

Advancing the One Health Concept through Collaborations that Connect, Create, and Educate

**Clinician Outreach and
Communication Activity
(COCA) Call
November 17, 2016**



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To Ask a Question

❑ Using the Webinar System

- “Click” the Q&A tab at the top left of the webinar tool bar
- “Click” in the white space
- “Type” your question
- “Click” ask

❑ On the Phone

- Press Star (*) 1 to enter the queue
- State your name
- Listen for the operator to call your name
- State your organization and then ask your question

Objectives

At the conclusion of this session, the participant will be able to:

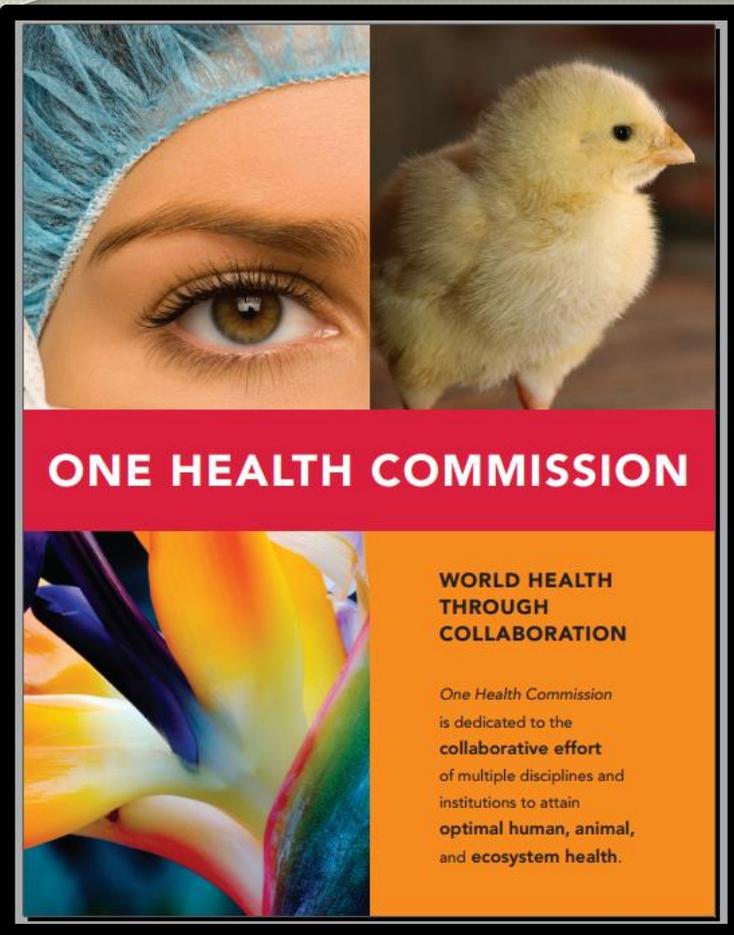
- ❑ **Describe the many disciplines that are included in One Health**
- ❑ **Define the challenges to instituting a One Health approach**
- ❑ **Identify the major global One Health leader organizations and groups**
- ❑ **Discuss how the One Health Commission is working to connect stakeholders to create One Health Action Teams that educate about One Health and the issues surrounding it**

TODAY'S PRESENTER



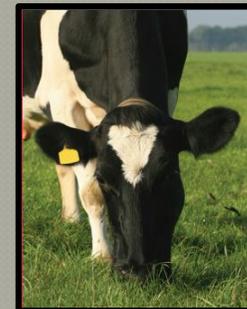
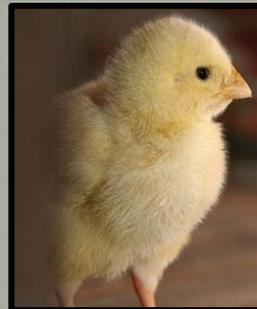
Cheryl Stroud, DVM, PhD

Executive Director
One Health Commission



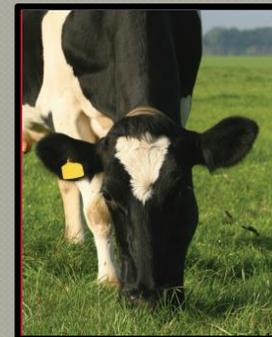
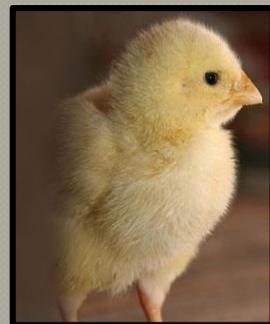
The findings and conclusions in this presentation are those of the author(s) and do not necessarily represent the views of the Centers for Disease Control and Prevention.

Advancing the One Health Concept Through Collaborations that 'Connect, Create and Educate'





- ***What is One Health?***
- ***Brief Historic Overview***
- **Updates on One Health around the world**
- **Why it matters to clinicians**



Collaborations

start with

Relationships!!

*Which start when we
come together in direct conversations*



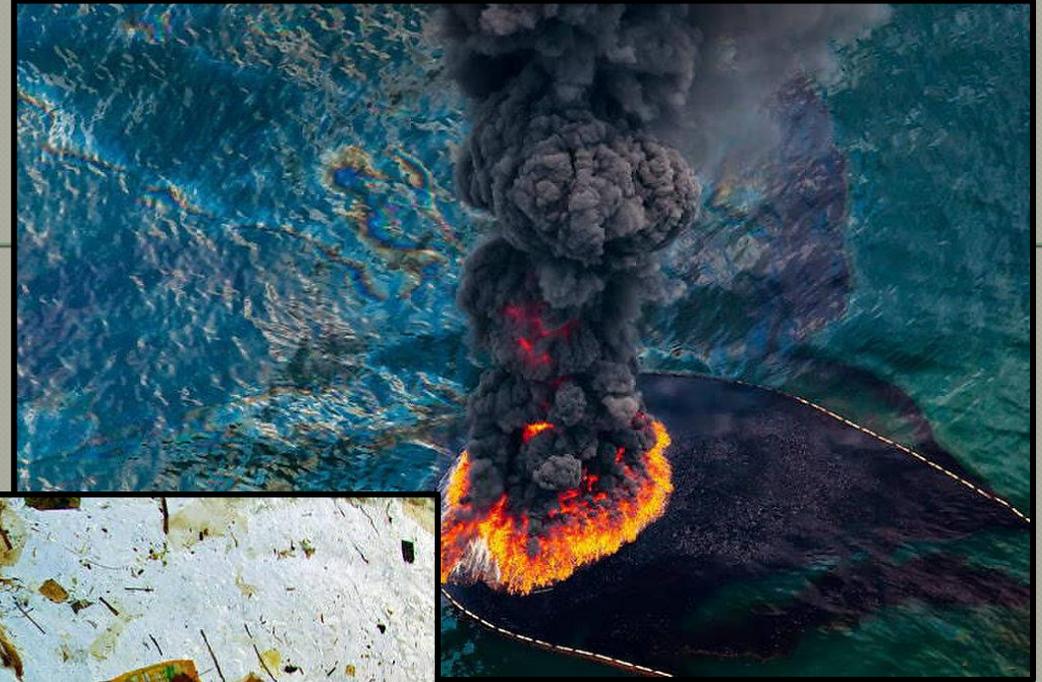
Ego



Nature



“A lot of people have this ego need that makes them want to believe that Earth is the centre of the universe and humans are the most important species, the supreme expression of creation.” - Ann Druyan



Planetary Health

<http://magazine.good.is/slideshows/human-impact-environment#0>

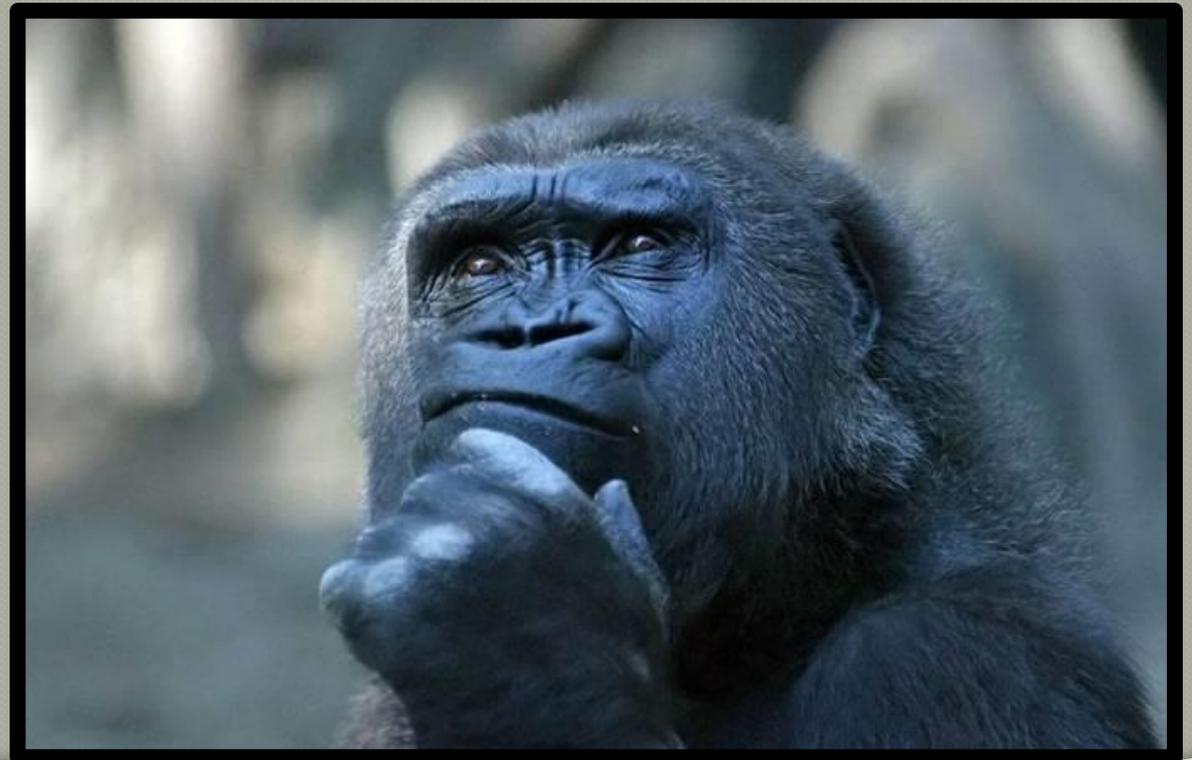
What is **ONE HEALTH** all about?



