes bill to aid children born into opioid dependency



11 May - The House of Representatives on Wednesday unanimously passed legislation to improve safety planning for children who are born dependent on opioid drugs. A similar bill is pending in the Senate. ... [A] Reuters investigation ... revealed that at least 110 babies had died since 2010 after being born dependent or exposed to opioids and sent home with parents ill-prepared to care for them. ... The news agency found that more than 130,000 newborns were diagnosed with drug withdrawal over the last decade, but most of them weren't reported to state child-protection authorities. In April, the U.S. Department of Health and Human Services asked all states to report by June 30 whether and how they are following the existing law, known as the Child Abuse Prevention and Treatment Act. [Reuters](#)

OxyContin's 12-hour problem

5 May - The drugmaker Purdue Pharma launched OxyContin two decades ago with a bold marketing claim: One dose relieves pain for 12 hours, more than twice as long as generic medications. Patients would no longer have to wake up in the middle of the night to take their pills, Purdue told doctors. One OxyContin tablet in the morning and one before bed would provide "smooth and sustained pain control all day and all night." ... But OxyContin's stunning success masked a fundamental problem: The drug wears off hours early in many people. ... OxyContin is a chemical cousin of heroin, and when it doesn't last, patients can experience excruciating symptoms of withdrawal, including an intense craving for the drug. ... The Times investigation ... found that:

- Purdue has known about the problem for decades. ...
- The company has held fast to the claim of 12-hour relief. ... Without that, it offers little advantage over less expensive painkillers. ...
- More than half of long-term OxyContin users are on doses that public health officials consider dangerously high. [Los Angeles Times](#)

Why you should be wary of suicide prevention apps

6 May - Smartphone apps designed to assist with suicide prevention may not necessarily get people in crisis the help they need or send the best messages about mental health, an Australian study suggests. Rather than encourage users to contact a crisis hotline, physician or therapist, many apps are more likely to suggest people reach out to peers for help, the study of 49 apps found. Worse, two apps listed methods of committing suicide, which might be intended as a prevention effort but could give dangerous ideas to people in distress, the authors note in PLoS One. [Reuters](#)

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USAFRICOM

Kenya: 16 hospitalized for suspected anthrax after eating a sick cow

11 May - Health officials in Murang'a County, Kenya say that 16 people, men, women and children, were hospitalized for suspected anthrax Tuesday after consuming tainted cows, according to local media. Joseph Mbai, Murang'a County health chief officer said, "The four cows that were slaughtered were sickly and the owner decided to sell the meat to neighbors and share with others". Of those hospitalized from the village included ten children, five men and a woman. All that were hospitalized have been treated and discharged. The owner of the sick cows who sold the meat is currently on the run as police continue the search.

[Outbreak News Today](#)

Nigeria reports first vaccine-derived polio case in 2 years

11 May - Nigeria has reported its first case of type 2 circulating vaccine-derived poliovirus (cVDPV2) since July 2014, in the Maiduguri district of Nigeria's northeastern Borno state. ... The strain is closely related to a vaccine-derived poliovirus that was last detected in May 2014, suggesting that it has been circulating for 2 years, the story said. Nigeria, along with 154 other countries, switched in April to a bivalent (two-strain) oral polio vaccine from which type 2 poliovirus has been withdrawn. In response to the cVDPV2 case, the country will conduct its first vaccination campaign using monovalent oral polio vaccine type 2, which the World Health Organization (WHO) will release from its global stockpile.

[CIDRAP News Scan](#) (third item)

Rwanda: Drones to deliver medical supplies in Rwanda

10 May - Starting next month, doctors and nurses in far-flung areas of Rwanda will be able to order blood and emergency medicine via a text message. Drones, part of a new breed designed to save lives, will fly to a clinic using GPS coordinates but instead of landing, it will drop a small package by parachute. Zipline, the company behind the project, says the aircraft will be capable of making up to 150 deliveries to 21 facilities in the African country, which has a scattered population. ... Despite major progress in the past few years, Rwanda - one of the world's poorest countries - has a long way to go to provide quality health care. Building and running hospitals is expensive, so the government has incentive to be the first in the world to establish a commercial drone-delivery network. [Al Jazeera](#)

South Africa faces uphill battle to reduce HIV infection rates among young women

10 May - South Africa recorded half of the 5,000 new infections a week among young women out of 14 southern and Eastern African countries, the health minister said on Tuesday. "When it comes to the area of socio-behavioral interventions, it is an uphill battle, especially in the age group 15-24 year old girls and young women," Health Minister Aaron Motsoaledi told parliament. Interventions in South Africa, which has the world's largest HIV and Aids treatment program, has seen Aids deaths decline to 140,000 in 2014 from 320,000 in 2010, he said. The number of mother-to-child transmission of HIV has fallen significantly to less than 7,000 babies in 2015 from 70,000 babies in 2004, Motsoaledi said. [Reuters](#)

South Sudan: Food crisis may almost double to 5.3 million - U.N.

