**One Health News Bits**

**4-1-13**

[**U.N. agency: Nations must maintain vigilance on influenza**](http://news.yahoo.com/fao-urges-cash-strapped-governments-keep-guard-against-142453269.html)

Governments cannot afford to neglect influenza surveillance and prevention, according to the U.N.'s Food and Agriculture Organization. "I am worried because in the current climate, governments are unable to keep up their guard," said FAO Chief Veterinary Officer Juan Lubroth. "I see inaction in the face of very real threats to the health of animals and people." The FAO also warns that vigilance is needed against another pathogen, peste des petits ruminants virus. (1/29) *Acquired from Animal Health SmartBrief*. <http://news.yahoo.com/fao-urges-cash-strapped-governments-keep-guard-against-142453269.html>

[**10 pygmy elephants found dead may have been poisoned**](http://www.bbc.co.uk/news/world-asia-21241380)

Over the past few weeks, eight endangered Borneo pygmy elephants from 4 to 20 years old have been found dead in the Gunung Rara Forest Reserve in Malaysia, while two others died earlier this month. Officials suspect the animals may have been deliberately poisoned. The animals' gastrointestinal tracts showed signs of acute bleeding, reserve veterinarian Sen Nathan said. Officials are awaiting test results to determine whether the animals, among fewer than 1,500 Borneo pygmy elephants thought left in the wild, were poisoned. (1/29) *Acquired from Animal Health SmartBrief*. <http://www.bbc.co.uk/news/world-asia-21241380>

[**Multistate outbreak of human Salmonella Typhimurium linked to hedgehogs**](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6204a3.htm?s_cid=mm6204a3_e)

CDC is collaborating with the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (USDA-APHIS) and state health departments to investigate an outbreak of human *Salmonella* Typhimurium infections with an indistinguishable pulsed-field gel electrophoresis pattern linked to contact with pet hedgehogs. This outbreak strain is historically rare, with only one to two cases reported via PulseNet (the national molecular subtyping network for foodborne disease surveillance) annually since 2002. (2/1) *Acquired from CDC Morbity and Mortality Weekly Report.*

<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6204a3.htm?s_cid=mm6204a3_e>

[**Precipitious drop in Minn. Moose numbers prompts investigation**](http://usnews.nbcnews.com/_news/2013/02/06/16872887-as-moose-disappear-minnesota-cancels-hunting-season#.URMhD2synO8.twitter)

Minnesota's moose population has plummeted by 52% since 2010, and officials have launched a $1.2 million investigation into the species' decline. Nearly 100 moose have been collared, allowing researchers to track the animals, collect other data and get to them quickly in the event of mortality in an effort to better understand the cause of the decline. The state's 2013 moose hunt has been canceled as well to reduce pressure on the population. (2/6) *Acquired from Animal Health SmartBrief*. <http://usnews.nbcnews.com/_news/2013/02/06/16872887-as-moose-disappear-minnesota-cancels-hunting-season#.URMhD2synO8.twitter>

[**Comprehensive mammalian database is evolutionary goldmine**](http://www.post-gazette.com/stories/news/education/database-gives-scientists-a-new-perspective-on-evolution-of-mammals-673815/)

A new database and study drew on 4,500 anatomical traits of live and fossilized species as well as DNA to explore the evolutionary relationships between mammals, all the way back to a hypothetical predecessor to all placental species, an animal that resembles a shrew. The resource was designed to grow as data from additional fossil and genetic finds are uncovered. Expert David Archibald summarized the significance of the findings: "The explosive model for placental evolution did not come about until after the extinction of dinosaurs. I think that's the big finding. All orders we are familiar with, even if you are not trained in biology -- primates, elephants, whales -- all groups show up within 10 million years of the end of the age of dinosaurs." (2/7) *Acquired from Animal Health SmartBrief*. <http://www.post-gazette.com/stories/news/education/database-gives-scientists-a-new-perspective-on-evolution-of-mammals-673815/>

[**Students exposed to rabies while rescuing trapped bat**](http://www.kptm.com/story/21017894/high-school-student-saves-bat-now-has-to-get-rabies-shots)