Not a new concept

.....however.....

***A New Professional
Imperative!!***



Scope of One Health

- Human-animal bond
- Professional education and training
- Comparative Medicine -
Translational Research
- Food and water Safety and Security
- Agricultural production / land use
- Natural resources and conservation
of natural resources
- Disease surveillance, prevention
and response, both infectious and
chronic diseases
- Clinical medicine – need for
interrelationship between the
health professions
- Environmental contaminants
- Maintenance of biodiversity
- Disaster preparedness and
response
- Public policy and regulation
- Global trade and commerce
- Antimicrobial Resistance
- Climate Change

One Health is a pathway to Planetary Health and *Global Security*





Food Safety and Security

Current World Population ~ 7.23 billion

It is now estimated that it will
increase by another 50% to 9 billion by 2042.

<http://www.worldometers.info/world-population/#pastfuture>

Food Security



Salmonellosis - Salmonella Likes Chickens!



Salmonella

Salmonella Homepage

Reporting Timeline

List of Selected Outbreaks

Active Outbreaks

2016 Outbreaks -

Human *Salmonella* Infections Linked to Live Poultry -

Advice to Consumers and Retailers

Live Poultry FAQs

Case Count Maps

Epi Curves

[CDC](#) > [Salmonella Homepage](#) > [2016 Outbreaks](#)

Eight Multistate Outbreaks of Human *Salmonella* Infections Linked to Live Poultry in Backyard Flocks



Posted July 19, 2016 1:00PM ET

What's New?

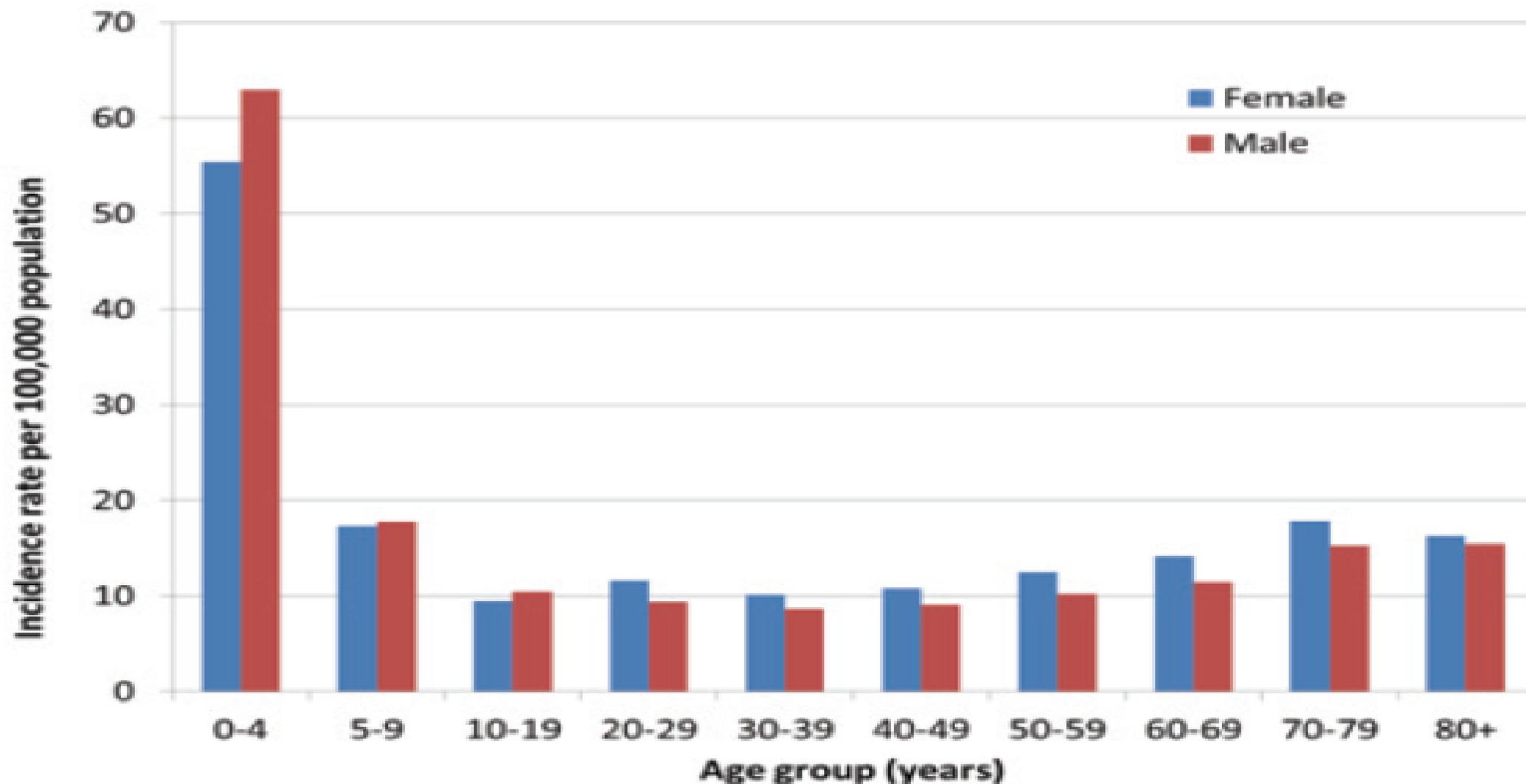
- One more outbreak was identified, bringing the total to eight outbreaks under investigation.
- 287 more ill people have been reported.
- 10 more states have reported cases, bringing the total to 45 states with ill people.
- In the eight outbreaks, 611 people infected with the outbreak strains of *Salmonella* were reported from 45 states.

At A Glance

- Case Count: 611
- States: 45
- Deaths: 1
- Hospitalizations: 138

More Information

Figure 3. Incidence rate of laboratory-confirmed human *Salmonella* infection reported to CDC, by age group and sex, United States, 2012 (n=46,097 with age and sex information reported)



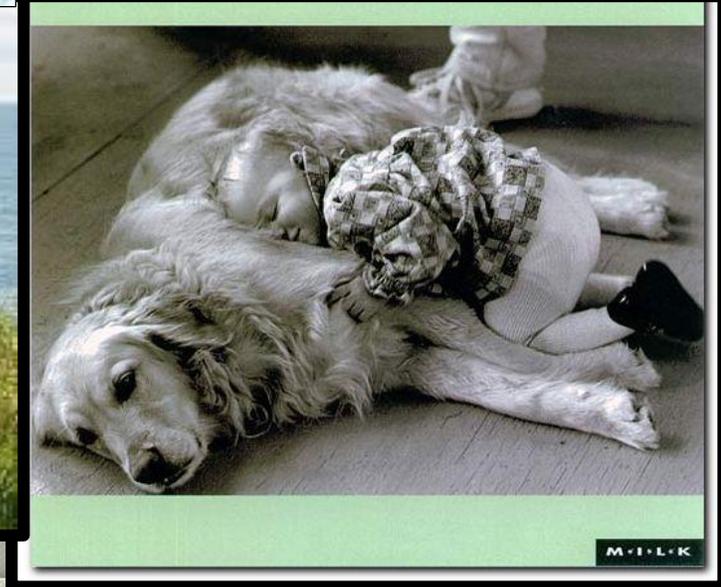
Human-Animal Bond



ANTIDEPRESSANT



No Words Needed



Human-Animal Bond

Q



Pets Promote Public Health!



Celebrate National Pet Week! Did you know that pet ownership has great benefits for your health?

MENTAL WELL-BEING

- Companion animals improve mental and emotional well-being in humans.
- Pet owners are less likely to suffer from stress, anxiety, and depression than non-pet owners.
- Pet therapy improves a wide array of mental health disabilities, including anxiety, panic, post-traumatic stress, mood, obsessive compulsive, and other disorders.

56% of US households own pets



OBESITY PREVENTION

- The National Institutes of Health found that dog owners who walk their dogs are significantly more likely to meet physical activity guidelines and are less likely to be obese than non-dog owners or walkers.
- By providing motivation and social support, pets make it easier for owners to adopt long-term behavior changes that lead to weight loss and other positive health outcomes.
- Pet ownership is associated with key indicators of cardiovascular health such as lower blood pressure, cholesterol, and triglycerides.



