

One Health News Bits October 2014

Tumors in Florida's endangered sea turtles linked to polluted oceans.

For decades, green sea turtles have been plagued by a virus that causes cauliflower-like tumors to sprout from their eyes, mouths, fins and soft tissue. Now researchers think they have an answer for what's causing the tumors: pollution. *Miami Herald*, Florida (10/31) *Environmental Health News, AboveThe Fold*
<http://www.miamiherald.com/news/local/community/miami-dade/article3499617.html>

Device collects information from animal exhalations

Researchers developed a device that captures exhaled compounds that serve as markers of health and life history from whales and dolphins, and they hope to expand the work to other animals. Hundreds of compounds have already been cataloged from whales and dolphins, including amino acids, lipids, pharmaceuticals and environmental contaminants. Eventually, the technology could evolve into a diagnostic tool that detects indicators of disease in exhaled air. Human breath contains more than 1,800 known compounds that are evaluated for diagnosing diabetes, cancer and more. *ScienceMag.org* (10/24) *Animal Health SmartBrief*
<http://news.sciencemag.org/chemistry/2014/10/breathalyzer-dolphins>

Practice weathers seasonal surge in leptospirosis

Veterinarians in Buffalo Grove, Ill., believe the zoonotic bacterial infection leptospirosis killed a 4-year-old golden retriever named Mac, and this year may be a particularly bad one for the pathogen. Veterinarian Adam Mordecai says his clinic is treating up to 14 suspected cases of the disease, common at this time of year in his area. A vaccine is available for dogs, but it does not protect against all strains of the bacteria. A member of Mac's family has an autoimmune disorder, so the entire family will be tested for leptospirosis. *Chicago Tribune* (tiered subscription model) (10/27) *Animal Health SmartBrief*
<http://my.chicagotribune.com/#section/-1/article/p2p-81788086/>

Researchers uncover novel viruses in long-frozen caribou feces

Deep ice samples from mountainous regions preserve relics from the past, including shoes, arrowheads and -- of great interest to biologists -- viruses. Researcher Eric Delwart discovered two novel viruses in 700-year-old caribou feces from northern Canada. The viruses don't appear to be dangerous to humans, but the discovery reinforces the viability of viruses in cold conditions and suggests warming of frozen regions could unleash long-frozen pathogens. *National Public Radio/Shots blog* (10/27) *Animal Health SmartBrief*
http://www.npr.org/blogs/health/2014/10/27/359340643/ancient-viruses-lurk-in-frozen-caribou-poo?utm_source=facebook.com

Study links mountaintop mining to lung cancer.

A new study by researchers at West Virginia University's Mary Babb Cancer Center strengthens mountaintop coal mining's link to high cancer rates in nearby communities. *Pittsburgh Post-Gazette*, Pennsylvania (10/25) *Environmental Health News, AboveThe Fold*

<http://www.post-gazette.com/news/health/2014/10/25/WVU-study-links-mountaintop-mining-to-lung-cancer/stories/201410230179>

Disease expert calls for One Health approach to outbreaks

Disease outbreaks such as the Ebola crisis in West Africa should be approached from a One Health perspective, according to veterinarian Peter Cowen, an associate professor at the North Carolina State University College of Veterinary Medicine. Dr. Cowen says there's much work to be done regarding how Ebola affects livestock and other species in endemic areas, and he says the approach is important across a range of infectious disease threats -- "otherwise, we only get part of the picture." *Technician (North Carolina State University)* (10/22) *Animal Health SmartBrief*

http://www.technicianonline.com/news/article_9ba0347c-59a1-11e4-8170-001a4bcf6878.html