11 May - Up to 5.3 million people in South Sudan may face a severe food shortages during this year's lean season, the U.N. World Food Programme said on Monday, nearly double the number in the first three months of the year. From January to March, 2.8 million people were classed as being in "crisis" or "emergency" food situations, with about 40,000 thought to be suffering an outright famine. ... "Internal food security analysis shows that South Sudan will face the most severe lean season in 2016 since its independence, driven by

insecurity, poor harvests, and displacement in some areas of the country," said a WFP report published on Monday. [Reuters](#)

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USCENTCOM

Afghanistan: Road crash in Ghazni leaves at least 73 dead

9 May - At least 73 people were killed and 53 were injured on Sunday when two passenger buses and an oil tanker burst into flames following a head-on collision in eastern Afghanistan. ... Many of the dead, including women and children, were burned beyond recognition and dozens of others were left badly injured in the accident in Ghazni province, one of the areas worst affected by the Taliban insurgency. ... Salangi said two buses were carrying some 125 passengers from Kabul to Kandahar when they crashed into the tanker, which was travelling in the opposite direction, setting off a fire that quickly engulfed all three vehicles. ... The Kabul-Kandahar highway passes through militancy prone areas and many bus drivers are known to drive recklessly at top speeds so as not to get caught in insurgent activity. [Pakistan Today](#)

Afghanistan and Pakistan: Progress toward polio eradication — worldwide, 2015–2016

13 May - In 1988, the World Health Assembly resolved to eradicate poliomyelitis. Wild poliovirus (WPV) transmission persists in only two countries (Afghanistan and Pakistan) after the removal of Nigeria from the list of countries with endemic polio in September 2015. ... This report summarizes global progress toward polio eradication during 2015–2016. ... In 2015, 74 WPV cases were reported in two countries (Afghanistan and Pakistan), a decrease of 79% from the 359 WPV cases reported in 2014 in nine countries; 12 WPV cases have been reported in 2016 (to date), compared with 23 during the same period in 2015. Paralytic polio caused by circulating vaccine-derived poliovirus (cVDPV) remains a risk in areas with low oral poliovirus vaccine (OPV) coverage. Seven countries, including Pakistan, reported 32 cVDPV cases in 2015. [Morbidity and Mortality Weekly Report](#)

Yemen: WFP warns money running out to feed Yemen

12 May - With ongoing violence and peace talks on fragile ground, Yemen's population faces a new threat: the World Food Programme has warned that a funding shortfall may soon force it to halt operations in the country. ... At last count in October 2015, 14.4 million Yemenis out of a population of 26 million were considered "food insecure," including 7.6 million "severely insecure": they don't know where their next meal will come from. At the moment, Kashyap explained, WFP is only able to provide food or food vouchers to a fraction of those who need it – 3.59 million in March. If the funding runs out, "even they will

be without food," she said. [IRIN](#)

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USEUCOM

Azerbaijan alleges white-phosphorus use in Karabakh fight

11 May - Azerbaijan says Armenian forces have used white phosphorus weapons in the fighting over the Nagorno-Karabakh region and is calling for an international investigation. ... Foreign Ministry spokesman Hikmet Hajiyev told journalists on Wednesday that Azerbaijan had found a white phosphorus round in a field and it is asking the Organization for Security and Cooperation in Europe to investigate. White phosphorus artillery can be used as illumination rounds, troop cover or for incendiary purposes. The rounds can cause severe burns and gas poisoning. [AP](#)

Germany looks set to abstain in EU glyphosate vote

12 May - Germany looks set to abstain in a European Union vote next week on the continued use of glyphosate in weed killers because ministries run by different parties remain at odds over the chemical which some experts say could be carcinogenic. Glyphosate is used in many herbicides including Monsanto's Roundup, despite a dispute between EU and U.N. agencies over whether it causes cancer. ... Last month, European politicians advised that glyphosate should only be approved for another seven years, rather than the 15 proposed by the EU executive, and should not be used by the general public. The European Commission said the new draft takes into account the opposition and maintains the proposal to ban some products because of the substances they combine with glyphosate, which could add to risks. [Reuters](#)