TOBACCO CESSATION



28.4% of smokers said knowing the adverse impact of cigarette smoke on pet health would motivate them to stop smoking. Second hand smoke exposure is associated with certain cancers in cats and dogs, allergies in dogs, and eye, skin, and respiratory diseases in birds.

National Pet Week is May 3-9, 2015

Celebrate the ways pets improve our lives and our health by promoting pet ownership, pet health, and the Surgeon General's National Prevention Strategy goals of active living, tobacco-free living, and mental and emotional well-being through the human-animal bond.



Brought to you by the USPHS Veterinary Category

https://www.cdc.gov/pcd/issues/2015/15_0204.htm

Nature Deficit Disorder: Ecotherapy for Depression?





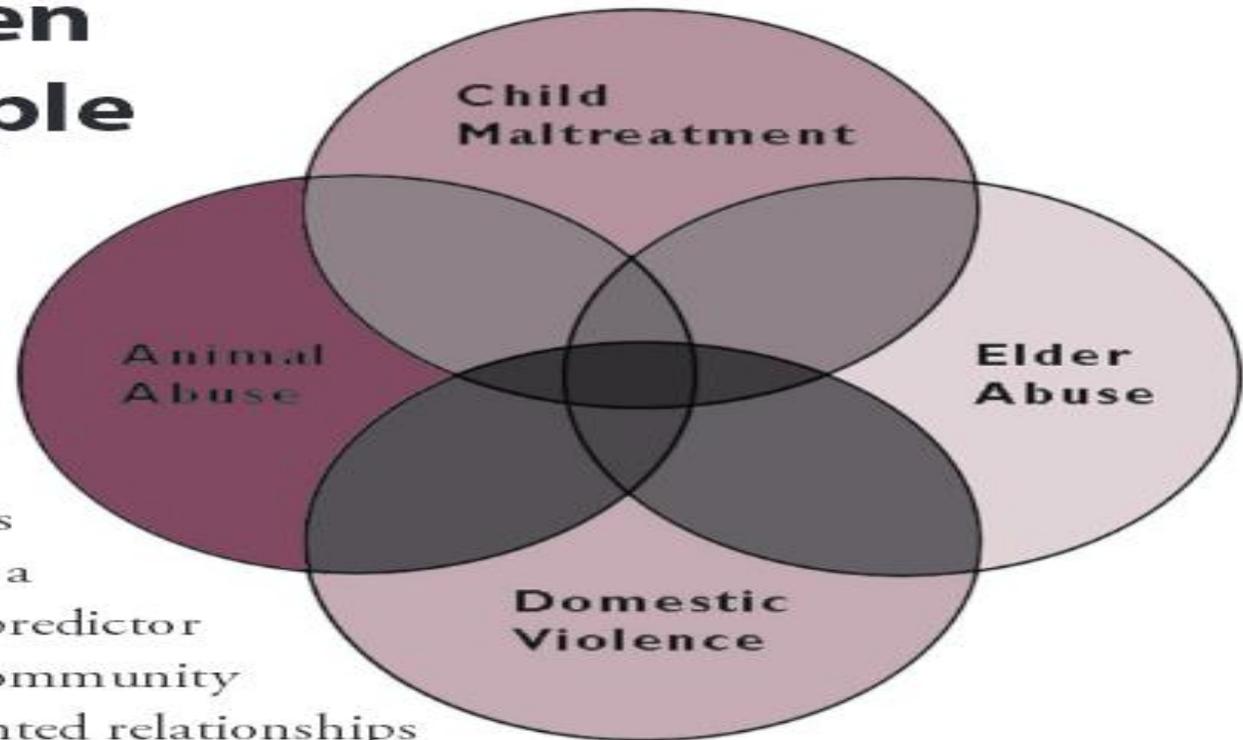


NATIONAL LINK COALITION

*Working together to stop violence
against people and animals*

The Link Between Violence to People and Violence to Animals

In recent years there has been renewed interest in an idea dating back centuries — that acts of cruelty against animals can be a sentinel indicator – and often a predictor – of other forms of family and community violence. Research has documented relationships between childhood histories of animal cruelty and patterns of chronic interpersonal



<http://nationallinkcoalition.org/>

Declining Bee Populations Pose A Threat to Global Agriculture

Environment 360, Yale University

Apr 30, 2013: by elizabeth grossman

Bees and the crops they pollinate are at risk from climate change, IPCC report to warn

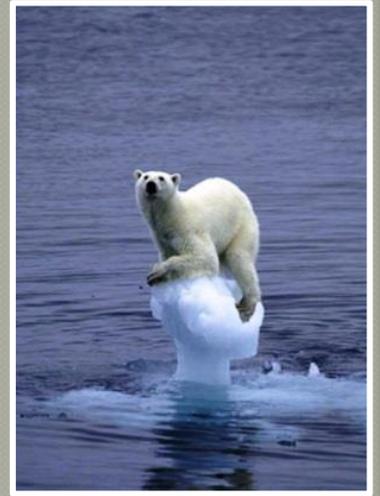
Climate change will exacerbate the risk of extinction for bees and other pollinating insects already under threat from pesticides and habitat loss, experts say



<http://www.telegraph.co.uk>

Photo: PA , March 29, 2014

“The danger that the decline of bees and other pollinators represents to the world’s food supply was highlighted when the European Commission decided to ban a class of pesticides suspected of playing a role in so-called “colony collapse disorder.”





Monarch Butterflies Struggling for Survival due to:

Climate Change

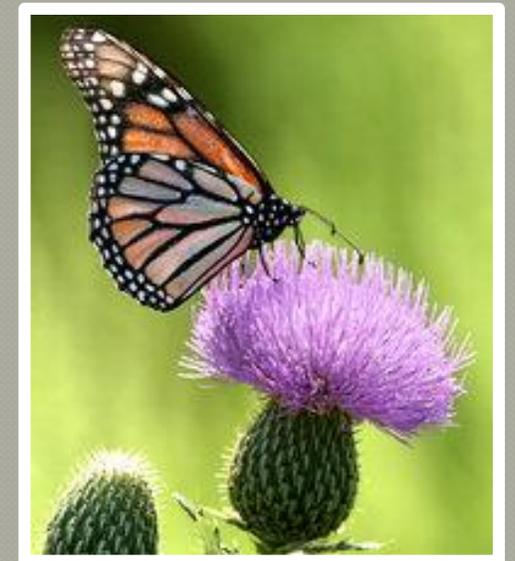
Loss of Habitat

Insecticides in the environment

Monarch Migration Plunges to Lowest Level in Decades

The number of monarch butterflies that completed an annual migration to their winter home in a Mexican forest sank this year to its lowest level in at least two decades, due mostly to extreme weather and changed farming practices in North America, the Mexican government and a conservation alliance reported on Wednesday.

By **MICHAEL WINES** NYTimes: March 13, 2013



Animals as Sentinels

Free lead testing event for dogs in Flint water crisis



Maggie, a terrier mix, is held by Michigan State University veterinary student Courtney Andries, of East Lansing, while veterinary technician Monica Reinke, of East Lansing, finishes drawing her blood during a free lead testing event for animals on Saturday, March 19, 2016 at the parish hall of St. Paul's Episcopal Church in Flint. The event was held by the Michigan State College of Veterinary Medicine amid Flint's water crisis.

Rachel Woolf | MLive.com

- The test will not only check for lead, but other metals including copper, mercury, zinc, iron and mercury. More than 170 dogs have been tested during the previous three events.
- There have been five cases of dogs that tested positive for lead

http://www.mlive.com/news/flint/index.ssf/2016/04/free_lead_testing_event_for_do.html

Endocrine Disruptors in our Environment: flame retardants

Hyperthyroid cats

Elevated PBDE Levels in Pet Cats: Sentinels for Humans?

JANICE A. DYE,^{*,†} MARTA VENIER,[‡]
LINGYAN ZHU,^{‡,||} CYNTHIA R. WARD,[§]
RONALD A. HITES,[‡] AND
LINDA S. BIRNBAUM[†]

U.S. Environmental Protection Agency, Office of Research and Development, National Health and Environmental Effects Research Laboratory, Experimental Toxicology Division, Research Triangle Park, North Carolina 27711, School of Public and Environmental Affairs, Indiana University, Bloomington, Indiana 47405, and College of Veterinary Medicine, University of Georgia, Athens, Georgia 30602



Endocrine Disruptors in our Environment: Flame Retardants

Contribution to Childhood obesity? – postulated

Research | Children's Health

Serum PBDEs in a North Carolina Toddler Cohort: Associations with Handwipes, House Dust, and Socioeconomic Variables

Heather M. Stapleton,¹ Sarah Eagle,¹ Andreas Sjödín,² and Thomas F. Webster³

¹Nicholas School of the Environment, Duke University, Durham, North Carolina, USA; ²Centers for Disease Control and Prevention, National Center for Environmental Health, Division for Laboratory Sciences, Atlanta, Georgia, USA; ³Department of Environmental Health, Boston University School of Public Health, Boston, Massachusetts, USA

Environ Health Perspect. 2012; 120(7):1049-54.



Antibiotics Use: From resistance to obesity?