Hunting: Another possible point of disease transmission

Wild game hunters should be aware that the pastime is a possible point of zoonotic disease transmission. The AVMA urges people to take particular care when dealing with the head and spine of a deer, minimizing contact with nervous system tissue. Anthrax, tularemia, brucellosis and rabies are just some of the pathogens game hunters might encounter, but good hygiene and use of insect repellent are some ways of mitigating risk. *Brownwood Bulletin (Texas)* (10/22) *Animal Health SmartBrief*

http://www.brownwoodtx.com/article_b39174e0-8e81-54b1-9435-0eeaf03a4b2a.html

Shifting weather patterns drive disease risk in Southwest

As cooler weather sets in, vesicular stomatitis is waning, but West Nile virus is still a concern for both livestock and humans, and parts of Texas and New Mexico that have seen wet weather lately are particularly at risk. Gnats and black flies, the main vectors for vesicular stomatitis, are less active in cooler weather, but flooding can lead to a mosquito population explosion, and sampling in New Mexico found many mosquitoes carried West Nile. *Southwest Farm Press* (10/20) *Animal Health SmartBrief*

<http://southwestfarmpress.com/livestock/changing-weather-offers-hope-against-animal-diseases>

For public health's sake, clean up after your pet

Contamination of water with fecal matter from dogs poses a potential public health problem, according to research from the Environmental Protection Agency published in *Environmental Science and Technology*. The study found that dog waste left in the environment is a potential source of zoonotic pathogens including giardia, E. coli and campylobacter. Picking up after dogs is the best way to mitigate risks. *IO9.com* (10/14) *Animal Health SmartBrief*

<http://animals.io9.com/pick-up-your-dogs-poo-its-important-for-public-health-1645911068>

Ebola spotlights key One Health principles

As human Ebola patients have been diagnosed, attention has turned to their pets, in what three experts note is "a stark reminder of the crucial role animals can and do play in the

spread of disease." Noting that 60% of human pathogens originate in animals, they call for vigilance in animal outbreaks and a strategy to stem the spread among all species: "The key take-away from the connection between animals and disease is that we must have vaccines for diseases that are both animal and human targeted." *Wired.com* (10/15) *Animal Health SmartBrief*
<http://www.wired.com/2014/10/mayo-clinic-stop-next-ebola/>

Bats: Ideal pathogen hosts or just the most studied?

Bats are known to harbor -- and sometimes spread -- a multitude of pathogens, but scientists disagree on whether there's something unique that makes the animals the perfect host. It's possible that the abundance of bats and the fact that they are well-studied create the perception that they are more important in disease transmission than they actually are. Research suggests bats have supercharged immune systems, and their genomes contain an abundance of DNA repair genes. Zoonotic viruses including rabies, Marburg and SARS are harbored by bats, and bats have been implicated in the West African Ebola outbreak that has killed over 4,400 people. *Wired.com* (10/15) *Animal Health SmartBrief*
<http://www.wired.com/2014/10/bats-ebola-disease-reservoir-hosts/>

Cruciate ligament tears affect people and dogs

More knee ligament repair surgeries are performed on dogs than on people. About 1 million cranial cruciate ligament surgeries are done on dogs every year, according to data reported in the Journal of the American Veterinary Medical Association, while only about half of the 200,000 people who suffer anterior cruciate ligament tears undergo surgery each year. "I think the average dog is infinitely more athletic than the average person," said veterinarian Ross Lirtzman of Arizona Canine Orthopedics & Sports Medicine Group. *The Washington Times/The Associated Press* (10/15) *Animal Health SmartBrief*
<http://www.washingtontimes.com/news/2014/oct/15/rough-and-tumble-dogs-top-people-on-knee-surgery/>

NYC rats carry a plethora of zoonotic pathogens

Rats living in New York City carry a multitude of zoonotic pathogens, according to Columbia University research published in the journal mBio. Using DNA testing on rats collected from New York City, researchers identified E. coli, Salmonella, Seoul hantavirus, Leptospira and 18 previously unknown viruses with similarities to known zoonotic pathogens. "We live in a world where humans are in the minority," said physician Jay Varma of the New York City Department of Health and Mental Hygiene. However, experts noted it remains unclear how likely rats are to transmit the pathogens they carry to humans. *The New York Times* (tiered subscription model) (10/14) *Animal Health SmartBrief*
http://www.nytimes.com/2014/10/14/science/rats-and-their-alarmed-bugs.html?_r=1

