29 September 2017

Army Public Health
Weekly Update

Army Public Health Center

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### USSOUTHCOM
- The Americas: PAHO reports 37,000 new chikungunya cases in the Americas
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Fact Sheet: O’nyong-nyong Virus

O’nyong-nyong virus is a mosquito-borne alphavirus that is closely related to chikungunya, Mayaro, and Ross River virus. However, unlike other alphaviruses, it is only vectored by anopheline mosquitoes.

This virus has caused two large-scale epidemics in Africa since it was first described. The first, from 1959 to 1962, affected over two million people in a large swath of Sub-Saharan Africa, from Uganda south to Mozambique, and westward to Senegal. This outbreak represents the largest recorded mosquito-borne virus outbreak in history. The second outbreak occurred in Uganda in 1996. Sporadic cases of the disease have also been reported in other African countries.

U.S. MILITARY

Australia is developing a ‘fight recorder’

21 September - Australia is developing a data recorder that can be worn by soldiers on the battlefield. ‘The ‘Fight Recorder’ — akin to the so-called black box used on aircraft - would act as an emergency beacon to reduce the time taken to reach and treat battlefield casualties,” said an Australian Ministry of Defense news release. … “In addition to serving as a location beacon, the data captured by the Fight Recorder could be used to inform the design and performance of soldier equipment and protective wear,” said Minister for Defense Industry Christopher Pyne.

Intensive rehab can help military patients work after brain injuries

22 September - Four in five military service members who suffer brain injuries may be able to return to military or civilian work after they get treatment at inpatient rehabilitation facilities, a UK study suggests. Almost one-third of these service members can return to a full-time military job after intensive rehab, the study also found. The results suggest that the costs of treatment in residential rehabilitation programs can pay off in the long run, said Lieutenant Colonel Dr. Markus Besemann, a chief of rehabilitation medicine for the Canadian Forces Health Services and a lecturer at the University of Ottawa.

New uniform coating could keep troops warm without multiple layers

26 September - Researchers are working on a way for soldiers to generate heat in cold environments instead of piling on multiple bulky layers to their uniforms. By applying a silver nanowire coating to the uniforms, troops could theoretically dial up the heat to keep themselves comfortable, according to researchers at U.S. Army Natick Soldier Research, Development and Engineering Center in Massachusetts. The silver nanowires form an electrically conductive network that when hooked up to a low-power battery can heat up polyester and polypropylene, research bioengineer Paola D’Angelo told Army Times. The goal is to coat gloves with the material and eventually apply it to the entire uniform.

Review of the U.S. military's human immunodeficiency virus program: a legacy of progress and a future of promise

September 2017 - … HIV infection remains a threat to the Department of Defense because sexually active service members and their beneficiaries are stationed throughout the U.S.
The Role of Healthcare Professionals in Protecting Older Adults against Influenza

Healthcare professionals (HCPs) play a critical role in protecting older adults (age 65 years and older) against influenza (flu). Despite concerted efforts to promote annual influenza vaccination in older adults, persistent knowledge gaps exist regarding the burden of disease and the risk of flu and related complications for this vulnerable population. According to recent research, the phenomenon known as immunosenescence leaves older adults less responsive to standard influenza vaccines.

Date: October 12, 2017
Time: 2:00-3:00 pm ET

GLOBAL

A drug-resistant malaria superbug is on the rise — here’s why that’s so concerning

27 September - A mutated malaria parasite carried by mosquitoes in the Greater Mekong region of western Cambodia, northeastern Thailand, southern Laos, and the south of Vietnam has started to become a dominant malaria parasite in that region. And this particular line of malaria parasite is resistant to not just one but two of the most effective drugs we have for treating the devastating illness. ... The [parasite] that's developing resistance in the Mekong is called Plasmodium falciparum. It's both the most common and most fatal, accounting for 90% of the more than 400,000 annual deaths that malaria causes. ... "Almost always, drug resistance has emerged in Southeast Asia and jumped to Africa," Janice Culpepper, a senior program officer on the Malaria Program Strategy Team in Global Health at the Bill & Melinda Gates Foundation, explained. Business Insider

Air pollution linked to kidney disease risk

27 September - Breathing dirty air may increase the risk for kidney problems, a study in U.S. veterans suggests. ... [R]esearchers looked at more than eight years’ worth of data on nearly 2.5 million military veterans, using county-by-county pollution data from the Environmental Protection Agency (EPA). Vets living in counties with the highest PM levels were more likely to be African-American and to have high blood pressure and diabetes - both of which are also risk factors for kidney disease - as well as heart disease. The risk that the veterans’ kidney function would worsen over time rose in tandem with the level of pollution they were exposed to at the study’s outset. Higher PM concentrations in the air were also associated with an increased risk of end-stage renal disease, in which the kidney can no longer filter blood effectively and a person requires dialysis to stay alive. When Dr. [Ziyad]
Al-Aly and his colleagues repeated the analysis using National Aeronautics and Space Administration satellite pollution data, the results were consistent. Reuters

Feeling woozy? Time to check the tattoo...