The New York Times

MARCH 8, 2014

The Fat Drug

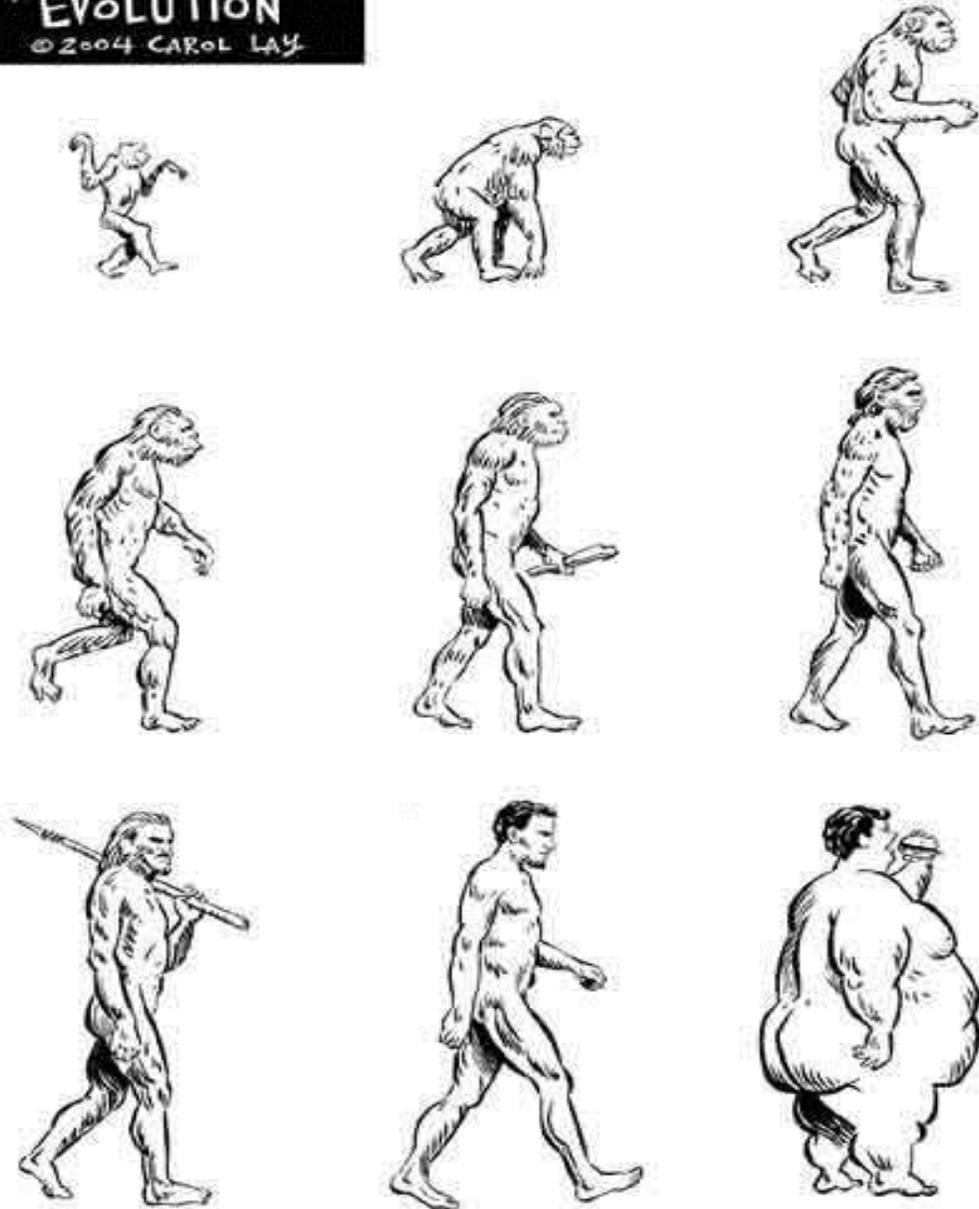
By PAGAN KENNEDY

|
Photo



Credit Jing Wei

"EVOLUTION"
© 2004 CAROL LAY



Man in America

Obesity: a major cause
of death today

Could there be links
in our
environment??????

ABOUT HMD

PUBLICATIONS

ACTIVITIES

MEETINGS

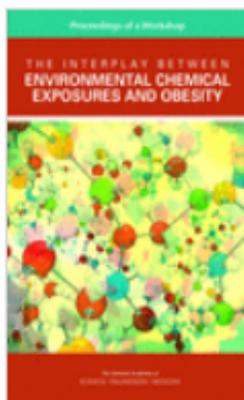
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Report



The Interplay Between Environmental Chemical Exposures and Obesity: Proceedings of a Workshop

Released: July 29, 2016

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http://nationalacademies.org/hmd/reports/2016/interplay-between-environmental-exposures-obesity-proceedings.aspx?utm_source=HMD+Email+List&utm_campaign=56ab149b92-HMD_News_8_1_2016&utm_medium=email&utm_term=0_211686812e-56ab149b92-180292125

Comparative Medicine & Research

Puccini Foundation

A vaccine developed in dogs is helping dogs with malignant melanoma and the findings have been applied to create a similar vaccine for humans!

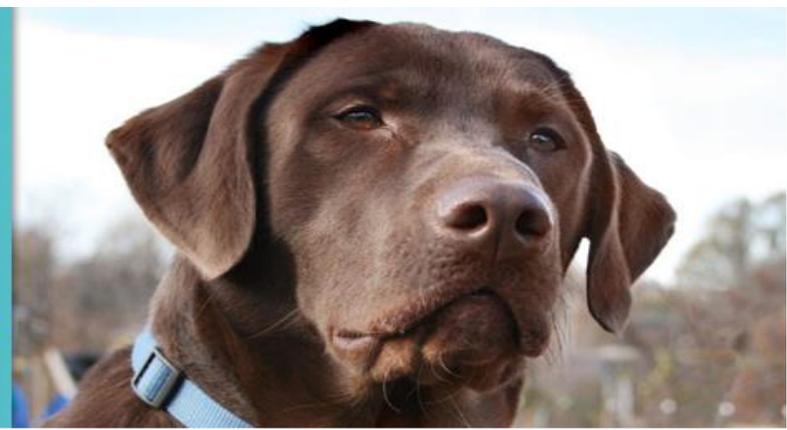


OVARIAN CANCER SYMPTOM AWARENESS

Meet Ohlin

The University of Pennsylvania's School of Veterinary Medicine is investigating using canine olfaction, along with chemical and nanotechnology analysis, to detect early stage ovarian cancer.

OCSA supports this ground-breaking research by sponsoring Ohlin.



glioblastoma multiforme, GMB
~ in humans and dogs

April 19, 2016, Vol 315, No. 15 >

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Medical News & Perspectives | April 19, 2016

Researchers Turn to Canine Clinical Trials to Advance Cancer Therapies

Julie A. Jacob, MA

JAMA. 2016;315(15):1550-1552. doi:10.1001/jama.2016.0082.

Article Figures

This Medical News & Perspectives article explores how the study of naturally occurring cancers in pet dogs is helping advance cancer research for humans.

About 6 million dogs are diagnosed with cancer each year, and more than half of dogs older than 10 years will develop cancers such as osteosarcoma, lymphoma, or melanoma (<http://1.usa.gov/1OAxijB>). But the heartbreaking diagnosis for dog owners is a treasure trove of potential data for oncology researchers. In clinical trials at academic research centers across the country, veterinarians and physicians are studying how pet dogs respond to cancer therapies and analyzing the genetic makeup of these tumors. Although medicine and veterinary medicine, for the most part, have been viewed as 2 different worlds, with little exchange of information between the two, that is beginning to change.



We would like to congratulate Will Eward, MD, DVM, for being published in *The Journal of the American Medical Association*.

Researchers Turn to Canine Clinical Trials to Advance Cancer Therapies

Julie A. Jacob, MA

JAMA. Published online March 30, 2016.

doi:10.1001/jama.2016.0082

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<http://jama.jamanetwork.com/article.aspx?articleid=2511041>

Scientists test nanoparticle drug delivery in dogs with osteosarcoma

Date: July 25, 2016

Source: University of Illinois at Urbana-Champaign

Summary: An engineer teamed up with a veterinarian to test a bone cancer drug delivery system in animals bigger than the standard animal model, the mouse. They chose dogs -- mammals closer in size and biology to humans -- with naturally occurring bone cancers, which also are a lot like human bone tumors.

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- > Leukemia

Plants & Animals

- > Mice
- > Dogs

Matter & Energy

- > Nanotechnology
- > Civil Engineering

FULL STORY

At the University of Illinois, an engineer teamed up with a veterinarian to test a bone cancer drug delivery system in animals bigger than the standard animal model, the mouse. They chose dogs -- mammals closer in size and biology to humans -- with naturally occurring bone cancers, which also are a lot like human bone tumors.

In clinical trials, the dogs tolerated the highest planned doses of cancer-drug-laden nanoparticles with no signs of toxicity. As in mice, the particles homed in on tumor sites, thanks to a coating of the drug pamidronate, which preferentially binds to degraded sites in bone. The nanoparticles also showed anti-cancer activity in mice and dogs.

The researchers report their results in the *Proceedings of the National Academy of Sciences*.

These findings are a proof-of-concept that nanoparticles can be used to target bone cancers in large mammals, the researchers said. The approach may one day be used to treat metastatic skeletal cancers, they said.