Two Nebraska high school students who handled a bat while helping free it from a window at their school must undergo injections to prevent rabies because the bat tested positive for the deadly virus. Officials took the opportunity to remind people that handling bats isn't safe and they should call authorities if they encounter a bat. (2/6) *Acquired from Animal Health SmartBrief*. <http://www.kptm.com/story/21017894/high-school-student-saves-bat-now-has-to-get-rabies-shots>

[**10th humane case of new coronavirus identified in U.K.**](http://www.usatoday.com/story/news/world/2013/02/11/sars-linked-virus/1909415/)

A U.K. patient who spent time in the Middle East is in intensive care after being diagnosed with a recently identified coronavirus that has only been confirmed in nine other humans to date. The new virus, related to SARS, is thought to be transmitted to humans from animals. In 2003, 800 people died as a result of a SARS epidemic. Health officials think the new virus could be more widespread than reports reflect and recommend any patient with pneumonia of unknown cause be tested for the new pathogen. (2/11) *Acquired from Animal Health SmartBrief*. <http://www.usatoday.com/story/news/world/2013/02/11/sars-linked-virus/1909415/>

[**Salmonella in space: Research may hold clues to infections on Earth**](http://blogs.smithsonianmag.com/smartnews/2013/02/in-space-infectious-diseases-reveal-their-true-nature/)

Salmonella bacteria that traveled to space returned three to seven times more potent than their Earth-grown counterparts, and researchers hope to identify the mechanism behind the change and use it to help prevent and treat human infections and foodborne pathogens. “This research opens up new areas for investigations that may improve food treatment, develop new therapies and vaccines to combat food poisoning in humans here on Earth, and protect astronauts on orbit from infectious disease,” said NASA's Julie Robinson. (2/18) *Acquired from Animal Health SmartBrief*.

<http://blogs.smithsonianmag.com/smartnews/2013/02/in-space-infectious-diseases-reveal-their-true-nature/>

[**U.S. history of plague is still being written**](http://blogs.scientificamerican.com/guest-blog/2013/02/18/how-politics-and-an-earthquake-led-to-prairie-dog-plague/)

A traveling couple from Sante Fe, New Mexico have been diagnosed with the bubonic plague. Though terrorism was feared, this specific cased stemmed not from any human impetus, but from prairie dogs infected in their native state, via a long line of rodents dating back to the turn-of-the-century San Francisco. (2/18) *Acquired from Animal Health SmartBrief*. <http://blogs.scientificamerican.com/guest-blog/2013/02/18/how-politics-and-an-earthquake-led-to-prairie-dog-plague/>

[**Salmonella contamination prompts recall of Kasel-made treats, food**](http://www.oregonlive.com/pets/index.ssf/2013/02/nature.html)

Kasel Associated Industries has expanded a recall that was initiated in September after the Colorado Department of Agriculture discovered salmonella in its chicken jerky treats. The FDA's follow-up investigation resulted in a broader recall of pet food products sold at Target, Costco and Sam's Club under a number of brands. (2/21) *Acquired from Animal Health SmartBrief*. <http://www.oregonlive.com/pets/index.ssf/2013/02/nature.html>

[**U.S. BSE status expected to be changed to reflect low risk**](http://blogs.desmoinesregister.com/dmr/index.php/2013/02/20/world-animal-health-group-sees-lower-risk-of-bse-in-united-states/article?nclick_check=1)

The World Organization for Animal Health is likely to change the U.S. bovine spongiform encephalopathy status to the least risky category, negligible risk, which is expected to help improve beef exports. "This is a significant achievement for the United States, American beef producers and businesses, and federal and state partners who work in coordination to maintain a system of three interlocking safeguards against BSE that protect our public and animal health," said Agriculture Secretary Tom Vilsack. (2/20) *Acquired from Animal Health SmartBrief*. <http://blogs.desmoinesregister.com/dmr/index.php/2013/02/20/world-animal-health-group-sees-lower-risk-of-bse-in-united-states/article?nclick_check=1>

