**One Health News Bits**

**From July 2012**

[**Diseases from animals hit over two billion people a year**](http://news.yahoo.com/diseases-animals-hit-over-two-billion-people-095804970.html)

A global study mapping human diseases that come from animals like tuberculosis, AIDS, bird flu or Rift Valley fever has found that just 13 such diseases are responsible for 2.4 billion cases of human illness and 2.2 million deaths a year. The vast majority of infections and deaths from so-called zoonotic diseases are in poor or middle-income countries, but "hotspots" are also cropping up in the United States and Europe. (7/5)

[**Scientists discover how fish sense Earth’s magnetic field**](http://www.livescience.com/21473-source-animal-magnetic-sense.html)

Scientists have long believed that animals use the Earth's magnetic field to direct migration pathways, but the mechanism has been a mystery. However, new research has identified cells in the nasal cavity of rainbow trout that act like tiny compasses. The cells have iron-containing particles called magnetite that respond to the Earth's magnetic field, providing the fish with directional information to navigate large distances. It's possible that other animals have similar mechanisms. (7/9)

[**Study finds early BSE infiltration of autonomic nervous tissue**](http://www.sciencedaily.com/releases/2012/07/120709093117.htm)

German scientists have found prions that cause bovine spongiform encephalopathy spread in the autonomic nervous system of infected cattle prior to infiltration of the central nervous system. "Our study sheds light on the pathogenesis of BSE in cattle during the early incubation period, with implications for diagnostic strategies and food-safety measures," said lead researcher Martin H. Groschup. (7/9)

[**More than just companions, trained dogs detect disease, save lives**](http://online.wsj.com/article/SB10001424052702304550004577508860438046728.html?mod=dist_smartbrief)

Serving as companions, protectors and aides, dogs improve quality of life for humans with medical issues such as diabetes, conditions that cause seizures and post-traumatic stress disorder, says Rebecca Johnson, director of the University of Missouri's Research Center for Human-Animal Interaction. For example, dogs can be trained to identify breast, skin and lung cancers by smelling the afflicted person's breath or licking the skin. (7/9)

[**Researchers develop new tool for tracking disease spread**](http://phys.org/news/2012-07-tracking-animal-epidemics-road-network.html)

A new mathematical tool may help public health officials more efficiently stop, or even prevent, an outbreak of livestock or zoonotic disease. French and Italian researchers used a mathematical model to chart the day-to-day and weekly transport of 5 million cattle across Italy, exposing at-risk farms and demonstrating a rapid way of tracing the origin of an infected animal. (7/10)

[**Texas detects chronic wasting disease in deer**](http://www.elpasotimes.com/ci_21044432/chronic-wasting-disease-detected-west-texas?source=most_emailed)

Wildlife officials in Texas confirmed that two mule deer from the western part of the state have tested positive for chronic wasting disease. Officials believe the event is isolated but said they have implemented strategies to contain the disease. Similar to other transmissible spongiform encephalopathies, CWD progresses slowly and is fatal. It has been identified among deer in 19 states. (7/10)

[**Chicken protein fights cancer and other diseases, study finds**](http://www.sciencedaily.com/releases/2012/07/120710163259.htm)

The common barnyard chicken could provide some very un-common clues for fighting off diseases and might even offer new ways to attack cancer, according to a team of international researchers that includes a Texas A&M University professor. James Womack, Distinguished Professor of Veterinary Pathobiology in the College of Veterinary Medicine & Biomedical Sciences, is co-author of a paper detailing the team's work that appears in the current issue ofPNAS (Proceedings of the National Academy of Sciences).  (7/10)

[**Pandemic Flu Toolkit will predict future outbreaks in Texas**](http://www.dailytexanonline.com/state/2012/07/10/pandemic-flu-toolkit-will-predict-future-outbreaks-texas)

Three years ago, swine flu diagnoses swarmed the nation’s hospitals, resulting in thousands of deaths. This flu season, Texas will have more tools to forecast such outbreaks.