28 September - Harvard and MIT researchers have developed smart tattoo ink capable of monitoring health by changing color to tell an athlete if she is dehydrated or a diabetic if his blood sugar rises. ... The Dermal Abyss tattoo inks change color according to the chemistry of the body’s interstitial fluid, which can be used as a surrogate for constituents of the blood. Inks developed so far change from green to brown as glucose concentration increases. The team also developed a green ink, viewable under blue light, that grows more intense as sodium concentration rises, an indication of dehydration. Harvard Gazette

'Instant' blood test for heart attacks

27 September - A blood test that could rule out a heart attack in under 20 minutes should be used routinely, say UK researchers. A team from King’s College London have tested it on patients and say the cMyC test could be rolled out on the NHS within five years. They claim it would save the health service millions of pounds each year by freeing up beds and sending well patients home. About two-thirds of patients with chest pain will not have had a heart attack. BBC News

Left paralysed from Fluoroquinolone antibiotic toxicity

27 September – ... Fluoroquinolone toxicity - a disorder of the musculoskeletal system - is very real. Yet many of the world’s fluoroquinolone consumers remain unaware of the grim and life-changing side effects ...of Cipro. ... Hard statistics on adverse events are difficult to come by, but in the US some 22 million Americans received a prescription for an oral fluoroquinolone in 2014 alone. Reports put the number of suspected US Cipro-related adverse reactions at 79,000, including 1,700 deaths, between 2005 and 2015. Another fluoroquinolone -levofloxacin - has been linked to 80,000 adverse drug reactions, including around 1,000 deaths, over the same period. Al Jazeera

Many antidotes to snake venom do not work as well as they might

21 September - ... [A] study led by Bryan Fry of the University of Queensland, in Australia, which has just been published in Toxicology Letters, has found a problem: against many snake populations, [antivenoms] do not work. ... What seems clear from Dr Fry’s work is that makers of antivenoms ... need to look more closely at how snake venom varies from place to place, even within what appear to be single species. Antivenoms are wonderful things, and have saved many lives. But this study suggests they could, with a little effort, be made better still. The Economist
Promising results for two genetic weapons against malaria

28 September - Two new papers by researchers at the Johns Hopkins Bloomberg School of Public Health's Malaria Research Institute report successes for highly promising strategies against malaria. ... One team of researchers discovered a strain of bacteria that can spread rapidly and persist long-term among malaria-carrying mosquitoes. A genetically modified version of the bacterial strain strongly suppresses development of the malaria parasite, making the mosquitoes much less likely to transmit these parasites to humans. A second research team discovered that a genetic modification that boosted the immune system of malaria-carrying mosquitoes not only suppresses malaria parasites in the insects but also can spread quickly in a test population, by changing the mosquitoes' mating preferences.

Johns Hopkins Bloomberg School of Public Health News

Researchers find post-exposure prophylaxis effective in measles outbreak

25 September - New York City health officials report that the effectiveness of the measles, mumps, and rubella MMR vaccine used as post-exposure prophylaxis (PEP) in response to a measles outbreak in 2013 was 83.4%, but immune globulin PEP effectiveness was 100%, according to a small study in Clinical Infectious Diseases. The researchers assessed the effectiveness of PEP—which is used to prevent disease in contacts of people with measles—among 44 people who received MMR PEP and 77 who received immunoglobulin (Ig) PEP. The outbreak involved 58 cases in an Orthodox Jewish community in Brooklyn.

CIDRAP News Scan (third item)

Vision and hearing loss are tied to cognitive decline

25 September - Now and then I hear someone (myself included) proclaim “my brain is on overload.” This is not surprising given the myriad complex tasks the brain performs, among them enabling you to learn, plan, remember, communicate, see, hear and smell. Perhaps also not surprising, a growing number of studies have linked compromised sensory functions like poor vision and hearing to a decline in cognitive abilities. The brain, it seems, can do only so much, and when it must struggle to make sense of the world – from reading the words on a page to understanding the spoken word – it may be less able to perform other important tasks. While a cause-and-effect relationship has yet to be established, evidence is gradually increasing to suggest that uncorrected deficits in vision and hearing can accelerate cognitive decline. The New York Times

World Health Officials describe progress against tetanus, H.I.V. and malaria

22 September - Infant and maternal tetanus was officially eliminated from the Americas this year, the Pan American Health Organization announced on Thursday. At one time, the
infection killed about 10,000 newborns annually in the Western Hemisphere; tetanus still kills about 35,000 infants around the world. ... Haiti was the last country in the Americas to eliminate neonatal tetanus. ... Also this week, the President’s Malaria Initiative said it would expand its work to new countries in West and Central Africa, protecting 90 million more people. ... A combination of aid agencies, drug companies and governments also announced that a new three-in-one antiretroviral cocktail to treat H.I.V. would soon be available to 92 countries, including virtually all of Africa, for about $75 a year.

The New York Times

Yes, Aaron Hernandez suffered brain injury. But that may not explain his violence.

22 September - The brain damage was so severe that scientists all but gasped. Aaron Hernandez, the former New England Patriots tight end who was convicted of murder, killed himself in prison in April at age 27. An autopsy revealed that he had brain injuries akin to those seen in afflicted former players in their 60s, researchers announced on Thursday. The sheer extent of the damage inverts the usual question about violence and so-called chronic traumatic encephalopathy. If accumulated head trauma can cause such damage, might the injuries in turn lead to murder and suicide? ... What scientists — from such diverse fields as psychiatry, neurology and substance use — can say is that the arrows seem to be pointing in the same direction. A number of brain states raise the risk of acting out violently, and the evidence so far, while incomplete, suggests that C.T.E. may be one of them.