[**Maine warns residents after discovering tapeworms in moose**](http://www.seattlepi.com/news/science/article/Lungworms-detected-in-Maine-moose-4295974.php)

Maine health and wildlife officials are recommending that people who encounter dead wild animals to be cautious. That advice comes after [Department of Inland Fisheries and Wildlife](http://www.seattlepi.com/?controllerName=search&action=search&channel=news%2Fscience&search=1&inlineLink=1&query=%22Department+of+Inland+Fisheries+and+Wildlife%22) and [University of Maine Animal Health Lab](http://www.seattlepi.com/?controllerName=search&action=search&channel=news%2Fscience&search=1&inlineLink=1&query=%22University+of+Maine+Animal+Health+Lab%22) examinations turned up lungworms in moose found dead in late winter. Further investigation revealed small tapeworms that could be passed on by coyotes, foxes or domestic dogs. (2/21) *Acquired from Animal Health SmartBrief*. <http://www.seattlepi.com/news/science/article/Lungworms-detected-in-Maine-moose-4295974.php#ixzz2Lz8qVi5F>

[**Aflatoxin concerns prompt Hy-Vee to recall canine food**](http://www.ksdk.com/news/article/365195/3/Dog-Food-Recalled-after-Toxin-Discovered)

Grocer Hy-Vee recalled select bags of its dog food after the Iowa Department of Agriculture detected high levels of aflatoxin, a substance released by a fungus that can be harmful to animals. The fungus is frequently found on corn. (2/25) *Acquired from Animal Health SmartBrief*. <http://www.ksdk.com/news/article/365195/3/Dog-Food-Recalled-after-Toxin-Discovered>

[**Minn. Deer free of tuberculosis, agency reports**](http://www.sctimes.com/article/20130224/SPORTS05/302240012/DNR-suspends-deer-testing-bovine-TB?nclick_check=1)

The Department of Natural Resources tested 325 deer harvested during the 2012 firearms season for bovine tuberculosis (TB) in the northwestern part of the state. None of them tested positive for the disease, marking the third year in a row that all TB testing results came back negative. As a result, the DNR recently announced that they will no longer test hunter-harvested deer for TB in the 164-square-mile disease management zone in the northwest. (2/23) *Acquired from Animal Health SmartBrief*. <http://www.sctimes.com/article/20130224/SPORTS05/302240012/DNR-suspends-deer-testing-bovine-TB?nclick_check=1>

**[One Health Symposium at UGA](http://onehealth.uga.edu/UGA_1HSymposium_March.21-23.2013_Flyer-update.pdf)**

This three-day event at University of Georgia brings together national and international disease ecology experts with the purpose of sharing the latest research at the nexus of human, animal and environmental health. Session topics include: Microbiome, Microbe-Host Interactions, and Biodiversity and Infection.  [**http://onehealth.uga.edu/symposium.php**](http://onehealth.uga.edu/symposium.php)

**2013 Colorado State One Health Symposium**

On April 2nd, Colorado State will host its 4th annual Public Health Symposium, addressing the national and global perspectives of the public health implications brought on by the human-animal-environment interface. Registration coming soon.

***Comparative Research One Health News Bits***

**4-1-13**

[**Virus May Shed Light on Cancer Causes**](http://news.ucdavis.edu/search/news_detail.lasso?id=10441)

Rare brain tumors emerging among raccoons in Northern California and Oregon may be linked to a [newly discovered virus](http://echo4.bluehornet.com/ct/19315902%3A21706137266%3Am%3A1%3A2008126168%3A7060C5C706A9D18D9DBEC29E4037BB25%3Ar) identified by a team of researchers that includes members from the University of California Davis School of Veterinary Medicine. The discovery of the virus in the cancer-stricken animals, dubbed raccoon polyomavirus, could lead to a better understanding of how viruses can cause cancer in both animals and humans. Raccoons live only two to three years, so their short lifespans can provide a model for studying how these viruses spread, how they cause cancer and how easily they can jump from species to species. Acquired from AVMA Health News Bytes. <http://news.ucdavis.edu/search/news_detail.lasso?id=10441>

