4 November 2016

Army Public Health Weekly Update

Army Public Health Center

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U.S. MILITARY

Lessons from 2 war zones make a difference in medic training

2 November - ... Thousands of U.S. military medics, corpsmen and technicians are deployed around the world — from war zones to hospitals and clinics. And in the last five years, nearly all these workers have trained at the Medical Education and Training campus at Fort Sam Houston. Medical experience gleaned from combat in Iraq and Afghanistan, has been incorporated in simulations here to better save lives. ... About 5,000 young men and women undergo the training on any given day. The campus graduates 18,000 service members a year in 48 programs, from radiology to surgical technology. ... During World War II, 19 percent of those hurt in combat ended up dying. In Vietnam, that statistic dropped to 15 percent. In modern conflicts, 9 percent of the wounded ended up losing their lives. ... U.S. Army information gathered over the last 15 years from battle experience in Iraq and Afghanistan shows if frontline military medical personnel can get the wounded to the hospital alive, 97 percent of them will live to tell their story. NPR

Obstructive sleep apnea and associated attrition, active component, U.S. Armed Forces, January 2004–May 2016

October 2016 - ... Individuals who suffer from [obstructive sleep apnea] OSA have increased rates of cardiovascular disease, chronic fatigue, motor vehicle accidents, cognitive impairment, and post-traumatic stress disorder. Data from the Defense Medical Surveillance System (DMSS) were utilized to examine the incidence of OSA and associated attrition from service in active component military members from 1 January 2004 through 31 May 2016. The study identified 223,731 incident cases of OSA with an overall incidence rate of 139.2 per 10,000 person-years, between 2004 and 2015. Rates increased more than 3-fold between 2004 and 2015. In 2015, 48.1% of all incident cases of OSA were diagnosed in the last year of service. The high percentage of cases diagnosed prior to separation from service is concerning because OSA is a treatable and partially preventable disease.

Medical Surveillance Monthly Report

The military may relax recruiting standards for fitness and pot use

1 November - Defense Secretary Ash Carter has launched a sweeping review of the military's recruiting standards, saying current rules for screening new entrants may be
“overly restrictive” and preventing America’s most talented young people from joining the ranks. Among the benchmarks that will get new scrutiny: fitness standards, marijuana use, tattoo regulations and the military’s longtime reluctance to allow single parents to start military careers. Military Times

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GLOBAL

300 million children breathe highly toxic air, Unicef reports

30 October - About 300 million children in the world breathe highly toxic air, the United Nations Children’s Fund said in a report on Monday that used satellite imagery to illustrate the magnitude of the problem. The vast majority of these children, about 220 million, live in South Asia, in places where air pollution is at least six times the level that the World Health Organization considers safe, Unicef said. … Air pollution is linked to one in 10 deaths of children under 5, the W.H.O. has reported. … Unicef warned that children’s health could be increasingly at risk in the ensuing decades as the most populous countries rapidly industrialize, a factor that historically has been accompanied by rising rates of air pollution. The New York Times

Can poverty lead to mental illness?

30 October – … Despite high rates of both poverty and mental disorders around the world, researchers only started probing the possible links about 25 years ago. Since then, evidence has piled up to make the case that, at the very least, there is a connection. People who live in poverty appear to be at higher risk for mental illnesses. They also report lower levels of happiness. That seems to be true all over the globe. In a 2010 review of 115 studies that spanned 33 countries across the developed and developing worlds, nearly 80 percent of the studies showed that poverty comes with higher rates of mental illness. Among people living in poverty, those studies also found, mental illnesses were more severe, lasted longer and had worse outcomes. And there's growing evidence that levels of depression are higher in poorer countries than in wealthier ones. NPR

Containing Ebola at the source with ring vaccination

2 November - Interim results from the Guinea Ebola ring vaccination trial suggest high efficacy of the rVSV-ZEBOV vaccine. These findings open the door to the use of ring vaccination strategies in which the contacts and contacts of contacts of each index case are promptly vaccinated to contain future Ebola virus disease outbreaks. … [W]e introduce a spatially explicit agent-based model to simulate Ebola outbreaks in the Pujehun district, Sierra Leone … [and] find that ring vaccination can successfully contain an outbreak for
values of the effective reproduction number up to 1.6. ...[I]nterventions that, alongside ring vaccination, could increase the likelihood of containment [are] shortening the time from symptoms onset to hospitalisation to 2–3 days on average through improved contact tracing procedures, adding a 2km spatial component to the vaccination ring, and decreasing human mobility by quarantining affected areas. PLOS

Deadly measles complication more common than previously thought

28 October - New research presented at IDWeek today shows that a deadly neurologic complication from childhood measles is much more common than previously thought. The study, presented by researchers from the University of California, Los Angeles (UCLA), describes the frequency of subacute sclerosing panencephalitis (SSPE), which is 100% fatal. Infants under the age of 12 months are too young to get the measles, mumps, and rubella (MMR) vaccine and rely on herd immunity to offer passive protection. If a baby contracts measles in his or her first year of life, it was previously assumed that the child had a 1 in 100,000 chance of suffering from SSPE. Now, new data from California health records suggests SSPE occurs in 1 of every 609 cases. CIDRAP News Scan (first item)