The dogs were companion animals with bone cancer that were submitted for the research trials by their owners, said LL of L, veterinary clinical medicine

Related Stories



[Drug Trials in Pet Dogs With Cancer May Speed Advances in Human Oncology](#)

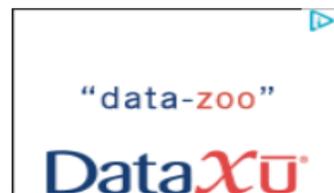
June 16, 2015 — Pet dogs may be humans' best friends in a new arena of life: cancer treatment, says a veterinary clinical medicine. Physiological similarities between dogs and humans, and conserved genetics ... [read more »](#)

[Gene Signatures Predict Doxorubicin Response in Canine Osteosarcoma](#)

Apr. 19, 2015 — A gene expression model that predicts canine osteosarcoma response to doxorubicin has been identified by researchers, potentially allowing veterinary oncologists to better choose which drug to use ... [read more »](#)

[Variety of Genetic Risk Behind Bone Cancer in Dogs](#)

Dec. 12, 2013 — Bone cancer in dogs is affected by a variety of genetic risk factors. Researchers have discussed these variabilities in a new study. The study





TIMOTHY CLARY/AFP/GETTY

Large dogs like this Old English Sheepdog are promising test subjects for longevity studies.

AGEING

Pet dogs set to test anti-ageing drug

large dogs that typically live for eight to ten years; they would start giving the drug to animals aged six to nine. A pilot trial would involve about 30 dogs, half of which would receive the drug, and would allow the researchers to dose the dogs for a short time and observe effects on heart function and some other health measures. The trial could be completed in as little as three years, but researchers will know long before that — perhaps in months — whether rapamycin improves cardiac function or other aspects of health.

Rapamycin acts on a protein that is involved in cell growth, but little is known about how it extends life. It might retard the ageing process itself or it might prevent age-related diseases. One hypothesis is that it works primarily by preventing the development of cancers.

Pet dogs should provide a more realistic test than lab mice of how the drug would work in humans. Pets experience some of the same environmental influences and get some of the same age-related diseases as their masters, says Kaeberlein. (He plans to enrol his own German shepherd dog when it is old enough.)

Other researchers say that Kaeberlein and Promislow's reasoning makes sense. "We're talking about whether aged pets will benefit, and that's a good model for a human population,"



Report



The Role of Clinical Studies for Pets with Naturally Occurring Tumors in Translational Cancer Research: Workshop Summary

Released: October 30, 2015

Note: Workshop Summaries contain the opinion of the presenters, but do NOT reflect the conclusions of the Health and Medicine Division or the Academies. [Learn more about the differences between Workshop Summaries and Consensus Reports.](#)

Recently, there has been renewed interest in comparative oncology—the study of naturally developing cancers in animals as models for human disease—as one way to improve cancer drug development and reduce attrition of investigational agents. Tumors that spontaneously develop in pet dogs and other companion animals as a result of normal aging share many characteristics with human cancers, such as histological appearance, tumor genetics, biological behavior, molecular targets, and therapeutic response. They also exhibit acquired resistance, recurrence, and metastasis, similar to human cancers. The Comparative Oncology Trials Consortium was established to provide the infrastructure and resources needed to integrate clinical trials for pets with naturally occurring cancers into the development pathways for new drugs, devices, and imaging techniques for human cancers. However, the cancer research community has not reached agreement concerning the value of these clinical trial data for advancing human cancer research or when and how best to integrate comparative oncology trials within the cancer research continuum. Thus, the Institute of Medicine's National Cancer Policy Forum, with support from a coalition of sponsors, hosted a workshop held in Washington, DC, on June 8–9, 2015, to examine the rationale and potential for integrating clinical trials for pet patients with naturally occurring cancers into translational cancer research and development. The workshop also highlighted potential opportunities to overcome existing challenges to that integration.

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Details

Activity: National Cancer Policy Forum

Type: Workshop Summary

Topics: Biomedical and Health Research, Diseases, Health Care Workforce, Health Services, Coverage, and Access, Quality and Patient Safety

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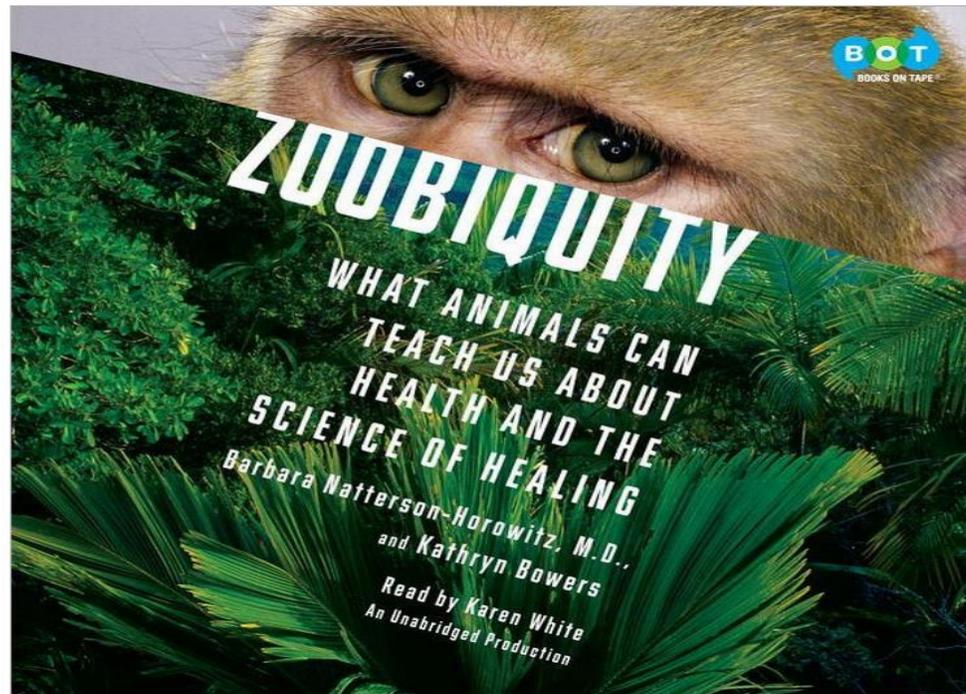
ZOOBIQUITY

CONFERENCE

6

2016

Philadelphia



2015

Zoobiquity: A Species-Spanning Approach to Medicine

Nakio becomes first dog to receive four prosthetic legs

By DogTime Staff

News outlets are calling Nakio "the bionic dog," and the first known canine to have received four artificial



"Walt did the same as one of my human patients would have done post stroke and Walt walked around with four legs like a normal dog," Kaufmann said. "And I thought, 'Well shoot, that was pretty simple. I wonder if we can do other things the same that we do for our human patients as well?'"

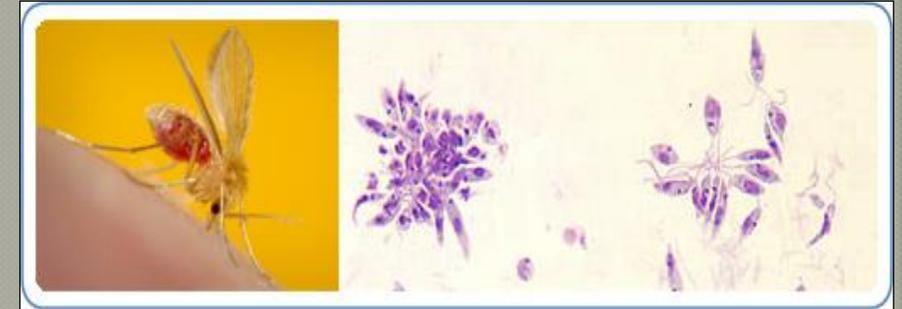


Courtesy of Amy Felts

Vector-borne Diseases



Anaplasmosis
Babesiosis
Bartonellosis
Borreliosis (Lyme Disease)
Leishmaniasis (cutaneous / visceral)
Rocky Mountain Spotted Fever
West Nile Virus
Yellow Fever
Zika Virus



Ect.....