[**Doggedly Pursuing Human Vaccines**](http://news.uga.edu/releases/article/man/)

Researchers at the University of Georgia College of Veterinary Medicine have discovered that a virus commonly found in dogs may serve as the foundation for the next great breakthrough in [human vaccine development](http://echo4.bluehornet.com/ct/19315903%3A21706137266%3Am%3A1%3A2008126168%3A7060C5C706A9D18D9DBEC29E4037BB25%3Ar). The parainfluenza virus 5, which is thought to contribute to upper respiratory infections in dogs, is harmless in humans. Scientists say they can use the virus as a vehicle to deliver vaccines to protect people against diseases that have eluded vaccine efforts for decades, including HIV, tuberculosis and malaria. Acquired from AVMA Health News Bytes. <http://news.uga.edu/releases/article/man/>

[**When Less Is More**](http://www.vetmed.auburn.edu/news-at-the-college/recent-news/pathobiology-professor-s-vaccine-platform-gives-immune-systems-a-boost)

Here's a different twist on the pursuit to find a vaccine that can wage a better fight against some of the toughest diseases. Researchers at Auburn University's College of Veterinary Medicine are experimenting with [drastically lowered doses of vaccines](http://echo4.bluehornet.com/ct/19315904%3A21706137266%3Am%3A1%3A2008126168%3A7060C5C706A9D18D9DBEC29E4037BB25%3Ar) that have shown early promise in creating an intracellular immune response that can serve as either a preventive measure or as a way to treat chronic infections. The findings may lead to ways to prevent and treat chronic conditions such as malaria, tuberculosis, HIV, dengue fever and cancer. Acquired from AVMA Health News Bytes. <http://www.vetmed.auburn.edu/news-at-the-college/recent-news/pathobiology-professor-s-vaccine-platform-gives-immune-systems-a-boost>

**[Tobacco plants used to develop new rabies treatment](http://www.news-medical.net/news/20130202/Scientists-produce-monoclonal-antibody-in-tobacco-plants-that-neutralizes-rabies-viruses.aspx%22%20%5Ct%20%22_blank)**

In an attempt to create a more cost-effective treatment for people in impoverished countries who are infected with the rabies virus, researchers in London developed a monoclonal antibody to rabies using leaves of the tobacco plant. The antibody blocks the virus from adhering to nerve endings at the site of the initial bite. "An untreated rabies infection is nearly 100% fatal and is usually seen as a death sentence. Producing an inexpensive antibody in transgenic plants opens the prospect of adequate rabies prevention for low-income families in developing countries," said researcher Leonard Both. Acquired from Animal Health Smartbrief. <http://www.news-medical.net/news/20130202/Scientists-produce-monoclonal-antibody-in-tobacco-plants-that-neutralizes-rabies-viruses.aspx>

[**Mice shed light on human evolution**](http://news.sciencemag.org/sciencenow/2013/02/sweaty-human-evolution-through-a.html?ref=hp)Research using mouse models has helped advance countless lines of disease research, and a new study shows that the approach can be used to explore the evolutionary origins of humans, too. Harvard University researchers were able to show how a gene variant may have played a role in human adaptation to hot, humid climates. "It's one of the first papers that clearly shows that a change that was important in recent human evolution can be modeled in the mouse," said evolutionary geneticist Wolfgang Enard, who was not part of the study. Acquired from Animal Health Smartbrief. <http://news.sciencemag.org/sciencenow/2013/02/sweaty-human-evolution-through-a.html?ref=hp>

[**Canine cancer patients might one day help humans**](http://www.santacruzsentinel.com/capitola/ci_22462298/human-health-goes-dogs-studies-k-9-cancers)

Veterinarians and other scientists have been studying canine cancer patients' DNA to identify mutations involved in several types of cancer, many of which also affect humans, such as lymphoma and osteosarcoma. The findings will likely lead to better diagnostics and treatments for animals and humans alike. "The key to unlocking some of nature's most perplexing puzzles in human health has actually stood right next to us, wagging its tail," said Matthew Breen, a genomics professor at North Carolina State University's College of Veterinary Medicine. (1/27) *Acquired from Animal Health SmartBrief*. <http://www.santacruzsentinel.com/capitola/ci_22462298/human-health-goes-dogs-studies-k-9-cancers>