Ebola transmission chain analysis highlights viral longevity in semen

31 October - A study from the World Health Organization (WHO) tracked an 11-month transmission chain that ended with a case of Ebola virus in Guinea, suggesting the disease should be considered transmissible in semen for at least 12 months. ... [R]esearchers detailed the unusual transmission route for a case-patient who presented with Ebola in October of 2015. Eleven months earlier, the patient's brother-in-law tested positive for Ebola. The man recovered and refrained from intercourse with his wife for 6 months, resuming sex about 9 months post-infection. In September of 2015, the woman had a mild illness that was likely undiagnosed Ebola, and through close household contact spread it to her brother. The woman's serologic tests were positive for Ebola, but no genomic data were available. CIDRAP News Scan (second item)

First study to link antibiotic resistance with exposure to the disinfectant chlorhexidine

31 October - *Klebsiella pneumoniae* bacteria exposed to chlorhexidine-containing disinfectants can become resistant to colistin, a last resort antibiotic often used against multidrug resistant pathogens. This is the first study to link exposure to chlorhexidine with resistance to colistin in this clinically important pathogen. ... Chlorhexidine is a common ingredient in a number of disinfectants used widely in the home and in healthcare settings, where it is a critical part of many infection control practices. While some strains died on exposure, others were able to survive at much higher concentrations of chlorhexidine than their parental strains. Some also gained resistance to colistin. The investigators also found
gene mutations in the exposed *K. pneumoniae* that conferred resistance to both compounds. EurekAlert

**Human antibodies produced in cows might help fight infectious diseases**

31 October - A small biomedical company has engineered a way for cows to produce large quantities of human antibodies to fight infectious disease. Although the technology won’t be available for perhaps three to five years, it could be a new method to address such infectious diseases as influenza, Ebola, Zika and Middle East respiratory syndrome (MERS). The technology ... followed the same principle used in a handful of cases during the Ebola outbreak. Physicians took plasma from convalescent patients and gave it to sick patients. That worked well in a few cases, but a few patients can’t provide enough plasma to counter a widespread outbreak. Cows might offer a solution: A cow can produce 30 to 60 liters of antibodies per month. Newsweek

**Landmark chronic fatigue trial could treat two-thirds**

1 November - A therapy that successfully treats two-thirds of children with chronic fatigue syndrome is being trialled for NHS use. The disease affects one in 50 children, leading to mental health problems and missing school. ... The trial, on 734 children, will use intensive online therapy sessions to adjust sleeping habits and activity levels. It also uses a form of behavioural therapy to help children with the disease adapt the way they live. ... Trials of the scheme in the Netherlands showed 63% of the patients given therapy had no symptoms after six months, whereas just 8% recovered without it. BBC News

**New study explains factors that influence timing of infectious disease outbreaks**

2 November - The delay between the time when a disease outbreak becomes possible and when it actually happens depends chiefly on how frequently infection is introduced to the population and how quickly the number of cases caused by a single individual increases, according to new research from the University of Georgia. The findings ... lay the theoretical groundwork for a disease forecasting system that could give public health officials time to prepare for--or possibly even prevent--certain outbreaks in the future. ... Project AERO applies the theory of "critical slowing down" to infectious diseases. Critical slowing down is the idea that as complex systems approach a tipping point--a threshold beyond which the system is vulnerable to collapse--they exhibit recognizable patterns that can alert observers that the tipping point is imminent. Scicast
Poor growth in the womb cited as number one cause of stunting

1 November - The number one risk factor for stunting in children under five years old is poor growth in the womb, according to a new study. Investigators at Harvard University's Chan School of Public Health say more emphasis should be placed on pregnant women to eliminate stunting, a major cause of economic hardship in developing countries. The primary causes of stunting typically are thought to be environmental exposures after birth, such as malnutrition, infectious disease and poor sanitation. However, new research now targets poor fetal growth as the primary cause. ... Researchers say the problem appears to be inter-generational, with mothers of stunted children often stunted themselves. VOA

Seven substances added to 14th Report on Carcinogens

3 November - Today's release of the U.S. Department of Health and Human Services 14th Report on Carcinogens includes seven newly reviewed substances, bringing the cumulative total to 248 listings. The chemical trichloroethylene (TCE), and the metallic element cobalt and cobalt compounds that release cobalt ions in vivo, are being added to the list, as well as five viruses that have been linked to cancer in humans. The five viruses include human immunodeficiency virus type 1, human T-cell lymphotropic virus type 1, Epstein-Barr virus, Kaposi sarcoma-associated herpesvirus, and Merkel cell polyomavirus. NIH

Study: Tdap vaccine not tied to birth defects

2 November - The tetanus, diphtheria, and acellular pertussis (Tdap) vaccine is not linked to microcephaly or other birth defects. ... The [CDC] researchers looked at mothers' vaccination during the first trimester, at 27 to 36 weeks' gestation (the period recommended for vaccination in the United States), and at any gestational week. The investigators found no elevated incidence of microcephaly (small head and brain size) or any other structural defect associated with vaccine receipt for any of the subgroups studied. They say the findings support recommendations for routine Tdap use during pregnancy and expand on what is already known about the vaccine's safety profile. CIDRAP News Scan (third item)

ZIKA VIRUS

CDC: Contraceptives would cut Zika costs in Puerto Rico

1 November - Providing increased access to contraception to women in Puerto Rico during the Zika outbreak would be a cost-saving measure, including avoiding $62.3 million in costs related to Zika-linked microcephaly, researchers from the US Centers for Disease Control and Prevention (CDC) and Puerto Rico reported today. ... The group based its projection on a public health intervention that would include a hypothetical $33.5 million in family
planning services—considered a key to preventing Zika-related birth defects—to help women who want to delay or avoid pregnancy. CIDRAP