[http://www.cbsnews.com/pictures/
10-most-terrifying-parasites-ever/8/](http://www.cbsnews.com/pictures/10-most-terrifying-parasites-ever/8/)

Young Woman Travel Writer

Veterinary Medicine, Mind over Miller, July 2011



Anonymous Image



Ecuador's Tungurahua volcano

Photograph by Guillermo Granja, Reuters



Young Woman Travel Writer

- Two weeks after returning home: swollen painful joints, fever, skin lesions, discolored fingernails, shortness of breath
- Radiographs = lung lesions
- Granulomatous visceral lesions



Anonymous Image





Anonymous Image

Two yr - 76 specialists later – and 10 CT scans

Tentative Diagnoses:

- Hodgkin's Lymphoma

- Non-Hodgkin's Lymphoma

- Scabies, scleroderma

- Gastrointestinal stromal tumors (GIST)

- **Scheduled for exploratory surgery for GIST, thought most likely to be sarcoma**
- **Blood sample to Dr. Ed Breitschwerdt Vector Borne Disease lab at the at the NCSU Vet School.....found**





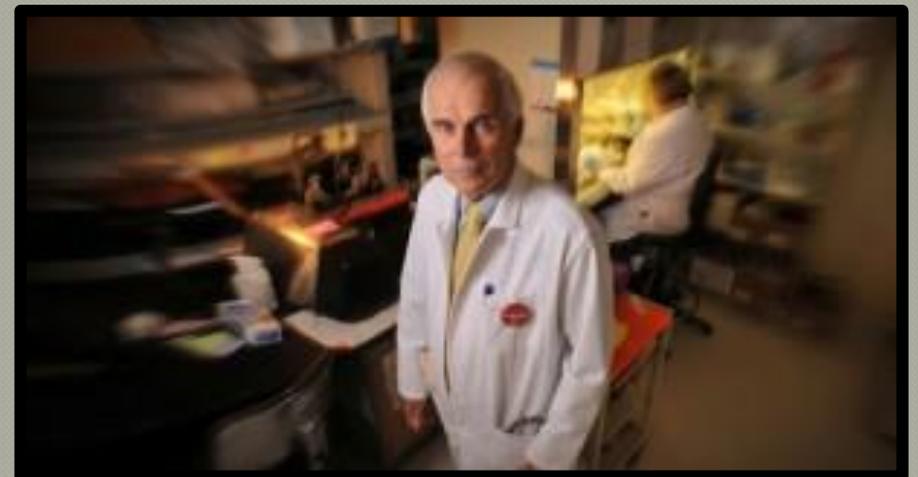
Anonymous Image

Two yr - 76 specialists later - tentative diagnoses:

- Hodgkin's Lymphoma
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- Gastrointestinal stromal tumors (GIST)

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- Blood sample to Dr. Ed Breitschwerdt Vector Borne Disease lab at the at the NCSU Vet School.....found

Bartonella vinsonii





- **After surgery - the surgeon reported to father - found no evidence of malignancy.**
- **Father answered, “I never thought she had a malignancy...(I believe) she has Bartonellosis’.**

**Surgeon replied: “I’m a surgeon..
I don’t know what bartonellosis is.”**

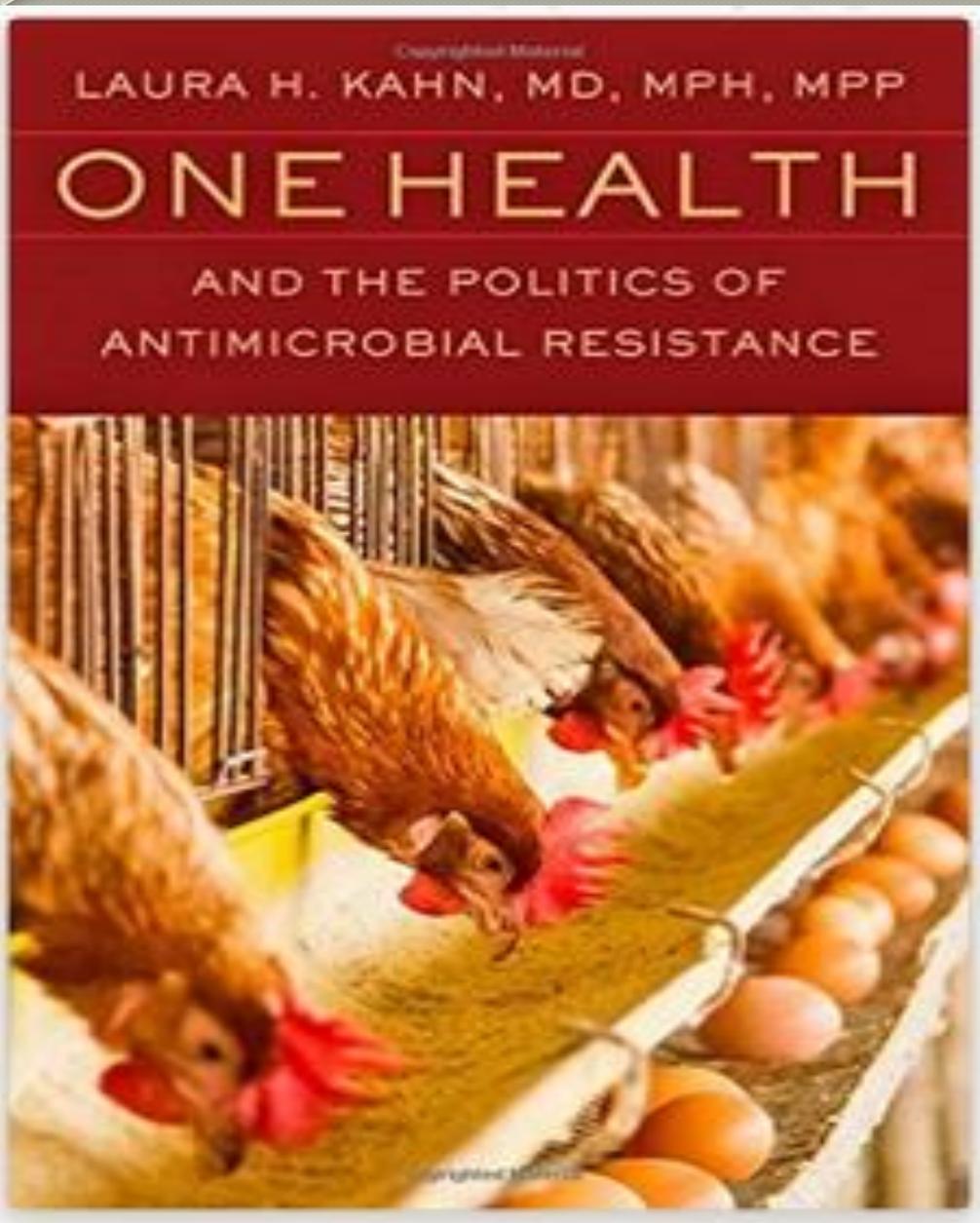


**Need for a way to exchange information
across professions!!**

Veterinary Medicine, Mind over Miller, July 2011

<http://veterinarymedicine.dvm360.com/vetmed/Medicine/Are-we-too-specialized-Part-1-Human-medicine/ArticleStandard/Article/detail/731458>





Laura Kahn, MD, MPH, MPP

Antibiotic resistance is the quintessential One Health issue

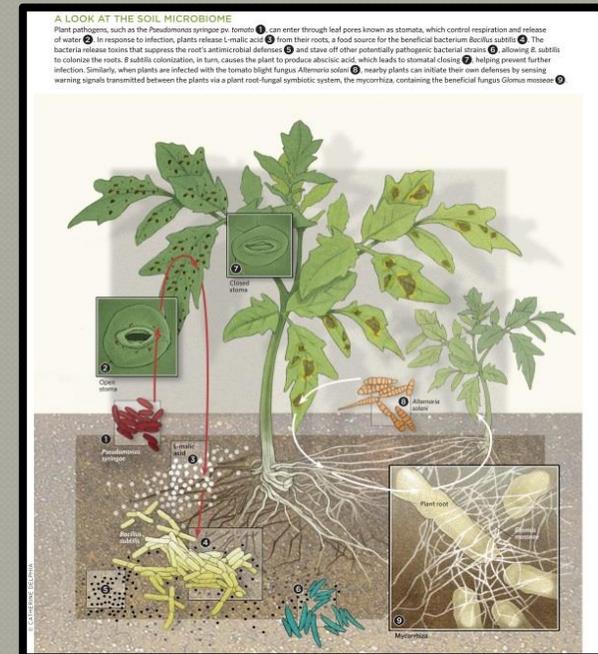
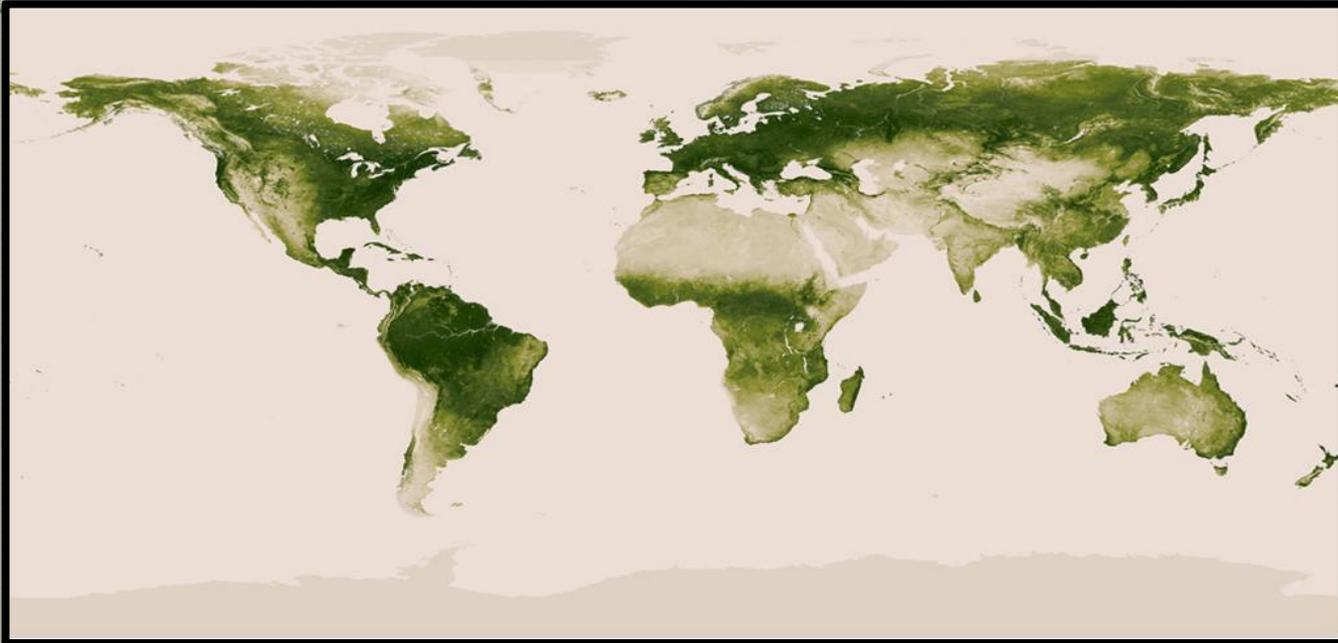
Key words Antibiotics • Antimicrobial resistance (AMR) • Environment • Health
• Livestock • One Health