[**Dragon fish’s multi-layered scales could be model for military armor**](http://www.newscientist.com/article/mg21729016.000-body-armour-to-scale-up-by-mimicking-flexible-fish.html)

The use of the impenetrable skin of the “dragon fish” has been proposed as a model of protection for future military soldiers. This fish, *Polypterus senegalus*, is a tough beast whose strong bite and sturdy exoskeleton has kept its species going for 96 million years. Its combination of flexibility and strength is perfect for human armour, says [Swati Varshney](http://web.mit.edu/isn/index.html) of the Massachusetts Institute of Technology, speaking at the [Society for Integrative and Comparative Biology meeting](http://www.sicb.org/meetings/2013/schedule/abstractdetails.php?id=176) in San Francisco earlier this month. (1/25) *Acquired from Animal Health SmartBrief*. <http://www.newscientist.com/article/mg21729016.000-body-armour-to-scale-up-by-mimicking-flexible-fish.html>

[**Gene therapy reverses type 1 diabetes in dogs, study finds**](http://www.emaxhealth.com/1020/type-1-diabetes-cured-dogs-first-time-paving-way-humans)

Spanish researchers found dogs with type 1 diabetes that were injected with gene therapy vectors maintained blood glucose levels after eating and while fasting and exercising without having hypoglycemic episodes. The dogs also attained complete diabetes remission, researchers said, and the findings could help lead to the development of treatments for humans. (2/7) *Acquired from Animal Health SmartBrief*. <http://www.emaxhealth.com/1020/type-1-diabetes-cured-dogs-first-time-paving-way-humans>

[**Like humans, chimpanzees enjoy puzzling through brain teasers, study suggests**](http://www.telegraph.co.uk/science/science-news/9889999/Chimps-solve-puzzles-for-the-thrill-of-it-researchers-find.html)

The apes, which are our closest relatives in the animal kingdom, seem to get the same level of satisfaction out of solving brain teasers as their human evolutionary cousins.

A study published by the Zoological Society of London shows that six chimpanzees who were given a game which involved moving red dice or Brazil through a maze of pipes enjoyed solving the puzzle whether they got a reward or not. (2/24) *Acquired from Animal Health SmartBrief.* <http://www.telegraph.co.uk/science/science-news/9889999/Chimps-solve-puzzles-for-the-thrill-of-it-researchers-find.html>

[**Missing MHCs help Tasmanian devil disease proliferate**](http://www.livescience.com/27804-contagious-devil-tumor-disease.html)

The contagious cancer ravaging wild Tasmanian devils is able to escape detection by the immune system because genes encoding key cell-surface molecules are turned off, researchers report. The finding that the genetic sequence for major histocompatibility complex molecules is simply not activated in the tumor cells, rather than permanently disabled, offers a potential avenue for a vaccine and important information should a similar human cancer ever arise, said researcher Jim Kaufman. (3/11) *Acquired from Animal Health Smartbrief.*

<http://www.livescience.com/27804-contagious-devil-tumor-disease.html>

[**Canine jawbone repair offers potential for humans, experts say**](http://www.usatoday.com/story/news/health/2013/03/17/dog-jawbone-repair/1588075/)

Whiskey is an 11-year-old Munsterlander whose quality of life was improved with experimental surgery at the University of California, Davis, to repair his jawbone after squamous cell carcinoma using spongy scaffolding that eventually supports new bone. Creators biomedical engineer Dan Huey and veterinarian Boaz Arzi worked with veterinarian Frank Verstraete on the procedure, and it's been performed on 12 dogs. "I imagine that it has a great potential in humans, and I think we will see it in the future," Dr. Arzi said. "... This basically eliminates the need to take bone from other parts of the body and implant it." (3/17) *Acquired from Animal Health Smartbrief.*

<http://www.usatoday.com/story/news/health/2013/03/17/dog-jawbone-repair/1588075/>