Colombia is hit hard by Zika, but not by microcephaly

31 October – ... In Brazil, more than 2,000 babies have been born with microcephaly... In Colombia, officials had predicted there might be as many as 700 such babies by the end of this year. There have been merely 47. The gap has been seen all over the Americas. ... There are some obvious differences between Colombia’s epidemic and Brazil’s. The population here is less than a quarter that of Brazil, and almost half of its residents live at higher altitudes, where mosquitoes are rarer. And Zika circulated silently for much longer in Brazil. ... Having just fought a severe chikungunya epidemic in 2014, Colombia was more ready than Brazil to send forth the anti-mosquito battalions. ... Increasingly, there is evidence for two other possibilities. Pregnant women here, alerted to the tragedy unfolding in Brazil, may have sought abortions in greater numbers, officials say. Others seem to have heeded the government’s controversial advice to delay pregnancy altogether. The New York Times

Concern for men’s health mounts as Zika batters testicles of mice in new study

1 November - ... [A] new study that finds that the [Zika] virus causes severe damage to the testes of mice. In the course of a few weeks, the virus damaged reproductive tissue, spurred inflammation, hampered hormone production, shrunk testicles, and reduced sperm counts of the animals. ... Subsequent mating trials showed that the infected male mice had lower fertility, producing fewer pregnancies and viable offspring. It’s unclear if the mosquito-borne Zika would cause the same injuries in men as it does in mice, the authors and other experts caution. However, the study begs for follow-up research—particularly given the fact that the virus is known to persist in men’s semen for weeks and cause pain and bleeding. Ars Technica

First baby in Puerto Rico with Zika-related microcephaly born

28 October - The first child in Puerto Rico with Zika-related microcephaly has been born, the territory’s secretary of health announced Friday. The fetus’s abnormally small head was not detected until the mother was nearly eight months pregnant, according to The Associated Press, even though the mother was probably infected in her second month. The mother did not get regular prenatal checkups, the AP quoted the health secretary, Dr. Ana Rius, as saying. The baby, born within the last two weeks, is still hospitalized with severe birth defects, including vision and hearing problems. ... The C.D.C., which is underwriting much of the territory’s Zika-fighting efforts, said Friday that the child would be monitored until he or she was 3 under the Zika Active Pregnancy Surveillance System, as are all children born to mothers infected with Zika. The New York Times
Review finds high impact for inaccurate Zika posts on Facebook

2 November - A review of Facebook posts on Zika virus found that misleading posts were more popular than ones containing accurate information, according to a recent study by a team from Tulane University. … Analysis found that 81% of the posts and videos had useful or credible information, and those typically came from the Centers for Disease Control and Prevention (CDC) or news agencies. About 12% of the posts were misleading, typically touching on two themes: that Zika was a way to depopulate third-world countries or that Zika was a hoax to cover up cancer-causing chemicals made by major corporations. … Unfounded rumor mongering and conspiracy theory posts were more popular than the ones that had accurate information, which the researchers said is harmful, because it can work against efforts to battle the outbreak, such as using pesticides for stopping the spread of the mosquito-borne Zika virus. … [The researchers] said Facebook could perhaps use its existing objectionable reporting feature to create an alert noting that questionable posts contain unverified health information. CIDRAP News Scan (first item)

Survey: Most Americans confused about Zika

28 October - A new report shows that less than half of Americans understand Zika transmission. … About 80% of Americans are aware of the Zika virus, but only 40% understand how the virus is transmitted, that most people who contract the disease are asymptomatic, and that pregnant women exposed to the virus can have babies with severe birth defects. Those are some of the key takeaways from a report today by New York University’s (NYU’s) College of Global Public Health that measured the public’s grasp of Zika virus. David Abramson, PhD, MPH, the founding director of NYU’s program on Population Impact, Recovery, and Resilience, said that one of Zika’s key features—that it is asymptomatic in 80% of patients who contract the virus—makes it a public relations nightmare. CIDRAP

INFLUENZA

APHC: U.S. Army Influenza Activity Report

For the week ending 22 October 2016 (Week 42), RHC-A reported the most influenza A cases (3) during week 42. Influenza-like illness activity remains low in both Army and civilian populations.

- ILI Activity: Army incident ILI outpatient visits in week 42 were 16% lower than the same week last year.
- Influenza cases: No hospitalized influenza cases were reported to APHC through DRSi in week 42; At this same time during the last influenza season, two influenza-associated hospitalizations were reported.

- Viral specimens: During week 42, 67 of 1578 (4%) laboratory specimens tested positive for respiratory pathogens. RHC-A reported most (43%) of the influenza A-positive specimens. APHC

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

During week 42 (October 16-22, 2016), influenza activity was low in the United States.

- Viral Surveillance: The most frequently identified influenza virus type reported by public health laboratories during week 42 was influenza A. The percentage of respiratory specimens testing positive for influenza in clinical laboratories was low.

- Pneumonia and Influenza Mortality: The proportion of deaths attributed to pneumonia and influenza (P&I) was below the system-specific epidemic threshold in the National Center for Health Statistics (NCHS) Mortality Surveillance System. CDC

ECDC: Flu News Europe

Week 42/2016 (17-23 October 2016):

- Activity remained low with sporadic detections of influenza viruses across the region.

- Only 81 influenza virus detections were reported, 11 from sentinel surveillance and 70 from non-sentinel sources.

- Since week 40/2016, 66% of all influenza virus detections have been reported by four countries of northern Europe.

- So far, influenza A has predominated with most of the viruses subtyped being influenza A(H3N2).

- The situation is usual for this time of year.