The New York Times

ZIKA VIRUS

MIT researchers develop rapid Zika test

27 September - MIT researchers have developed a paper-based test that can diagnose Zika infection within 20 minutes. Unlike existing tests, the new diagnostic does not cross-react with dengue virus, a close relative of the Zika virus that can produce false positives on many Zika tests. This test could offer an easy-to-use, cheap, and portable diagnostic in countries where Zika and dengue are both prevalent and the gold-standard test that measures viral RNA in the bloodstream is not available. Outbreak News Today

Scientists identify dengue antibody that protects against Zika

26 September - In findings that could one day pave the way for a new strategy to protect pregnant women and their babies against Zika virus, a subset of antibodies against dengue virus not only protected mice against both diseases, it also prevented damage to their offspring. Though the approach still needs to be tested in larger animals and then humans, researchers envision using the antibodies to treat pregnant women before Zika infection or developing a dual Zika-dengue vaccine based on the antibody target. CIDRAP
Zika was a mild bug. A new discovery shows how it turned monstrous.

28 September - ... A group of scientists based in China ... pinpoints a small mutation in Zika’s genetic makeup that made the virus much more dangerous. Their research shows that a change of a single amino acid — likely occurring sometime in 2013 — created a new strain of Zika much more dangerous to developing brain cells. Shortly after, Zika was implicated in a dramatic increase in cases of microcephaly, in which babies’ heads are abnormally small, and a range of other birth defects. ... While the prevalence of Zika has been much lower this year compared to the outbreaks in 2015 and 2016, experts say Zika could return in waves in future years, based on the outbreak cycles of similar viruses.

The Washington Post

cdc.gov:

INFLUENZA

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

2016-2017 Influenza Season Week 37 ending September 16, 2017 - Pneumonia and Influenza (P&I) Mortality Surveillance: Based on National Center for Health Statistics (NCHS) mortality surveillance data available on September 21, 2017, 5.0% of the deaths occurring during the week ending September 2, 2017 (week 35) were due to P&I. This percentage is below the epidemic threshold of 5.9% for week 35. CDC

H7N9 cluster analysis finds multiple but limited human-to-human spread

25 September - A closer analysis of 21 clusters of H7N9 avian flu infections in the first three waves in China’s ongoing outbreak suggests that human-to-human transmission is involved in a small fraction of cases. Researchers from China and their collaborators at the US Centers for Disease Prevention and Control (CDC) used a simple framework to gauge the likelihood of human-to-human transmission. ... Using a framework based on exposure timing to help distinguish person-to-person transmission from a common infectious source such as poultry, they graded the likelihood of exposure as probable, possible, or unlikely. Probable person-to-person transmission occurred in 12 clusters, was possible in 4, and unlikely in 6. Two of the probable clusters involved nosocomial transmission. The investigators found no evidence of sustained transmission among people.

CIDRAP Flu Scan (second item)
How you could help stop a flu pandemic

28 September - With international air travel at over four billion flights last year alone, stopping a flu pandemic taking hold is pretty much impossible nowadays, but the BBC Pandemic App will help a team of mathematical epidemiologists from the University of Cambridge and the London School of Hygiene and Tropical Medicine predict how a virus could spread across the UK and, crucially, test what might be done to slow it down. ... Once downloaded, users will be asked basic questions like age and employment status. Then the app will track users’ approximate position every hour for just 24 hours. ... At the end of the 24 hours, there are a few questions about the kind of face-to-face contacts the users made in that time. And that’s it. Simple but enough to provide real data the researchers can use to help predict the spread of a real outbreak. ... The results will be shown in the BBC Pandemic documentary. BBC News

Influenza vaccination coverage among health care personnel — United States, 2016–17 influenza season

29 September - The Advisory Committee on Immunization Practices recommends annual influenza vaccination for all health care personnel (HCP) to reduce influenza-related morbidity and mortality in health care settings. For the 2015–16 influenza season, the estimated overall influenza vaccination coverage among health care personnel was 79.0%. Influenza vaccination coverage among HCP during the 2016–17 influenza season, assessed using an opt-in Internet panel survey, was 78.6%, similar to coverage during the 2015–16 season. Employer vaccination requirements and offering vaccination at the workplace at no cost were associated with higher vaccination coverage. Occupational settings with the lowest influenza vaccination coverage were the least likely to require vaccination or provide vaccination on-site at no cost. Morbidity and Mortality Weekly Report

NHRC: Operational Infectious Diseases - Weekly Surveillance Report

21 September - Febrile respiratory illness cases:
- Military Recruits - 23 positive of 54 tested
- CDC Border Infectious Disease Surveillance and Zika Surveillance - 19 positive of 29 tested
- DoD Beneficiaries – 15 positive of 32 tested. Naval Health Research Center