The scale of antimicrobial resistance

In May this year, the long-awaited final report from the *Review on Antimicrobial Resistance* was published.¹ The report estimates that the 700 000 annual deaths currently attributable to infections by drug-resistant pathogens will increase, if unchecked, to 10 million by 2050, running up a bill of US\$100 trillion in terms of lost global production between now and then. The reported numbers are somewhat

Oxford Journals, *Transactions of the Royal Society Tropical Medicine and Hygiene*, July 29, 2016

Antibiotic Resistance and the Soil Microbiome



One Health and Disaster Preparedness

EM-DAT
The International Disaster Database
Centre for Research on the Epidemiology of Disasters - CRED

Home About Database Explanatory Notes Publications Activities DISDAT FAQs login

What's new

The International Disaster Database

Did you know that in the 21st century*, 41% of natural disasters happened in Asia and killed more than 700 000 people?

EM-DAT Database
The International Disaster Database

A publicly available database

1 2 3 4 5 6 7

Disasters of the week

week 4-2015: January 19 - January 24

Natural Disasters

2015-0021 Floods; Sarawak, Malaysia

Welcome

Since 1988 the Centre for Research on the Epidemiology of Disasters (CRED) has been maintaining an Emergency Events Database EM-DAT. EM-DAT was created with the initial support of the WHO and the Belgian Government.

The main objective of the database is to serve the purposes of humanitarian action at national and international levels. It is an initiative aimed to rationalise decision making for disaster preparedness, as well as providing an objective base for vulnerability assessment and priority setting.

EM-DAT contains essential core data on the occurrence and effects of over 18,000 mass disasters in the world from 1900 to present. The database is compiled from various sources, including UN agencies, non-governmental organisations, insurance companies, research institutes and press agencies.[/no-glossary]

Access Database

ADVANCED SEARCH COUNTRY PROFILE DISASTER PROFILES

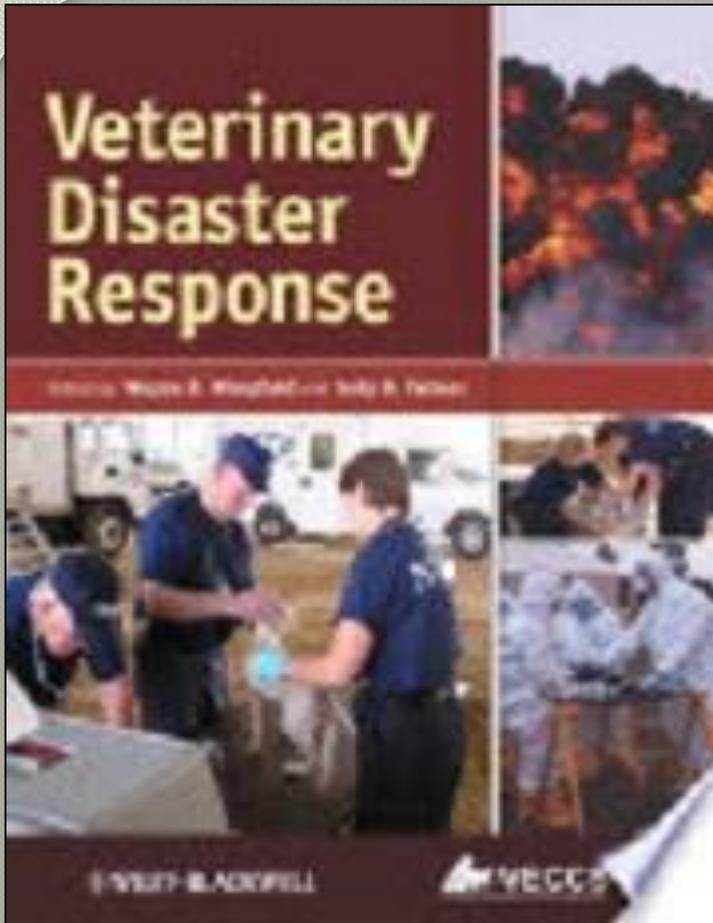
Create your dataset Disaster by Country Summary of Events

DISASTER LIST REFERENCE MAPS DISASTER TRENDS

Lessons from Katrina

- A game changer in disaster response
- Don't show up without pet carriers!





W.E. Wingfield,
S.B. Palmer - 2009



Is Animal Relief Humanitarian Relief?

Chapter 3.4

NOAH'S BURDEN: A PROLEGOMENON TO THE ETHICS OF VETERINARY DISASTER RESPONSE

Bernard E. Rollin, PhD

is animal relief humanitarian relief?

1. The most fundamental question pertaining to veterinarian involvement in disaster relief is a jarring, politically incorrect one—why spend (waste?) resources on animals when the same money could be spent to benefit humans?

All professions are needed to make One Health the default way of doing business at all levels of research, clinical practice, governments and policy.

- **Agriculturalists**
- **Animal Health Practitioners**
- **Anthropologists**
- **Climatologists**
- **Engineers**
- **Entomologists**
- **Geologists**
- **Ecologists**
- **Human Health Practitioners**
- **Horticulturalists**
- **Plant Pathologists**
- **Social Scientists**
- **Wildlife Specialists**
- **Forestry Specialists**



What are the challenges for developing One Health collaborations?

- Academic Tenure process
- Government Agency silos
- Industry Proprietary knowledge
- Environmental Resources
Harvest Systems
- Destructive Agricultural
Technology
- Publication systems – no access
- Language barriers across professions



**** No voice or forum in which to communicate
across disciplines and professions**

One Health Wake Up Call!

**We need a way to
communicate and learn
ACROSS disciplines**



2004 (Nov), 2005, 2007, 2009

- **Wildlife Conservation Society holds One Health Symposia in Bangkok, China, Brazil and Brazil respectively**



- **2007: The AMA and AVMA partner in a One Health Initiative Task Force between human and veterinary medicine**



- **2008: FAO, OIE, WHO, UNICEF, UNSIC, World Bank develop joint pandemic flu response plan**



October, 2008



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One Health Initiative will unite human and veterinary medicine

The One Health Initiative is a movement to forge co-equal, all inclusive collaborations between physicians, osteopathic physicians, veterinarians, dentists, nurses and other scientific-health and environmentally related disciplines, including the American Medical Association, American Veterinary Medical Association, American Academy of Pediatrics, American Nurses Association, American Association of Public Health Physicians, the American Society of Tropical Medicine and Hygiene, the Centers for Disease Control and Prevention (CDC), the United States Department of Agriculture (USDA), and the U.S. National Environmental Health Association (NEHA). Additionally, more than 800 prominent scientists, physicians and veterinarians worldwide have endorsed the initiative.

[> more about one health](#)

Please see **MONOGRAPH in Veterinaria Italiana** "One Health - One Medicine": linking human, animal and environmental health

[:: click here ::](#)

HISTORY of the One Health Initiative team



[:: view large map ::](#)

2009

- The One Health Office is established at CDC
- USAID established the Emerging Pandemic Threats program



- One World, One Health Expert Consultation in Winnipeg, Manitoba
- U.S. One Health Commission is chartered as a 501c3 non-profit





**IMPROVING THE HEALTH OF PEOPLE,
ANIMALS, PLANTS AND OUR ENVIRONMENT**

See 'What' we are doing

"CONNECT" - One Health Stakeholders to

"CREATE" - Strategic Networks/Teams/Partnerships that will

"EDUCATE" - About One Health issues.

[OH Public Service Announcement](#)

[Bat Rabies Posters](#)

[1st Int'l Who's Who in OH Webinar](#)

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[OHC Letter to The White House](#)

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[STUDENT Future Leaders in One Health LinkedIn Page](#)

One Health in the News



05/26/15 [One Health Interprofessional Education Working Group Calls for Case Studies](#)
The recent Ebola outbreak, growing antimicrobial...

One Health Hot Topics



**** HOT TOPICS ****

[Seven US Senators send One Health Congressional Letter to White House, February 2015](#)

EXECUTIVE SUMMARY OF THE *ONE HEALTH COMMISSION* SUMMIT

On Tuesday, November 17, 2009, the *One Health Commission* in partnership with the National Academies co-hosted a groundbreaking summit convening leading health science experts and policy makers across the human, animal, and ecosystem disciplines. The *One Health Commission* Summit raised awareness of the importance of transcending institutional and disciplinary boundaries to improve the health of people, animals, and the environment.