European Center for Disease Prevention and Control/WHO

‘Messy math’ from sardine studies could help fight flu outbreaks

31 October - ... [U]sing mathematical techniques created for studying fluctuating fish populations, a team of researchers has shown that both temperature and humidity influence the timing of flu outbreaks all over the world—a finding that could lead to new ways to fight the virus. ... They found that humidity is the strongest factor in driving influenza, but that temperature also plays a role, combining in a complex way that past studies were unable to pick up on. At temperatures up to about 24°C, drier climates encourage flu outbreaks, as seen in North America. Hotter than that, and the relationship flips: Suddenly, wetter environments are better for the flu. Science
NHRC: Febrile Respiratory Illness Surveillance Update
For 2016 Week 43 (through 29 October 2016):

- Influenza: Five cases of NHRC laboratory-confirmed influenza (A/H3) among US military basic trainees at Fort Jackson.
- FRI surveillance at all eight U.S. military basic training centers indicated FRI rates were elevated at Fort Benning. Naval Health Research Center

Report: Most H3N2v cases this year caused by new genotype

28 October - Sixteen of 18 cases of variant H3N2 influenza (H3N2v) reported in Michigan and Ohio this summer were caused by a new genotype. ... Researchers from the US Centers for Disease Control and Prevention (CDC) analyzed specimens from all 18 cases that occurred in August, 12 from Michigan and 6 from Ohio. Sixteen of the patients were children, seven of whom were younger than 5 years old. All reported swine contact at agricultural fairs, a known risk factor for contracting the virus. Thirteen reported direct contact with pigs. ... Genetic analysis revealed that isolates from 16 of the patients were reassortant viruses that had "a constellation of genes not previously detected in viruses infecting humans." CIDRAP Flu Scan (first item)

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

During 9 - 22 October 2016 (Surveillance Weeks 41 & 42), a total of 86 specimens were collected from 31 locations. Results were finalized for 81 specimens from 30 locations. During Week 41, one influenza A(H3N2) was identified. No influenza was identified during Week 42. Approximately 2% of specimens tested positive for influenza during Week 41. The influenza percent positive for the season is approximately 2%.
US Air Force School of Aerospace Medicine & Defense Health Agency

WHO: Influenza Update

31 October - Influenza activity in temperate southern hemisphere countries continued to decrease or remained low. Influenza activity in the temperate zone of the northern hemisphere remained at inter-seasonal levels. WHO

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VETERINARY/FOOD SAFETY

Americans are spending more on health care — for their pets

2 November - ... Only about 1 percent of pets have health insurance, and pet health care is subject to less government regulation. Even so, after crunching some numbers, the economists found a few striking parallels between our health-care system and Fido's — er, Lucy's.

- Rapid growth in spending: ... Spending on pet purchases, medical supplies and veterinary services have followed human health-care spending “remarkably closely.” It rose about 60 percent for pet health care in that time, and 50 percent for people.
- Quick growth in both the human and pet health-care sectors: ... The supply in physicians grew “significantly faster” than in other sectors — by 40 percent — while the supply in veterinarians nearly doubled. Physician-related establishments and veterinary-related establishments grew at similar rates, and more quickly than did other kinds of establishments.
- A “distinct end-of-life spike in spending” for both people and pets: ... In the last month of life, spending on the humans' health care was more than twice what it was during a “regular” month; for dogs, it was nearly 3.5 times higher.

The Washington Post

Study details 18 outbreaks tied to organic food

31 October - A study ... said it was not possible to tell if organic food was more likely to be implicated in foodborne illness outbreaks than conventional food, despite public perception that organic food is healthier, but it has been involved in at least 18 outbreaks since 1992. Researchers ... look[ed] at 18 organic food–linked illness outbreaks in the United States from 1992 to 2014, which caused 779 illnesses, 258 hospitalizations, and 3 deaths. Of those, 56% occurred from 2010 to 2014, which shows the increasing demand for organic food, the authors said. Salmonella caused 44% of outbreaks, and Escherichia coli caused 33%. ... Eight of the outbreaks were attributed to produce items, four to unpasteurized dairy products, two to eggs, two to nut and seed products, and two to multi-ingredient foods.

CIDRAP News Scan (third item)

The venom of one of world's deadliest snakes could relieve pain, say scientists

31 October - A snake with the largest venom glands in the world could hold the answer to pain relief, scientists have found. Dubbed the "killer of killers", the long-glanded blue coral snake is known to prey on the likes of king cobras. Venom from the 2m-long (6ft 6in) snake native to South East Asia acts "almost immediately" and causes prey to spasm. New research published in the journal Toxin found it targets receptors which are critical to pain
in humans and could be used as a method of treatment. ... Cone snails and scorpions are some of a handful of invertebrates whose venom has been studied for its medical use. However, as a vertebrate, the snake is evolutionarily closer to humans, and so a medicine developed from its venom could potentially be more effective, says Dr Fry. ... But the snake is rare: more than 80% of its habitat has been destroyed. BBC News

A new death toll for smoking

31 October - A new study has found that 28.6 percent of all cancer deaths in the United States are attributable to cigarette smoking. Researchers calculated the number using the relative risks for 12 smoking-related cancers, including acute myeloid leukemia, mouth cancers, and those of the esophagus, stomach and colon. Smoking is involved in 22.9 percent of cancer deaths in women and 33.7 percent in men. In all, the authors estimate that 167,133 people died of cancers associated with smoking cigarettes in 2014. (This number does not include deaths from many other diseases linked to smoking.) There are considerable geographic variations. For example, smoking explains more than 38 percent of cancer deaths in men in Kentucky, Arkansas, Tennessee, West Virginia and Louisiana, but only 21.8 percent in Utah, 31.6 percent in California and 31 percent in New York. The New York Times