Swine influenza found in more Maryland fair pigs; more human cases noted

25 September - State and county health officials in Maryland are investigating influenza in 11 pigs that were recently shown at a fair in Frederick County, the second time flu has been detected at the state’s county fairs in as many weeks. In the latest developments, preliminary tests show the pigs are infected with influenza A, but officials don’t know if it’s a
strain that can spread to people. ... So far no human illnesses have been linked to contact with the pigs, but the local media said authorities were investigating a possible illness in a child who has a flulike illness. CIDRAP Flu Scan (first item)

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VETERINARY/FOOD SAFETY

‘Caregiver burden’ affects people with sick pets, too

26 September - Dog and cat owners may experience “caregiver burden” when taking care of their sick animals, a new study shows. This type of stress, which occurs when taking care of a loved one, is linked with depression, anxiety and poorer quality of life, the study authors wrote in the journal Veterinary Record. ... [Dr. Mary Beth Spitznagel] and her colleagues studied 119 adults with chronically or terminally ill dogs or cats, along with another 119 adults with similar animals that were healthy although significantly younger, on average, than the pets in the illness group. ... In general, pet owners with chronically ill pets had higher levels of burden, stress and anxiety and lower levels of functioning and quality of life. Interestingly, owners who were part of a social media pet disease group had higher level of depressive symptoms. The research team didn’t find any differences based on owner age or gender. Reuters

CDC: Cyclospora outbreak tops 1,000 cases

26 September - In an update late last week, the US Centers for Disease Control and Prevention (CDC) said the multistate Cyclospora outbreak now involves 1,031 cases, 43 more cases than in the previous update on Sep 13. Of the 1,031 patients, 578 reported no international travel, but a foodborne illness outbreak source within the United States has yet to be identified, the CDC said on Sep 22. Of the new cases, 25 are not connected to intentional travel, with the latest illness onset dated Aug 23. The 578 locally acquired cases were reported in 36 states, with Florida having the most, at 75. CIDRAP News Scan (first item)

Meth-laced 7Up found in Mexico, prompting U.S. health officials to issue travel warning

25 September - Mexican officials are reportedly investigating how 7Up soft drinks laced with methamphetamines made their way onto shelves in Baja California, sickening several and killing one. The health department of Baja California has issued a statement confirming that 7Up products in the Mexicali region — where the contaminated soft drinks had originally been reported — have been pulled from stores as a precaution. The manufacturers have also been notified of the issue, and more than 77,000 individual containers of 7Up have been secured at a Mexican plant belonging to PepsiCo. The
Attorney General of the State of Baja, California also shared a Facebook post further confirming that at least eight people were sickened by the tainted soda, and at least five had improved and been released as of last week. U.S. health officials in Arizona, too, have since issued a warning to any travelers to the Mexicali region, advising them to remain “vigilant” and be wary of any possible symptoms. Fox News

Vets in Philippines turn to technology to track and tackle rabies

26 September - Armed with smartphones and syringes, veterinarians in the Philippines are turning to technology to fight rabies, using tracking tools to identify problem areas in mass campaigns to vaccinate dogs. Cases of rabies in the Philippines are among the highest globally, says Humane Society International (HSI), estimating that 200 Filipinos die each year from the disease, acquired mainly through dog bites. The animal protection group has launched a smartphone app that records rabies vaccinations and geo-tags dogs by location, giving local authorities the means to control the disease. Ahead of World Rabies Day this week, veterinarians went door-to-door on Tuesday in Payatas, one of the poorest suburbs in the Philippine capital of Manila, offering free vaccinations to help reach a 2020 target to stamp out the disease. “It is very important because if you don’t map properly, just vaccinating one spot will not help,” said HSI official Rahul Sehgal. Reuters

WELLNESS

Calculator shows hidden costs of fatigued workforce

25 September - ... Analysis of existing data, using a new Fatigue Cost Calculator developed through the Sleep Matters Initiative at Brigham Health for the National Safety Council (NSC), reveal that a U.S. employer with 1,000 workers can lose about $1.4 million dollars each year in absenteeism, diminished productivity, health care costs, accidents, and other occupational costs associated with exhausted employees, many of whom have undiagnosed and untreated sleep disorders. Introduced at the NSC Congress and Expo, the Fatigue Cost Calculator is free online. Employers can use it to determine how much money a tired workforce costs their business by entering specific data — including workforce size, industry, and location — to predict the prevalence of sleep deficiency and common sleep disorders among their employees. Harvard Gazette

Resistance exercise linked to reduced anxiety

22 September - People who do resistance exercises like weight lifting may experience less anxiety than people who don’t workout, a research review suggests. Researchers analyzed
data from 16 previously published studies with a total of 922 participants who were randomly assigned to do resistance training or be inactive. Resistance workouts were associated with a reduction in anxiety symptoms regardless of whether or not participants had a mental health disorder, though the effect was more pronounced in healthy people who didn’t report any physical or psychological problems. ... Because the analysis only focused on resistance training, the results can’t show whether this type of activity might be better or worse than aerobic or other types of exercise for easing anxiety symptoms.