Romania's health minister has resigned amid public outrage

9 May - Romania's health minister resigned Monday amid public outrage over the use of sub-standard disinfectants in dozens of hospitals. Patriciu Achimas-Cadariu stepped down after authorities announced an investigation into how the disinfectants were used at 50 hospitals. ... Authorities on Saturday conducted searches at hospitals and the offices of drug company Hexi Pharma, which supplied dozens of hospitals with the disinfectants for use on surfaces and hands. ... Hexi Pharma spokeswoman Loredana Albu said production had been halted pending the inquiry. ... [Police] took away documents and samples from 25 hospitals, where tests revealed there were problems with the disinfectants. Media reports said the disinfectant was diluted. [U.S. News and World Report](#)

Spain: Spanish lab testing street drugs for free overwhelmed

11 May – [Barcelona drug] charity Energy Control says it has been forced to turn away drug-users hoping to have the quality of their street drugs tested. Energy Control has been offering the free and anonymous service since 1997 as a way of helping to reduce the risks of recreational drug use. In recent years its popularity has increased and now more than 5,000 samples are tested each year. ... "We are not able to analyse all the samples we receive so we need to make some limits." ... More than 70 percent of the cocaine tested by the service is found to be cut with other ingredients. Some of these are extremely toxic and include drugs intended for animals. Last year Energy Control found that a pill with a "Superman" branding contained a lethal mix of a substance called PMMA. ... The incident highlighted the importance of the service to both help protect drug-users from dangerous drugs and give scientists insight into the 30-40 new synthetic drugs hitting the street each year. [Al Jazeera](#)

United Kingdom: British soldiers prescribed diet pills and liposuction to combat weight problems

11 May - Men and women who serve in the military are expected to be fit and healthy in order to meet the physical demands of their work. However, a new report in the United Kingdom has revealed that some members of the British armed forces may need a little help to stay fit. ... Based on statistics the [Sunday Times] obtained through Freedom of Information (FoI) requests, as many as 270 British soldiers have been given diet pills over the past two years to help them manage their weight, while another 20 personnel underwent liposuction to fight off obesity. The same FoI statistics also showed that about 800 armed forces members were diagnosed with type 2 diabetes associated with their obesity from April 2014 to March 2016. Of this group, 473 were from the army, 180 were from the air force and 147 were from the navy. [Tech Times](#)

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USNORTHCOM

Canada: 'Dr. Fire' concerned about toxicity risks in Fort McMurray

11 May - As Fort McMurray residents wonder when they can return home and talks of rebuilding and cleanup begin, one fire safety researcher says there are "real concerns" about the charred city. Vyto Babrauskas, a.k.a. Dr. Fire, says there's a real lack of research on long-term risks of exposure to fire and ash. "The dangers might be that they're going to encounter dioxins...all sorts of exotic hydrocarbons and that these are chemicals which could lead to cancer," says Babrauskas, a fire science consultant and former fire safety

researcher for the National Institute of Standards and Technology in the U.S. Not much is known about the effects of sustained exposure to ash and debris on frontline responders — but what is known is that the toxicity poses health risks. [CBC Radio](#)

U.S.: Black Americans see gains in life expectancy

8 May - ... Black Americans die at higher rates than whites from most causes, including AIDS, heart disease, cancer and homicide. But a recent trove of federal data offered some good news. The suicide rate for black men declined from 1999 to 2014, making them the only racial group to experience a drop. Infant mortality is down by more than a fifth among blacks since the late 1990s, double the decline for whites. Births to teenage mothers, which tend to have higher infant mortality rates, have dropped by 64 percent among blacks since 1995, faster than for whites. Blacks are still at a major health disadvantage compared with whites. ... The [life expectancy] gap between blacks and whites was seven years in 1990. By 2014, the most recent year on record, it had shrunk to 3.4 years, the smallest in history, with life expectancy at 75.6 years for blacks and 79 years for whites. [The New York Times](#)

U.S.: NYC simulates bioterrorism attack in subways

9 May - Today the Department of Homeland Security (DHS) will use harmless airflow tests to see how a bioterror attack could travel and affect the New York subway system. ... The study will last a week, and ... it will include a particle test to look at how potential bioterror agents such as *Bacillus anthracis* (the bacterium that causes anthrax) or ricin could travel. The researchers will use sugar-based particulates that have a diameter no bigger than one tenth of a human hair. Machines will release them at busy stations, and other machines, filters, and patches on platforms, subway cars, and researchers will collect them to track their spread. [CIDRAP News Scan](#) (second item)

U.S.: Oklahoma's rise in quakes linked to man-made causes

8 May - ... Oklahoma is the most earthquake-prone state in the continental US. ... They are being triggered by ... oil and gas production. ... Last year, there were 907. ... The vast majority of earthquakes are small, causing little or no damage. But what they lack in punch, they make up in sheer volume. ... The water that's causing the earthquakes is not from fracking -- which is water and chemicals pumped underground to free up oil and gas. This is naturally occurring water that's been trapped below ground with the petroleum for millions of years. ... [The] oil wells produce more water than petroleum. The gas and oil are collected in tanks for sale, but the water is too briny to be recycled or used. It's considered waste. Getting rid of the water means sending it down a disposal well that's drilled deep below the freshwater aquifers. ... [The] earthquakes that are occurring in enormous numbers are the result of wastewater injection. [CBS News](#)