Cranberry capsules fail to prevent UTI in trial

28 October - The active ingredient in cranberry juice would be an appealing and non-antimicrobial way to prevent urinary tract infections in older women. Too bad, therefore, that daily doses of cranberry proanthocyanidins had no beneficial effect in a randomized, placebo-controlled trial, according to Manisha Juthani-Mehta, MD, of Yale University School of Medicine. After a year of follow-up, women taking the active product had the same rate of bacteriuria with pyuria -- the study’s primary endpoint -- as those who were on placebo pills, Juthani-Mehta reported. MedPage Today

Effects of maternal age and age-specific preterm birth rates on overall preterm birth rates — United States, 2007 and 2014

4 November - Rates of births to teens and of preterm births declined in the United States from 2007 to 2014. Preterm births are more common among the youngest and oldest mothers. Preterm birth rates declined for all age groups and overall from 10.41% to 9.54% of live births. Mean maternal age increased from 27.4 years to 28.3 years. The contribution
of fewer births to teens and to women aged 20–24 years to the overall decline in preterm births was offset by increases in births to older mothers. The changing distribution of maternal age might indicate success of programs to prevent teen and unintended pregnancies. Effective public health strategies for further reducing preterm birth rates need to be tailored to different age groups. *Morbidity and Mortality Weekly Report*

**Hey, looks like Americans are finally eating more fish**

31 October – … According to the annual Fisheries of the United States Report released by NOAA last week, Americans increased their seafood consumption to 15.5 pounds of fish and shellfish per person in 2015, up nearly a pound from the previous year, making it the biggest leap in seafood consumption in 20 years. … The bump in seafood consumption may mean that we’re enjoying four additional seafood meals a year, but we’re still only eating about 4.77 ounces of seafood a week. That’s better than where we were just a few years ago, but nowhere close to the 8 ounces of seafood per week most of us should be eating according to the most current Dietary Guidelines. … But even a small uptick in seafood consumption is seen as a boon to public health. *NPR*

**Safer to puff, e-cigarettes can’t shake their reputation as a menace**

1 November - A decade after electronic cigarettes were introduced in the United States, use has flattened, sales have slowed. … It is quite a reversal for an invention once billed as the biggest chance to end smoking as we know it and take aim at the country’s largest cause of preventable death. Use of the devices is slumping because they are not as good as cigarettes at giving a hit of nicotine. Dealing another strike against them, the country’s top public health authorities have sent an unwavering message: Vaping is dangerous. The warning is meant to stop people who have never smoked — particularly children — from starting to vape. But a growing number of scientists and policy makers say the relentless portrayal of e-cigarettes as a public health menace, however well intentioned, is a profound disservice to the 40 million American smokers who could benefit from the devices. Smoking kills more than 480,000 Americans a year. *The New York Times*

**Smoking a pack a day causes 150 mutations in every lung cell, research shows**

3 November - Scientists have found that smoking a pack a day of cigarettes can cause 150 damaging changes to a smoker’s lung cells each year. The findings come from a study of the devastating genetic damage, or mutations, caused by smoking in various organs in the body. … [T]he researchers said the findings show a direct link between the number of cigarettes smoked in a lifetime and the number of mutations in the DNA of cancerous tumors. The highest mutation rates were seen in lung cancers, but tumors in other parts of the body - including the bladder, liver and throat - also had smoking-associated mutations, they said. This explains why smoking also causes many other types of cancer beside lung cancer. *Reuters*
Spouses benefit from partner's weight loss program

2 November - Weight loss by one spouse, whether in a structured formal program or not, also frequently spread to spouses, according to results from a randomized trial reported here. Participants in the study were assigned to Weight Watchers or a self-guided weight loss intervention, but Amy Gorin, PhD, of the University of Connecticut, and colleagues found that BMI change trajectories were correlated for spouses in both study arms -- such that when one member of a couple lost weight, usually so did the other (r=0.47, P<0.001).

STIs jump in men with HIV, or on PrEP

31 October - Cases of gonorrhea, syphilis, and chlamydia have risen sharply since 2011 at a Boston clinic that cares for sexual and gender minorities, researchers reported here. And the biggest jumps were among HIV-positive men and people using pre-exposure prophylaxis (PrEP) to prevent HIV. ... In 2015, 14% of HIV-positive patients and 25% of HIV-negative clients receiving PrEP at Fenway Health were diagnosed with at least one sexually transmitted infection. "For gonorrhea, you can see a very steep takeoff in 2011 -- it seems near astronomical at this point," [Douglas] Krakower said.

The different stakes of male and female birth control

1 November - In the past couple decades, scientists have been slowly moving toward developing birth control for men. A recent clinical trial of an injectable hormone contraceptive for men showed super promising results: It was 96 percent effective at preventing pregnancy, which it did by lowering sperm counts. Unfortunately, the trial was discontinued early by an independent committee, which determined that the side effects were such that "the risks to the study participants outweighed the potential benefits." The side effects in question? "Mood changes, depression, pain at the injection site, and increased libido." ... FDA-approved contraceptives that are currently on the market and in women's bodies, and their side effects are just as bad as those that occurred with the injectable male birth control. Nobody halted them in their tracks, saying that perhaps the risks outweighed the benefits. ... Though men have an equal responsibility to prevent unwanted pregnancies, they don't share equally in the consequences, and never have.