Reuters

**Weight loss for adults at any age leads to cost savings, study suggests**

26 September - Helping an adult lose weight leads to significant cost savings at any age, with those savings peaking at age 50. ... The findings ... suggest that a 20-year-old adult who goes from being obese to overweight would save an average of $17,655 in direct medical costs and productivity losses over his or her lifetime. If the same person were to go from being obese to a healthy weight, an average savings of $28,020 in direct medical costs and productivity losses can occur. Helping a 40-year-old adult go from being obese to overweight can save an average of $18,262. If the same person went from being obese to normal weight, an average savings of $31,447 can follow.

Johns Hopkins Bloomberg School of Public Health News

**WHO urges governments to reject Philip Morris smoking foundation**

28 September - The World Health Organization advised governments on Thursday to reject a plan by tobacco firm Philip Morris International to set up a Foundation for a Smoke-Free World. “The tobacco industry and its front groups have misled the public about the risks associated with other tobacco products,” the U.N. health agency said in a statement. “Such misleading conduct continues today with companies, including PMI, marketing tobacco products in ways that misleadingly suggest that some tobacco products are less harmful than others,” it said. “WHO will not partner with the Foundation. Governments should not partner with the Foundation and the public health community should follow this lead.”

Reuters
USAFRICOM

Madagascar: Plague spreading in Madagascar, 17 districts affected

28 September - ... [T]he Ministry of Public Health now reports that the plague epidemic is affecting 17 districts in the country, according to local media (computer translated). The report states that the case count is nearing 100 since August 1. Five fatalities have been reported. Both pneumonic and bubonic plague cases are being reported. Officials say that it is only the beginning of “plague season” in Madagascar and note that the epidemic may increase dramatically and can last into the Spring. Outbreak News Today

Uganda: Uganda measles outbreak tops 550 cases since April

26 September - ... UN health officials say [Uganda] has reported 552 cases and one death since the outbreak was declared April 8. The case breakdown shows 309 cases from Kampala and 243 from Wakiso, with mostly young children being affected. Three-quarters of the confirmed cases were unvaccinated. The Ministry of Health has developed a measles response plan, which includes strengthening case management and case-based surveillance; reducing the numbers of measles-susceptible children and interrupting transmission by strengthening routine immunization services; ensuring a smooth flow of public information and effective social mobilization for appropriate community response behavior; and effective coordination of epidemic response activities. Outbreak News Today

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USCENTCOM

Afghanistan: Taliban threats force health facilities in southern Afghan province to close

26 September - Most of the health facilities in Afghanistan’s isolated Uruzgan Province have closed due to threats from the Taliban, local officials said. Only eight health centers out of 59 total, including public hospitals and clinics, remain open across the province, which has a population of 362,253, Khan Aqa Miakhel, head of Uruzgan’s public health, [said.] ... The main hospital in the capital, Tarin Kot, just a few hundred meters from the provincial governor’s palace, had to close on September 23 after the Taliban threatened to attack health facilities, Miakhel said. The hospital reopened after mediation from local tribal elders a day later. Radio Free Europe/Radio Liberty
Saudi Arabia: Study shows 5% rate of MERS healthcare worker spread in Saudi outbreak

26 September - After a nurse was infected with MERS-CoV in a Saudi Arabian hospital in 2015, investigators determined that 4.6% of healthcare worker (HCW) contacts eventually contracted the virus. ... All contacts of a 30-year-old Filipino nurse working in the hospital were followed and tested for MERS-CoV (Middle East respiratory syndrome coronavirus) during a 14-day period of quarantine after the nurse was diagnosed as having the disease. A total of 73 staff had nasal passages swabbed on days 2, 5, and 12. Only 3 (4.1%) were confirmed positive for MERS-CoV. Eventually epidemiologic tracing revealed a total of 153 contacts, of which 7 (4.6%) tested positive for MERS-CoV.

USEUCOM

Europe: HIV rates on rise among over 50s in Europe

27 September - Around one in six new cases of HIV diagnosed in Europe are in people over the age of 50, health officials said on Wednesday, showing a need to raise awareness and tailor testing programs to older generations. A study by researchers at the European Centre for Disease Prevention and Control (ECDC) found steady growth over the past 12 years in rates of new HIV cases in older people in the region. The over 50s were also more likely than younger people to have advanced HIV, the study found, and to have contracted it via heterosexual sex. ... Lara Tavoschi, who led the research at the ECDC ... said a perception of older people being at lower risk of HIV is shared by some health workers and can mean HIV-related services are focused toward people under 50.

Russia: Russia reports destruction of all remaining chemical weapons

27 September - Russia on Wednesday completed the task of destroying its huge, Cold War-era chemical weapons stockpiles, winning praise from an international chemical weapons watchdog. Russian officials reported the destruction of the country’s last remaining artillery projectile filled with VX toxic agent to President Vladimir Putin. The work took place at the Kizner facility in the Urals, one of seven facilities built in Russia to destroy chemical weapons in an effort that has spanned two decades and cost billions of dollars.