U.S.: OSHA to require employers to publicly disclose workers' injury and illness

12 May - The Department of Labor is pushing through with its controversial plan of reporting information about workplace injuries and illnesses online. According to the new rule announced Wednesday, employers in dangerous industries – such as construction, manufacturing, and trucking – are now required to submit data on workplace injuries to the federal government, which will then release the details on a public website. David Michaels, who heads the Occupational Safety and Health Administration (OSHA), said that making injury data transparent will make employers better focus on safety to shield their reputation. ... No new costs will be inflicted on businesses since companies falling under the new rule should already be amassing the data, Michaels added. [Tech Times](#)

U.S.: San Andreas Fault 'locked, loaded and ready to roll' with big earthquake, expert says

4 May - Southern California's section of the San Andreas fault is "locked, loaded and ready to roll," a leading earthquake scientist said Wednesday at the National Earthquake Conference in Long Beach. The San Andreas fault is one of California's most dangerous, and is the state's longest fault. Yet for Southern California, the last big earthquake to strike the southern San Andreas was in 1857, when a magnitude 7.9 earthquake ruptured an astonishing 185 miles between Monterey County and the San Gabriel Mountains near Los Angeles. ... Other sections of the San Andreas fault also are far overdue for a big quake. ... Jordan said it's important that California focus on becoming resilient to a potential huge earthquake, one as strong as a magnitude 8. ... Other areas of focus have included strengthening Los Angeles' vulnerable aqueduct systems and its telecommunications networks. [Los Angeles Times](#)

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USPACOM

China: Cigarette sales fall slightly after tobacco tax – WHO

10 May - Cigarette sales in China fell slightly over the past year after a hike in tobacco taxes, the World Health Organization said on Tuesday. ... The world's largest producer and consumer of cigarettes has stepped up its battle on smoking, despite persistent opposition from the tobacco industry. China has 300 million smokers and 740 million more who are exposed to secondhand smoke, state media have said. The number of cigarettes sold in China fell 3.3 percent in the year to March 2016 from the previous year, the WHO said in a statement. Sales of the cheapest cigarettes fell 5.5 percent over the period, the WHO added, signaling that the tax prompted poor smokers, in particular, to cut back on cigarette purchases. [Reuters](#)

Killer heatwave wreaks havoc in Southeast Asia

12 May - Drought, severe heat and water shortages are disrupting schools, killing animals and ravaging rice crops in Southeast Asia. Thailand, Laos and Cambodia have recorded temperatures up to 44.6°C (112.4°F), beating all-time national highs. ... Singapore too, has seen abnormally high temperatures, while in Malaysia, lakes have dried up and vegetable output has withered. ... [The] Mekong River -- Southeast Asia's longest -- has fallen to record lows. ... When levels are this low, water from the South China Sea intrudes inland causing a salinization of the soil. Vietnamese media have reported "major crop losses in the region." Thailand, one of the world's top rice producers, is also expecting poor yields because of the heat and the fact that rainfall last year was less than half of what could be expected. [CNN](#)

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USSOUTHCOM

Costa Rica: Dengue and chikungunya up dramatically

12 May - New data released by the Costa Rica Health Ministry's Department of Health Surveillance (computer translated) show dramatic increases in cases of the mosquito borne viral diseases, dengue fever and chikungunya. Costa Rica recorded 6,357 cases of dengue during the first four months of 2016. This is a more than 600 percent increase compared to the same period in 2015 (981). Concerning chikungunya, a viral infection transmitted by the same mosquito vector as dengue and Zika virus, 1,372 cases have been reported. This is up from 198 cases recorded Jan. through Apr. 2015. As rainy season arrives in Costa Rica, health officials expect these numbers to increase further. Costa Rica has reported 25 confirmed Zika cases this year to date. [Outbreak News Today](#)

PAHO reports almost 1,000 new chikungunya cases in the Americas

10 May - The Pan American Health Organization (PAHO) late last week reported 996 new suspected and confirmed cases of the virus, bringing the 2016 total to 83,599 cases. Colombia had the largest increase. The country's 571 new cases brought its 2016 total to 13,029, according to the May 6 update. Venezuela was next with 316 new cases and 2,396 total. Many countries did not report cases last week and have not for many weeks. ... No new deaths were reported last week, keeping that number at 12 for the year, all in Brazil. [CIDRAP News Scan](#) (second item)

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