Biology and statistics professor Lauren Meyers, worked with a team of UT researchers to create the [Texas Pandemic Flu Toolkit](http://flu.tacc.utexas.edu/), a web-based development that is able to forecast flu activity within the state. (7/10)

[**Mexico slays 2.5 million poultry, quarantines 31 farms in bird flu outbreak**](http://news.yahoo.com/mexico-kills-2-5-mn-poultry-contain-bird-014532889.html)

Officials have slain 2.5 million birds at poultry farms in western Mexico over the past three weeks in an attempt to contain a bird flu outbreak, the agriculture ministry said. The virus responsible for Mexico's current bird flu outbreak, H7N3, has occasionally caused human disease in various parts of the world, according to the United Nations, but has not shown itself to be easily transmittable between humans. (7/10)

[**Small turtles linked to salmonella outbreak**](http://www.nbcnewyork.com/news/local/Salmonella-Outbreak-Turtles-New-Jersey--162078005.html)

Seven New Jersey residents have been sickened in an outbreak of Salmonella linked to small turtles, officials said Wednesday. The Centers for Disease Control is reporting six outbreaks of the infection, with 149 affected people in 28 states since August 2011, all linked to small turtles or the water they live in. Seventy-two percent of those sickened said they had some exposure to turtles. (7/11)

[**Artificial sweetner can be deadly for cats and dogs**](http://seattletimes.nwsource.com/html/tailsofseattle/2018658270_veterinary_qa_why_is_xylitol_so_dangerous_for_dogs_and_cats.html)

Xylitol, an artificial sweetener used in sugar-free gum, baked goods and other items, causes a rapid, dangerous drop in pets' blood sugar levels and, if left untreated, can result in liver failure in less than 36 hours after ingestion, writes veterinarian Dana Brooks. Symptoms that develop 30 to 60 minutes after ingestion of xylitol include lethargy and seizures, while vomiting can occur sooner. The condition may be treatable with emergency interventions, but signs of liver failure, such as skin and intestinal bleeding, carry a poor prognosis, even with treatment, Dr. Brooks notes.  (7/11)

## [New ILRI study maps hotspots of human-animal infectious diseases and emerging disease outbreaks](http://www.ilri.org/ilrinews/index.php/archives/9172%22%20%5Co%20%22Permanent%20Link%3A%20New%20ILRI%20study%20maps%20hotspots%20of%20human-animal%20infectious%20diseases%20and%20emerging%20disease%20outbreaks)

A new study maps hotspots of human-animal infectious diseases and emerging disease outbreaks. The maps reveal animal-borne disease as a heavy burden for one billion of world’s poor and new evidence on zoonotic emerging disease hotspots in the United States and western Europe. (7/5)

[**Penn veterinary researchers test immunotherapy for bone cancer**](http://articles.philly.com/2012-07-15/news/32675523_1_osteosarcoma-bone-cancer-sasha)

Researchers at the University of Pennsylvania School of Veterinary Medicine are treating a 12-year-old dog, Sasha, with an altered form of listeria to kill off any remaining cancer after osteosarcoma claimed her foreleg. If the treatment is effective in dogs, researchers say the next step will be testing it on human patients. Six dogs are being treated with the therapy now, and researchers hope to recruit more. (7/15)

[**Equine therapy expands to spa setting**](http://www.nytimes.com/2012/07/15/fashion/more-spas-offer-equine-therapy.html?_r=1)

Spa owners across the country are increasingly harnessing horses to help their human clients grow by forging bonds with the animals, interacting with and guiding horses using body language and navigating obstacle courses with them. Horses have long been used in psychotherapy and drug rehabilitation as well as some kinds of physical therapy. (7/13)

[**USAID and AusAID Join Forces Against Emerging Pandemic Disease Threats in Southeast Asia under Memorandum of Cooperation**](http://www.marketwatch.com/story/usaid-and-ausaid-join-forces-against-emerging-pandemic-disease-threats-in-southeast-asia-under-memorandum-of-cooperation-2012-07-16)

The U.S. Agency for International Development (USAID) and the Australian Agency for International Development (AusAID) signed a memorandum of cooperation (MoC) on June 6, 2012 to help reduce the risk of emerging pandemic disease threats in the Mekong region of Southeast Asia. Under the MoC, AusAID is providing Aus$6 mil. to USAID's PREVENT project, which uses evidence-based social and behavior change communication approaches and tools - such as training, advocacy, and media - to reduce the risk of diseases of animal origin that could pose a threat to humans. (7/16)

[**Poultry vaccines combine to form 2 potent new virus strains**](http://www.sciencedaily.com/releases/2012/07/120712144754.htm)

According to Australian researchers, two new infectious laryngotracheitis viruses have arisen from vaccines used to prevent the disease in chickens. The study, which compared the new viruses to two ILT vaccines widely used in Australia's poultry industry, found that the live portions of the vaccines recombined, forming the two new strains. The study supports the need for regulating the use of attenuated live vaccines across all species to protect against the formation of new viruses, researchers said. (7/12)

[**Researchers say cancer “smart bombs” improve survival in mice**](http://www.huffingtonpost.co.uk/2012/07/15/cancer-treatment-smart-bomb_n_1674085.html)