Sweden: Radioactive leak at Sweden's Studsvik gets level 2 severity rating

27 September - The Swedish Radiation Safety Authority has issued a level 2 severity rating on a 7-degree scale for an incident on Sept. 21 at a nuclear testing facility in which
radioactively contaminated material spread at the site. Level 2 on the International Nuclear and Radiological Event Scale represents an “incident”. The 1986 Chernobyl and 2011 Fukushima disasters are level 7 on the INES scale. The authority said the owner of the facility on Sweden’s east coast, nuclear services firm Studsvik Nuclear, had started to decontaminate, and the contamination was confined to the site. No one was on site at the time of the incident, it said. Reuters

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USNORTHCOM

Mexico: Mexico death toll rises to 325
25 September - The Latest on Mexico City’s major earthquake:
• The death toll last week’s magnitude 7.1 earthquake in Mexico has crept up to 325.
• Civil Defense chief Luis Felipe Puente says in a tweet that 186 of the deaths occurred in Mexico City. Seventy-four died in the state of Morelos, 45 in Puebla, 13 in the State of Mexico, six in Guerrero and one in Oaxaca. The quake was centered in Puebla state, southeast of Mexico City.
• At least 96 people also died in a magnitude 8.2 earthquake that hit off the southern Mexican coast on Sept. 7. The Washington Post

U.S./Canada: Measles in the Americas through mid-September
25 September - From the beginning of the year through mid-September, 167 confirmed measles cases have been reported from three countries. In the United States, 119 people from 15 states (California, Florida, Kansas, Maine, Maryland, Michigan, Minnesota, Nebraska, New Jersey, New York, Ohio, Pennsylvania, Texas, Utah, and Washington) were reported to have measles. To date in 2017, 45 cases of measles have been reported in Canada and three cases have been reported in Argentina. All confirmed cases were imported from other continents, related to importation, or had unknown source of infection. Of the confirmed cases, 36% are children between 1 and 4 years of age, followed by adults aged 20 to 49 years (32%). Approximately 52% of the cases are female; and 60% were unvaccinated. Outbreak News Today

U.S.: CDC investing millions in enhanced antibiotic resistance testing
25 September - The Centers for Disease Control and Prevention (CDC) is investing $77 million in efforts to track and fight antibiotic resistance. The money is going to public health departments in all 50 states and Puerto Rico. The hope is that officials will develop new
ways to combat antibiotic resistant bacteria in food, healthcare facilities, and communities. The funding will open a new surveillance center for TB. And the overall focus is on enhancing testing capabilities in the agency’s regional antibiotic resistance labs. Seven regional labs that are part of the CDC’s Antibiotic Resistance Lab Network will be able to expand antibiotic susceptibility testing for Candida auris. This bacteria has shown resistance to all three classes of drugs that are usually used to fight these infections. The bacteria can cause invasive infections with mortality rates as high as 50%. Food Poisoning Bulletin

U.S.: OSHA releases its list of the top 10 violations

28 September - Fall protection, hazard communication, scaffolding, respiratory protection and lockout/tagout are the leading OSHA violations for 2017, according to Patrick Kapust, deputy director of OSHA’s Directorate of Enforcement Programs. ... The Top 10 list, along with the number of violations, is:

1. Fall Protection – General Requirements (1926.501) – 6,072
3. Scaffolding (1926.451) – 3,288
5. Lockout/Tagout (1910.147) – 2,877
6. Ladders (1926.1053) – 2,241
7. Powered Industrial Trucks (1910.178) – 2,162
8. Machine Guarding (1910.212) – 1,933
9. Fall Protection – Training Requirements (1926.503) – 1,523
10. Electrical – Wiring Methods (1910.305) – 1,405

U.S.: Pneumonia vaccine gaps found in adults with work-related asthma

27 September - A study of adults who have work-related asthma—triggered by exposure to allergens, dust, fumes, environmental conditions, or exercise—found that only 54% had received the recommended pneumococcal vaccine, researchers from the US Centers for Disease Control and Prevention (CDC) reported today. Adults who have any type of asthma are at increased risk of pneumonia complications, which can include asthma exacerbation and invasive pneumococcal disease. The CDC recommends that all adults ages 19 to 64 with asthma receive the pneumococcal polysaccharide vaccine. CIDRAP

U.S.: STDs at record high, threatening the health of millions of Americans

26 September - New CDC data for three nationally reported STDs – chlamydia, gonorrhea, and syphilis—reveal more than 2 million cases were diagnosed in 2016. CDC estimates that closer to 20 million infections occur annually. The majority of these diagnoses (1.6 million) were cases of chlamydia. There were also 470,000 gonorrhea cases and almost 28,000 cases of primary and secondary syphilis – the most infectious stages of the disease. While young people, particularly young women aged 15-24, continue to bear the greatest burden of
STDs, surges in syphilis and gonorrhea are increasingly affecting new populations. CDC

U.S.: Studying 1 million people to end cookie-cutter health care

25 September - In a quest to end cookie-cutter health care, U.S. researchers are getting ready to recruit more than 1 million people for an unprecedented study to learn how our genes, environments and lifestyles interact — and to finally customize ways to prevent and treat disease. ... Today, diseases typically are treated based on what worked best in short studies of a few hundred or thousand patients. "We depend on the average, the one-size-fits-all approach because it's the best we've got," said Dr. Francis Collins, director of the National Institutes of Health. ... The NIH's massive "All Of Us" project will push what's called precision medicine, using traits that make us unique in learning to forecast health and treat disease. ABC News

HURRICANE RESPONSE

After pleas for more help, Pentagon sends one-star general to lead Puerto Rico recovery