U.S.: There’s a shortage of child psychiatrists, and kids are hurting

30 October - ... [N]ot a single state has what professional groups deem a sufficient number of child psychiatrists. ... And limited access to mental health care has far-reaching consequences. The longer that psychiatric illness or family dysfunction goes on, the more difficult it is for the child to succeed, Rhea said. ... The shortage of child and adolescent psychiatrists is profound, said Scott Shipman, a professor of pediatrics at the Dartmouth Institute for Health Policy and Clinical Practice. There is an estimated one psychiatrist per
1,807 children who need services in the United States. A new report by Mental Health America, an advocacy group, found that rates of depression among young people rose from 8.5 percent to 11.1 percent from 2011 to 2014 and that 80 percent of youth with severe depression receive no treatment or insufficient treatment. The Washington Post

USAFRICOM

Nigeria: How an Ebola campaign in Nigeria discouraged bushmeat consumption

30 October - ... Since the Ebola outbreak has been brought under control a number of governments in countries affected by Ebola have launched massive media and propaganda campaigns to curb the consumption of bushmeat. ... The campaigns have included distributing information door-to-door as well as promotions on radio, newspapers and television. The campaign in Nigeria was particularly well planned. It involved broadcasting messages about the dangers of bushmeat on television and radio. Newspapers were also used to spread the message. ... Our survey found a statistically significant fall in trade for all the main traded types of animals. ... Based on interviews with traders and customers it was clear that the collapse in the bushmeat trade was the result of the Nigerian government’s strong information campaign. The Conversation

Tanzania: Tanzania suspends some HIV programs for gay men, says health minister

31 October - Tanzania has suspended community-based HIV/AIDS prevention programs for gay men, the health minister said on Monday, in the latest crackdown on the high-risk group. Ummy Mwalimu, Tanzania’s minister for health said the government had received reports that some local non-governmental organizations (NGOs) were promoting and normalizing same-sex relationships as part of their HIV programs. Gay sex is illegal in Tanzania and punishable by up to 30 years in prison. In September, the government threatened to ban groups that “promote” the rights of lesbian, gay, bisexual and transgender (LGBT) people in its first public statement against the minority group. “We have suspended MSM (men who have sex with men) community-based interventions pending (a) review,” Mwalimu [said.] Reuters
USCENTCOM

Iraq: In Iraq, the environment itself has once again become a weapon of war

1 November - The scene looks apocalyptic from space — thick plumes of black and white smoke obscuring the landscape of northern Iraq near Mosul, the central battleground in the war against the Islamic State. That white plume was captured by NASA satellites on October 22, shortly after ISIS militants set fire to a large sulfur plant in the area. The resulting sulfur-dioxide pollution, which can cause severe respiratory problems and irritate the eyes and throat, has killed two people and sent at least 1,000 others to hospitals. US forces in the region have donned gas masks and other protective gear in response. The sulfur fire is part of a larger, disturbing pattern that's been unfolding over the summer and fall: As a loose array of Iraqi troops, Kurdish forces, and Shiite paramilitaries push closer to Mosul, ISIS has been setting fire to oil fields and factories, filling the air with toxins, and contaminating key sources of drinking water. ... In October, as Iraqi forces pushed toward Mosul, ISIS fighters reportedly began filling trenches with crude oil and set them on fire to make it harder for American and Iraqi warplanes, drones, and attack helicopters to find and hit targets inside the city. Vox

Pakistan: In Pakistan, illegal kidney trade flourishes as victims await justice

3 November - ... [The police] are pursuing a group of wealthy surgeons and their network of agents who lured impoverished and illiterate Pakistanis from the countryside and imprisoned them for weeks with the intention of removing one of their kidneys in order to sell these for huge profits. ... The case burst open last month, when [Aizaz] Azam and his colleagues raided an apartment block in the city of Rawalpindi, just outside Islamabad, the capital, and found 24 terrified people — 20 men and four women — who were to be operated on at a nearby clinic. He says some of these prisoners told him they'd been held there for four months. ... Azam's case is unusual because, he says, most of the 24 prisoners in the apartment had no desire to sell a kidney, and no idea when they arrived in Rawalpindi that their captors planned to bamboozle them into doing so. NPR

Saudi Arabia: Middle East respiratory syndrome coronavirus (MERS-CoV)

31 October - Between 16 September and 10 October 2016 the National IHR Focal Point of Saudi Arabia seven (7) additional cases of Middle East Respiratory Syndrome (MERS) including one (1) fatal case. ... Contact tracing of household and healthcare contacts is ongoing for these cases. Globally, since September 2012, WHO has been notified of 1813
laboratory-confirmed cases of infection with MERS-CoV including at least 645 related deaths have been reported to WHO. WHO

Yemen: More than 1,400 suspected cholera cases in Yemen – WHO

29 October - The number of suspected cholera cases in Yemen has skyrocketed to 1,410 within three weeks of an outbreak being declared, according to the World Health Organization (WHO). Eighteen months of war between Houthi rebels and a Saudi Arabia-led coalition backing the Yemeni government has destroyed the majority of health facilities and clean water supplies in the country. ... WHO spokesman Tarik Jasarevic told a news conference that, as of Thursday, there were 1,410 suspected cholera cases in 10 out of Yemen’s 23 governorates, mostly in Taiz, Aden, Lahj, Hodeida and Sanaa. Al Jazeera

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Europe: Getting ahead of infectious disease outbreaks

1 November - The European Union is a hot spot for emerging communicable diseases, and epidemics are usually well underway before they are recognized by traditional epidemiological surveillance. In an effort to identify problems earlier, the European Centre for Disease Prevention and Control (ECDC) has developed modeling tools that predict the conditions and locations at greatest risk for outbreaks. These models account for diverse causes of epidemics, including global environmental change, social and demographic change and public health systems. ... [T]he ECDC has developed a publicly-available modeling tool, E3 Geoportal. Included in the portal are tools for filtering and interpreting datasets, as well as aggregated geospatial data resources on climate, population density, livestock density, land use, social-economics and other variables.