Ebola and pets

Can pets get sick from Ebola? Can they pass the virus to us? What should happen to pets of infected people? We know you have questions about Ebola and pets. The AVMA is

working with the CDC, USDA and other subject matter experts and animal and public health officials to provide the latest information and recommendations for veterinarians and pet owners alike. [View AVMA's Ebola resources.](https://www.avma.org/KB/Resources/Reference/Pages/Ebola-virus.aspx?utm_source=smartbrief&utm_medium=email&utm_campaign=smartbrief-assoc-news) (10/14) *Animal Health SmartBrief*
https://www.avma.org/KB/Resources/Reference/Pages/Ebola-virus.aspx?utm_source=smartbrief&utm_medium=email&utm_campaign=smartbrief-assoc-news

Mapping animal movements holds value for all, experts say

Many migrating animals are on the move with the change in seasons, driven by the relentless search for food. Animals may be moving along elevation gradients or changing latitude in search of more hospitable climates, and as they move vast distances, they may be carrying disease as well as serving as indicators of ecosystem change. "I kind of like to think of migrations as inhalations and exhalations of a healthy ecosystem," says zoologist Grant Hopcraft. *The Guardian (London)* (10/13) *Animal Health SmartBrief*
<http://www.theguardian.com/environment/2014/oct/13/the-worlds-mass-autumn-animal-migration>

Pollutants spread through Arctic by migrating seabirds.

Arctic seabirds are literally fouling their own nests according to research that shows the migrating birds have become unwitting toxin carriers and are cross-polluting their habitats. *Barents Observer* (10/11) *Environmental Health News, AboveThe Fold*
<http://barentsobserver.com/en/nature/2014/10/pollutants-spread-through-arctic-migrating-seabirds-11-10>

3 keys to stemming emerging zoonotic diseases

There are likely many thousands of undiscovered pathogens in wildlife that could pose a zoonotic disease threat, but addressing a few key points of contact between humans and wild animals would go a long way toward mitigating the threats, argues veterinarian Steve Osofsky, a wildlife health and health policy expert with the Wildlife Conservation Society. Making alternative food sources available to those who consume bats and nonhuman primates, curbing the animal trade and stemming human encroachment into wildlife habitats are key steps, Dr. Osofsky writes. *CNN* (10/9) *Animal Health SmartBrief*
<http://edition.cnn.com/2014/10/09/opinion/osofsky-ebola-wildlife/>

Cancer patients find joy in therapy dog's visits

Jane Ann Zeigler-Wentz and her therapy dog, Porshia, visit a cancer center in Toledo, Ohio, bringing joy to many of the patients there. Zeigler-Wentz herself is a two-time cancer survivor, and she remembers how much she missed her dogs during treatments. Therapy Dogs International certified Porshia, and the group has far more requests for visits than it can meet. *The Blade (Toledo, Ohio)* (10/8) *Animal Health SmartBrief*
<http://www.toledoblade.com/Medical/2014/10/07/Therapy-dog-casts-her-spell-on-cancer-patients.html>

Veterinarian developing pre-mortem test for prion disease

Veterinarian Nicholas Haley of Kansas State University is developing a test for chronic wasting disease in living animals that could provide a better option than the current test,

which is used after death. The work could translate into tests for diseases that affect humans, such as Creutzfeldt-Jakob disease, Alzheimer's and Parkinson's, Dr. Haley said. Much of the work was based on testing from a captive herd in north-central Iowa linked to a CWD case found in another part of the state. *The Des Moines Register (Iowa) (tiered subscription model)* (10/2) *Animal Health SmartBrief*
<http://www.desmoinesregister.com/story/news/health/2014/10/03/iowa-deer-study-human-researcher-debilitating-diseases-alzheimers/16631691/>

Study links nitrogen runoff to viral tumors in sea turtles

Fibropapillomatosis, a major source of mortality in endangered green turtles, appears to be linked to nitrogen runoff, according to research from Duke University. Excess nitrogen is converted to arginine by algae, which the turtles eat. Infected turtles had elevated levels of arginine, which may serve as a kind of fuel for the virus.

SmithsonianMag.com (10/2) *Animal Health SmartBrief*
<http://www.smithsonianmag.com/smart-news/pollution-hawaiis-farms-and-cities-causing-sea-turtles-get-deadly-tumors-180952912/?no-ist>