27 September - The Pentagon will expand its response to the devastation in Puerto Rico left by Hurricane Maria, deploying a one-star Army general along with more aircraft, a hospital ship and a variety of specialized units all focused on surging relief efforts. ... People in Puerto Rico have been desperate for more help, and many have criticized the federal government's decision making. Pentagon officials have defended the military's response, however, saying it has supplied everything FEMA has requested while preparing for a long-term recovery effort. Combined, there are currently about 5,000 active-duty U.S. service members and National Guardsmen on duty assisting Puerto Rico. ... Far more were involved in the recent responses to Hurricane Irma and Hurricane Harvey. The Washington Post

Hospital ship Comfort heading to Puerto Rico

26 September - Federal and military aid for Puerto Rico increased Tuesday, including news that the hospital ship Comfort would be deployed, as officials got a clearer picture of the obscene destruction Hurricane Maria wrought on the U.S. territory. What federal officials visiting the island have found: 42 percent of Puerto Rico’s population is without drinking water. Eighty percent of the island’s electrical transmission system — its substations and transmission lines — and 100 percent of its distribution system was damaged by the storm, said Lt. Col. Jamie Davis, a Pentagon spokesman. As of late Tuesday, 21 of Puerto Rico’s 69 hospitals had some functionality. The remaining 48 hospitals had an unknown status, Davis said. The U.S. government is now increasing its response to the storm and naming a commander to lead the military effort. Military Times
Kingwood woman confirmed as Harvey death from flesh-eating bacteria

26 September - A Kingwood woman who became ill after falling into Harvey floodwaters at home died from flesh-eating bacteria, the Harris County medical examiner’s office ruled. Nancy Reed, 77, died on Sept. 15 of flood-related necrotizing fasciitis, an infection that spreads quickly through muscle tissue and can cause organ failure. Reed was the second known case of the bacteria related to the floodwaters from Hurricane Harvey. Rescuer J.R. Atkins, a former firefighter and medic, was contaminated through an insect bite on his arm while helping Missouri City neighbors. He survived. Chron

Pentagon says 44 percent of Puerto Ricans lack clean drinking water

26 September - Puerto Rico’s electricity systems are badly damaged after Hurricane Maria, and nearly half the U.S. territory’s residents lack drinking water following the storm, the Defense Department reported Tuesday. The Puerto Rico Electric Power Authority is “slowly restoring power to customers,” according to the most recent update, but 80 percent of the island’s electricity transmission lines and 100 percent of its distribution system are damaged. ... Only 11 of the country’s 69 hospitals have fuel or power. And 44 percent of Puerto Rico’s 3.5 million residents are still without clean drinking water, the Pentagon said. The Hill

Puerto Rico rushes to patch up health-care system ravaged by Hurricane Maria

26 September - Puerto Rico’s health-care system is grappling with widespread power losses, crippled hospitals and dwindling medical supplies nearly a week after Hurricane Maria devastated the U.S. territory, according to doctors and relief workers. Securing more fuel for generators and clean water for patient care are “two important priorities” for the island’s hospitals and clinics, said Kenneth Sturrock, the federal health coordinator for the U.S. Department of Health and Human Services who was on the ground in Puerto Rico on Tuesday. The National Disaster Medical System has sent 330 health-care workers from the U.S. mainland to assist Puerto Rico, he said, and U.S. lawmakers are pushing for quick approval of hurricane aid. Already struggling through a protracted economic crisis that led earlier this year to the largest-ever U.S. municipal bankruptcy, the U.S. territory is now dealing with a humanitarian emergency in the wake of Maria, the strongest storm to hit the island in nearly a century. The hurricane knocked out power and communications for most of the island and its 3.4 million residents. A mere 11 of 69 hospitals have power or fuel, the Federal Emergency Management Agency reported Tuesday. Some may not have power permanently restored for months. The few hospitals that are up and running are dealing with a deluge of patients who were injured or need care for ongoing conditions. Many hospitals have canceled elective surgeries. Health officials are also worried that massive flooding unleashed by the hurricane could lead to a proliferation of mosquitoes—and
Questions mount on size of Puerto Rico relief mission, hospital ship’s inaction

25 September - Two U.S. Navy ships, National Guard, Air National Guard, Reserve troops and Army helicopters are providing aid to Puerto Rico. But questions are mounting over whether the U.S. is doing enough for its territory and people, who are American citizens. To date, the amphibious assault ship Kearsarge and dock landing ship Oak Hill have "conducted eight medical evacuations, 148 airlifts and delivered 44,177 [pounds] of relief supplies and cargo to Puerto Rico and the U.S. Virgin Islands," U.S. Northern Command said in a statement. U.S. forces have also restored a mobile communications tower at St. Thomas International Airport to enable the airport to receive additional aircraft to evacuate residents. ... Approximately 2,600 U.S. military personnel and National Guard members are currently involved in Hurricane Maria relief efforts, the Pentagon said. Currently, more than 700 Air National Guard airmen are deployed to Florida, the U.S. Virgin Islands and Puerto Rico to support relief efforts. ... But the dire conditions on Puerto Rico have raised questions as to whether that level of support is enough. Approximately 3.4 million Americans live on Puerto Rico. Military Times

Recent hurricanes have the Coast Guard rethinking social media’s role in rescue and response

21 September - The U.S. Coast Guard ... is thinking about new tools it should develop to better prepare for future disasters. When 911 call centers quickly overloaded in Houston, residents in the area quickly took to Facebook and Twitter to ask for help. ... "We need to come up with some kind of required national protocol for social media for geo-tracking and locating and targeting search and rescue," [Vice Adm. Sandra Stosz] said. ... "We need something like Waze, so that the millions of people in Houston can just drop in their info in some kind of Waze program," she said. "We’re flooding here, we’re noticing this, and let that be another tool for government rescue responders to use. We’re putting all of this into lessons learned on where to take social media, this application opportunity, in the future." Federal News Radio

India: Why did India have ten million fewer childhood deaths than predicted?