Yale School of Public Health

Greece: Air quality worsens in Greece as recession bites

30 October - Greece’s financial recession is leaving its footprint on the environment. ... Greece benefitted from long-standing bans on diesel cars in the two biggest cities, Athens and Thessaloniki. ... Lifting the diesel car ban in 2012 and lower taxes on diesel fuel acted as a huge incentive for those struggling with travel costs. ... [S]o far, economic pressures have reduced traffic volumes averting a possible deterioration in air pollution. However, a tripling in the cost of heating oil brought about larger changes as hard-pressed Greeks have switched to burning wood. Wintertime particle pollution increased by around 30% in Thessaloniki in 2013 and air toxicity worsened on evenings when fires were lit. Analysis of wintertime air in Athens shows that it is not just logs that are being burnt. Along with
chemicals from wood burning, scientists found lead, arsenic and cadmium particles, showing that people are burning painted and treated wood, and also their rubbish, to keep warm. The Guardian

Romania: Romania measles cases continue rise, nearly 1000 cases reported

29 October - In a follow-up to a report five weeks ago concerning the measles situation in Romania, the Ministry of Health now puts the measles tally in the southeastern European country at just shy of 1,000 cases, according to a Romania-Insider report Friday. With the addition of 150 cases this month, the case count for the first 10 months stands at 935. This compares to seven measles cases reported in all of 2015. The number of measles-related fatalities has grown to six. ... Health Ministry officials say most cases are linked to outbreaks in communities with low vaccine coverage. Outbreak News Today

United Kingdom: Brexit threatens supply of new drugs, report warns

2 November - British patients could end up not being able to access modern medicines if there is a "hard Brexit", a think tank report endorsed by a former Conservative health minister warned on Wednesday. Drugmakers currently use the European Medicines Agency as a one-stop-shop to get drugs licensed across Europe, but Britain is likely to drop out of that system if it severs EU ties and leaves the single market in a scenario dubbed "hard Brexit". ... Being cut off from the European system could put British patients at the back of the queue for new medicines because applications for new licenses from Europe - currently a market of at least 500 million people - would take priority over the much smaller UK market with its population of 65 million. Reuters

United Kingdom: UK forms global infection response team

1 November - The UK has created a specialist team of health experts who can be deployed anywhere around the world within 48 hours if a disease outbreak strikes. The aim is to stamp out infections like Ebola before they spread far and wide. The scientists, academics and clinicians will be funded by £20m from the government over five years. When not responding to an immediate emergency, the rapid response team will assess future disease threats and train colleagues from home and abroad. Public Health Minister Nicola Blackwood said the Ebola crisis highlighted the need for such a team. ... Public Health England will run the project with the London School of Hygiene and Tropical Medicine. BBC News

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U.S.: Child dies as health authorities confirm 2 cases of rare neurological illness

1 November - Two children have been diagnosed with a rare neurological condition called acute flaccid myelitis, which can lead to paralysis, the Washington State Department of Health said today. At least nine cases have been identified as part of a potential cluster of AFM cases, including the two confirmed cases. One child, who died after developing neurological symptoms, has not been confirmed to have had developed AFM, according to the Washington State Department of Health. The children between the ages of 3 to 14 in Washington state were hospitalized at Seattle Children’s Hospital after developing symptoms including weakness or loss of movement in one or more of their limbs. Five of the children were released from the hospital, three remain hospitalized and one died after developing the symptoms, the Washington State Department of Health said Monday. ... CDC officials said today that they are "concerned about the increase in cases in recent months. ABC News

U.S.: Federal panel calls for stricter enforcement of mental health care parity law

31 October - Acknowledging that "there is more work to be done" to ensure that patients with mental illness and addiction don’t face discrimination in their health care, a presidential task force made a series of recommendations Friday including $9.3 million in funding to improve enforcement of the federal parity law...

- The Centers for Medicare & Medicaid Services is awarding $9.3 million to states to help enforce parity protections. ...
- A new government website will help consumers identify the right agency to assist with their parity complaints and appeals.
- A newly released consumer guide will help patients, families and providers understand their rights and look into whether they have experienced a parity violation.
- The Department of Labor will report each year on its investigations into parity violations.

In addition, the task force recommended that the government increase its capacity to audit health plans for parity compliance and allow the Department of Labor to assess civil monetary penalties for violations. NPR

U.S.: First U.S. soda tax cuts consumption beyond expectations

28 October - As voters consider soda taxes in four U.S. cities, a new study finds that low-income Berkeley neighborhoods slashed sugar-sweetened beverage consumption by more than one-fifth after the Northern California city enacted the nation’s first soda tax. Berkeley
voters in 2014 levied a penny-per-ounce tax on soda and other sugary drinks to try to curb consumption and stem the rising tide of diabetes and obesity. After the tax took effect in March 2015, residents of two low-income neighborhoods reported drinking 21 percent less of all sugar-sweetened beverages and 26 percent less soda than they had the year before, according to the report in the October American Journal of Public Health. Reuters