Researchers at Yale University School of Medicine say they have used cancer-fighting "smart bombs" called nanolipogels to successfully slow tumor growth and extend life for mice with melanoma that had metastasized to the lungs. The tiny spheres contain treatments that simultaneously fight the cancer and boost immune activity, researchers report.  (7/16)

[**New procedure saves dog who ate deadly mushrooms**](http://www.insidebayarea.com/news/ci_21087720/berkeley-dog-poisoned-by-death-cap-mushrooms-saved)

A novel procedure has saved the life of a miniature Australian shepherd named Kasey who was poisoned by ingesting death cap mushrooms. Veterinarian Mike Barlia consulted with physician Todd Mitchell, who is studying mushroom poisoning in humans. Dr. Mitchell advised Dr. Barlia to use a syringe to draw the toxins out of the dog's gallbladder. "Kasey is the first of any animal species, including humans, this was tried on," said Dr. Mitchell. "We will now recommend this for human poisonings where the trial drug is not available." (7/16)

[**Eastern equine encephalitis surfaces in Florida**](http://www.gainesville.com/article/20120716/ARTICLES/120719694)

The health department in Alachua County, Fla., has detected Eastern equine encephalitis in a sentinel chicken, officials say, and a human case has occurred in a Holmes County resident. It's rare for humans to contract the mosquito-borne disease, but it can be fatal, said Anthony Dennis, Alachua County environmental health director. The disease was also found last week in animals in three other Florida counties. (7/16)

[**View AVMA’s One Health resources**](http://www.avma.org/onehealth/)

One Health is the integrative effort of multiple disciplines working locally, nationally, and globally to attain optimal health for people, animals, and the environment. Together, the three make up the One Health triad, and the health of each is inextricably connected to the others in the triad. Understanding and addressing the health issues created at this intersection is the foundation for the concept of One Health, addressed by the AVMA.

[**NC sees first equine EEE cases of the year**](http://islandgazette.net/news-server5/index.php/news/local-and-state-news/state/16936-state-sees-first-equine-eee-cases-of-the-year)

Two Quarter horses were euthanized this month after contracting Eastern Equine Encephalomyelitis, a mosquito-borne disease that is preventable in equine by vaccination. The unvaccinated horses, one a 2-year-old Robeson County mare and the other a 7-year-old stallion from Bladen County, exhibited signs of generalized weakness, stumbling, depression and inability to stand or eat. (7/17)

[**The ecology of disease**](http://www.nytimes.com/2012/07/15/sunday-review/the-ecology-of-disease.html?pagewanted=1&_r=2&hp)

Disease, it turns out, is largely an environmental issue. Sixty percent of emerging infectious diseases that affect humans are zoonotic — they originate in animals. Teams of veterinarians and conservation biologists are in the midst of a global effort with medical doctors and epidemiologists to understand the “ecology of disease.” It is part of a project called Predict, where experts are trying to figure out, based on how people alter the landscape — with a new farm or road, for example — where the next diseases are likely to spill over into humans and how to spot them when they do emerge, before they can spread. (7/14)

[**DNA vaccines and the future of disease control**](http://www.healthcanal.com/medical-breakthroughs/30830-DNA-vaccines-and-the-future-disease-control.html)

Using DNA vaccines, rather than inoculating a person or animal with vaccines based on real infectious agents offer many benefits, including avoiding the risk of reinfection, and the expense of cultivating and handling deadly viruses and bacteria. BBSRC-funded researchers are exploring this type of technology to see how it could be used to protect cows and chickens from diseases, mixing theory and practical application to answer modern food security and animal welfare challenges. (7/17)

[**Difficult recovery for Oregon man who contracted plague from cat bite**](http://www.huffingtonpost.com/2012/07/17/paul-gaylord-recovering-f_n_1681242.html#slide=more239337)

Paul Gaylord, who turns 60 next month, contracted a rare case of the plague trying to take a mouse from the jaws of a choking cat at his home in Prineville, in rural Oregon. He faces a difficult recovery now that he's out of intensive care. "We didn't even know the plague was around anymore," said his sister, Diana Gaylord. "We thought that was an ancient, ancient disease." (7/17)

**[49 people sickened from dog food salmonella contamination](http://vitals.nbcnews.com/_news/2012/07/19/12821984-dry-dog-food-salmonella-outbreak-sickened-49-cdc-says)**

Salmonella-contaminated dry dog food from Diamond Pet Food Processors' plant in Gaston, S.C., sickened a total of 47 people in the U.S. and two in Canada, the CDC said Wednesday. Diamond launched its recall of the food in April. People can become ill by direct exposure to the food or by contact with animals that consumed it. (7/18)