23 September - The study has a depressing name: The Million Death Study. But its latest set of data ... is anything but depressing when it comes to the topic of childhood deaths in
India. ... From the general data about deaths, [Prabhat] Jha and his collaborators focused on deaths in children. They found that mortality rates among infants younger than one month fell from 45 per 1,000 births in 2000 to 27 in 2015. And the mortality rate for children between one month and five years old fell from 45.2 to 19.6. The gender gap also narrowed. The death rate for girls fell from 54.2 deaths per 1,000 girls in 2000 to 21.2 in 2015. For boys in 2000, the number of deaths averaged 37 per 1,000 live births and 18.1 in 2015. The study found that these rates started falling in 2005 and declined faster between 2010 and 2015. They also found fewer child deaths in urban areas and richer states than in rural, poorer areas. ... [T]he study found that during the survey period there was a 90 percent drop in neonatal deaths from tetanus and measles, two of the main causes of infant deaths in India. And for children ages one month to five years, mortality rates from pneumonia and diarrhea, the two leading causes of child deaths in the country, fell more than 60 percent.

**Indonesia: Bali volcano - Indonesia fears imminent Mt. Agung eruption**

26 September - Indonesia has warned that the active volcano on the tourist island of Bali is entering a "critical phase", amid fears of an imminent eruption. Hundreds of tremors were recorded on Monday at Mount Agung, in an increase of volcanic activity. But officials also stressed they could not predict when it might erupt. More than 75,000 people living near the mountain have been evacuated from their homes, and the area is under the highest level volcano alert. BBC News

**New Zealand: Earthquakes literally broke hearts in New Zealand**

26 September - Heart attacks spiked in Christchurch, New Zealand in the areas struck hardest by a set of 2010 and 2011 earthquakes during the year after the tremblers, a new study shows. Middle-aged and older residents of the areas with the most property damage suffered 25 percent more cardiovascular-related deaths than their neighbors in Christchurch with the least damage in the year after the Canterbury earthquakes, the research found. At the same time, residents of the most-damaged areas were 22 percent more likely to be admitted to hospitals for heart attacks than their neighbors in the least-damaged areas. ... They found no evidence for increased cardiovascular disease beyond the first year. The Canterbury earthquake sequence began on September 4, 2010 with a magnitude 7.1 quake. A quake measuring 6.3 on the Richter scale and centered in Christchurch followed on February 22, 2011. The seismic activity killed 185, injured 6,000 and damaged 170,000 buildings. Reuters
North Korea: North Korea also has nerve agent VX, chemical weapons expert warns

24 September - ... The Center for Nonproliferation Studies estimates North Korea has between 2,500 and 5,000 metric tons of chemical weapons. In particular, it has a large supply of VX, the deadliest nerve agent ever created; last year it was used to assassinate Kim Jong Un’s half-brother, Kim Jong Nam, at Kuala Lumpur airport. The chemical stockpile could harm thousands of people if it were attached to a missile or if it ended up in the hands of Islamist extremists, according to Hamish de Bretton-Gordon, former commanding officer of the U.K. Chemical, Biological, Radiological and Nuclear Regiment (CBRN) and NATO’s Rapid Reaction CBRN Battalion. *NBC News*

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The Americas: PAHO reports 37,000 new chikungunya cases in the Americas

25 September - Fueled almost entirely by a large increase in Brazil, chikungunya cases in the Americas jumped by more than 37,000 last week, the Pan American Health Organization (PAHO) said in its weekly update. The 37,254 new cases lift the 2017 total in the region to 182,727, PAHO said in its Sep 22 update. The agency reported just 617 and 143 new cases in the previous 2 weeks. *CIDRAP News Scan* (second item)

Venezuela: Venezuela doctors in protest urge stronger WHO stance on health crisis

25 September - Venezuela’s doctors, fed up with what they called the World Health Organization’s passive attitude toward the country’s deep medical crisis, protested at the agency’s Caracas office on Monday to demand more pressure on the government and additional assistance. Venezuela is suffering from a roughly 85 percent shortage of medicines, decrepit hospital infrastructure, and an exodus of doctors during a brutal recession. Once-controlled diseases like diphtheria and measles have returned due in part to insufficient vaccines and antibiotics, while Venezuelans suffering chronic illnesses like cancer or diabetes often have to forgo treatment. Malnutrition is also rising, doctors say. Rare government data published in May showed maternal mortality shot up 65 percent while malaria cases jumped 76 percent. *Reuters*

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