U.S.: Health system study finds big jump in C diff, MDR organisms

28 October - A first-of-its-kind study on the changing epidemiology of drug-resistant bacteria within a healthcare network indicates a significant reduction in methicillin-resistant Staphylococcus aureus (MRSA). But that finding is overshadowed by a dramatic rise in Clostridium difficile and in other multidrug-resistant organisms (MDROs). ... Overall, the data showed that out of 900,000 patient admissions, 12,905 (1.4%) tested positive for an MDRO and/or C difficile. While MRSA was the most common MDRO identified, accounting for 51% of MDRO infections, the data showed a 32% decrease for that pathogen over the 8-year study period. Researchers, however, observed a 222% increase in C difficile and a 322% increase in ESBL-positive bacteria. The data also showed that 70% of all MDROs and C difficile cases originated from an ambulatory setting. CIDRAP

U.S.: More children are being poisoned by prescription opioids

31 October - Young children and teenagers are increasingly likely to be poisoned by opioid painkillers that are often prescribed for other family members, a study finds. The rate of children hospitalized for opioid poisoning increased 165 percent from 1997 to 2012, from about 1.40 per 100,000 kids to 3.71 per 100,000. In six years in which mortality data was available, 176 children died. ... The study ... examined more than 13,000 hospital-discharge records from 1997 to 2012 for opioid poisonings and used census data to extrapolate rates. ... The rate of toddlers hospitalized more than doubled, going from 0.86 per 100,000 to 2.62 per 100,000. ... Teens are also at risk of overdosing on their parents' meds. Of all children, this age group is most likely to be hospitalized for opioid poisoning, and teens are more likely to be poisoned deliberately. NPR

U.S.: Premature births rise once again, despite efforts to prevent them

1 November - The number of preterm births in the United States rose in 2015 for the first time in eight years, according to data presented Tuesday by the March of Dimes. ... The organization also reported that racial minorities continue to experience early labor at higher rates. Preterm births increased from 9.57 to 9.63 percent of births in 2015, an additional 2,000 babies born prematurely in the U.S., the report found. Seven states — Arkansas, Connecticut, Idaho, Nebraska, New Mexico, Utah and Wisconsin — had higher preterm birth percentages than in 2014. Four states — Vermont, Oregon, New Hampshire and
Washington — earned the highest marks from the organization for having a preterm birth rate at 8.1 percent or below. NPR

**U.S.: Young adolescents as likely to die from suicide as from traffic accidents**

3 November - It is now just as likely for middle school students to die from suicide as from traffic accidents. That grim fact was published on Thursday by the Centers for Disease Control and Prevention. They found that in 2014, the most recent year for which data is available, the suicide rate for children ages 10 to 14 had caught up to their death rate for traffic accidents. The number is an extreme data point in an accumulating body of evidence that young adolescents are suffering from a range of health problems associated with the country’s rapidly changing culture. ... The crossing-over point was reached in part because suicide had spiked, but also because fatal traffic accidents had declined. The New York Times

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India: Smog chokes Indian capital as pollution hits hazardous levels

31 October - Residents of New Delhi woke up to a blanket of smog on Monday as air quality deteriorated sharply overnight in India’s capital, triggering warnings that even healthy people were at risk of respiratory problems. New Delhi ranks among the world’s most polluted cities, with air quality usually worsening at this time of year, when smoke from firecrackers celebrating the Hindu festival of lights and crops burnt in nearby states envelops the city of 16 million. Drivers crawled through a thick fog as experts warned people to avoid outdoor exertion. ... The U.S. embassy in New Delhi said its air pollution index had late on Sunday breached the "hazardous" level upper limit of 500, at which it stops measuring levels of PM2.5. The index had rocketed to 1,126 by 2 a.m. (2030 GMT). ... India is home to four of the world’s 10 cities with the worst air pollution, the WHO said in May. Reuters

India: Delhi - 10,851 chikungunya cases in the national capital

31 October - At least 10,851 chikungunya cases have been reported in Delhi this season, with nearly 640 of them being recorded in the last week, according to a municipal report released on Monday. Of the total chikungunya cases, nearly 720 of them have been reported in areas falling under the North Delhi Municipal Corporation (NDMC). The Indian Express

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Haiti: In Haiti, are 1 million doses of cholera vaccine enough to stop an outbreak?

28 October - ... The Haitian Ministry of Health requested and received approval from the World Health Organization for 1 million doses of oral vaccine against cholera. And with the help of the WHO and Pan American Health Organization, the ministry will launch the vaccination campaign on Nov. 8, the groups announced this week. Health advocates praised the move, but said more action was needed. "Vaccines are just one part of the approach to controlling cholera — we still must ensure access to treatment for those who are sick, and work on ensuring access to safe water and sanitation ..." said Dr. Louise Ivers, who leads Partners in Health’s cholera treatment and prevention activities, in a statement.

PBS News Hour

PAHO reports 452 new chikungunya cases

31 October - The Pan American Health Organization (PAHO) late last week reported 452 new chikungunya cases in the Americas, bringing the 2016 total to 303,107 confirmed, suspected, and imported cases. The report comes a week after PAHO adjusted its numbers downward by 1,667 cases after Panama ruled out 1,788 previously suspected infections. The Oct 28 report includes 216 new cases in Peru, 141 new cases in Cost Rica, and 52 in Colombia—as well as smaller increases elsewhere. Those three countries now have 233, 3,023, and 19,159 cases this year, respectively ... PAHO reported no new chikungunya-related deaths, leaving that number at 106 for the year. CIDRAP News Scan (fourth item)
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