Speakers called for integrated solutions and collaborative leadership to address the significant challenges of a changing environment.

The *One Health Commission* Summit was dedicated to the late **Dr. Ronald M. Davis**, who worked to enhance collaboration between the human and veterinary medical professions as president of the American Medical Association. According to **Dr. Roger Mahr**, Chief Executive Officer of the *One Health Commission*, "It is most fitting today that we acknowledge the visionary leadership and collaborative spirit of Ronald M. Davis, M.D." Dr. Davis' leadership helped pave the way for the establishment of the *One Health Initiative Task Force*, the precursor to the newly formed *One Health Commission*.

A series of keynote addresses was delivered by senior officials at the *U.S. Department of Agriculture, College of Veterinary Medicine at The Ohio State University, Centers for Disease Control and Prevention, Food and Drug Administration, and Minnesota Department of Natural Resources*. These speakers called for integrated solutions and collaborative leadership to address the significant challenges of a changing environment populated by interconnected animal, human and ecosystem interactions.

"As we combat global pandemics, such as H1N1 influenza, it is imperative that health science professions, academia, government agencies, and non-governmental organizations act in unison across the human, animal and ecosystem sciences," said **Doug O'Brien**, Senior Advisor to the Secretary of the *U.S. Department of Agriculture*.

Following the keynote addresses, a panel of experts began a dialogue on the *One Health* approach and answered questions from audience members.

The *One Health Commission* Summit set the stage for the work of the *One Health Commission*, which was created to establish closer professional collaborations and educational opportunities across the health science professions and their related disciplines.

2010 – OH Tripartite Note

2011

- The 1st International One Health Congress is held in Melbourne, Australia
- The 1st One Health Conference in Africa is sponsored by OHCEA
- Tripartite organized a High Level Technical Meeting in Mexico City



2012

- USDA One Health Office is established



2013

The 2nd International One Health Congress is held in conjunction with the Prince Mahidol Award Conference, Bangkok, Thailand

2014

- International One Health Research Symposium held in China

- International Conference on One Medicine, One Science (ICOMOS) held in at University of Minnesota

2015

- 3rd International One Health Congress, Amsterdam, Netherlands
- World Medical Association / World Veterinary Association Joint One Health Meeting, Madrid, Spain



2016

<http://oheh2016.org/>



The screenshot shows a web browser window with the address bar containing 'oheh2016.org' and a search bar with 'georgia aquarium'. The main banner features a central graphic of a globe with two hands cupping it. To the right, the text reads 'One Health EcoHealth 2016' in large blue and green letters, with a dark blue button below it containing '3-7 December 2016 • Melbourne, Australia'. Underneath the button, it says 'The 4th International One Health Congress & 6th Biennial Congress of the International Association for Ecology and Health'. At the bottom of the banner is a collage of images showing people in lab coats, a child, and pigs.



The poster is framed in red and features the following text and graphics: At the top left is the logo for the World Veterinary Association (WVA). In the top center, it lists the organizing bodies: 'WVA-WMA-JMA-JVMA'. Below this is the main title: '2nd GLOBAL CONFERENCE ON ONE HEALTH'. The central graphic is a red silhouette of a natural scene with a tree, a deer, a dog, a cow, and people. At the bottom center, the date and location are given: '10 -11th November, Kitakyushu City, Fukuoka Prefecture, Japan'. Logos for the World Medical Association (WMA) and the Japanese Medical Association (JMA) are in the bottom corners.

<http://www.cvent.com/events/2nd-global-conference-on-one-health/>



2015



Join the One Health Community

enter your email address

JOIN!

*Creating a healthy
future for humans,
animals and their
environments.*



One Health:
it's all connected

Driving
Forces

Welcome to the One Health Platform web portal, the virtual meeting place for the fast growing One Health community.



The Movement



What Can We Do?





IMPROVING THE HEALTH OF PEOPLE, ANIMALS, PLANTS AND OUR ENVIRONMENT

See 'What' we are doing

"CONNECT" - One Health Stakeholders to

"CREATE" - Strategic Networks/Teams/Partnerships that will

"EDUCATE" - About One Health issues.

[OH Public Service Announcements](#)

[Bat Rabies Posters](#)

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One Health in the News



05/26/15 One Health Interprofessional Education Working Group Calls for Case Studies

The recent Ebola outbreak, growing antimicrobial.

One Health Hot Topics



**** HOT TOPICS ****

Seven US Senators send One Health Congressional Letter to White House, February 2015

<https://www.onehealthcommission.org/>

Who's Who

WHO'S WHO IN ONE HEALTH

ONE HEALTH LIBRARY

ONE HEALTH IN ACTION

OPPORTUNITIES
*POSITIONS * INTERNSHIPS * GRANTS*

WHO's WHO in One Health

Help us make this site a central resource for One Health initiatives and activities worldwide.

Send us the information on your One Health organization. Please share this form with other organizations so that they can provide important information on One Health. [Click here to download our form](#)



- Afrique One
- AHEAD
- Calvin Schwabe One Health Project
- Centers for Disease Control (CDC)
- Center for One Health Illinois
- Center for One Health Research, University of Washington
- Chatham House Centre Global Health Security (CGHS)
- Cnct Health Orgs Rgl Disease Surveillance (CHORDS)
- Critical Ecosystem Partnership Fund (CEPF)





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World Health Through Collaboration

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JOBS * MENTOR

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[Click here to join our global listserv](#)

OHC Listserv Sign-up

For Email Marketing you can trust.

6000 + names

July 14, 2016

One Health Happenings!



The Charter of the One Health Commission:

- to 'Educate' and 'Create' networks to improve health outcomes and well-being of humans, animals and plants and to promote environmental resilience through a collaborative, global One Health approach.

1. August 28-29, 2016: [One Health Innovations Symposium](#), hosted by the Kansas City Area Life Sciences Institute, a Leader Sponsor of the One Health Commission.



2. [Research Assistant Professor in One Health / Infectious Diseases](#) - Position Open at Texas A&M University. This position will work in the field of infectious diseases and will address emerging and re-emerging diseases while supporting and further strengthening senior faculty efforts with Texas A&M AgriLife Research in their mission to improve public health and well-being.

3. [One Health Public Service Announcement](#) - Feel free to use!

4. Watch for it! Zoonoses and One Health Smithsonian Exhibit - Coming 2018.

5. Help promote [One Health Day](#) on November 3. Create an event in your region!



6. Check out other [One Health Events](#) around the world.

1st International Who's Who in One Health Webinar

RECORDINGS NOW AVAILABLE. LINKS EMBEDDED

The One Health Commission was pleased to host the 1st International Who's Who in One Health Webinar brought together noted One Health leaders, advocates, professionals and students in real-time to discuss global One Health efforts while providing a forum for dialogue within and across disciplines.



The main objectives of the Webinar are to:

- Connect One Health stakeholders around the world to better understand, share and highlight individual- and agency-level efforts;
- Educate Webinar participants about the One Health paradigm and way of thinking towards improved health outcomes; and
- Create new strategic partnerships and networks for collective, purposeful and coordinated action

There was no cost to attend the Webinar but participants must register in advance.

Registration: CLOSED

Frequently Asked Questions: [Click here](#) to view Frequently Asked Questions about the Webinar

Speaker/Presenter Contact Sheet: [Click here](#)

Session Recordings

- Find recordings of sessions below. For additional information contact [Peter Costello](mailto:Peter.Costello@onehealthcommission.org) (pccostello@onehealthcommission.org) or [Deeanna Burleson](mailto:Deeanna.Burleson@onehealthcommission.org) (dburleson@onehealthcommission.org)

ONE HEALTH DAY

2ND INT'L WHO'S WHO IN OH WEBINAR (2016)

1ST INT'L WHO'S WHO IN OH WEBINAR (2014)

2nd Int'l Who's Who in OH Webinar (2016)

The One Health Commission is pleased to host the [2nd International Who's Who in One Health Webinar on November 4, 2016](#).

This Webinar will bring together noted One Health leaders, advocates, professionals and students in real-time to discuss global One Health efforts while providing a forum for dialogue within and across disciplines.



The main objectives of the Webinar are to:

- Connect One Health stakeholders around the world to better understand, share and highlight individual- and agency-level efforts;
- Educate Webinar participants about the One Health paradigm and way of thinking towards improved health outcomes; and
- Create new strategic partnerships and networks for collective, purposeful and coordinated action

There is no cost to attend the Webinar but participants must register in advance. [Click here to register](#).

November 2014

ONE HEALTH
new medical concept, Romania

COMPARATIVE MEDICINE

Develops and coordinates the specifics for each medicine, by identifying common ground, ensuring for human medicine both the common primary disease prophylaxis elements, as well as the components of the experimental medicine. In Romania, comparative medicine has benefited, since the year of 1999, from the services of a specialty institute.

ZOOBIQUITY

**NEUROLOGY
PSYCHIATRY
CONFERENCE**

MyHUN
MALAYSIA ONE HEALTH UNIVERSITY NETWORK

HCEA
Championing One Health

Students for One Health
One Health Commission

UC DAVIS
VETERINARY MEDICINE
One Health Institute

Pak OneHealth Alliance

NC ONE HEALTH COLLABORATIVE

ONE HEALTH SWEDEN
HUMANS | ANIMALS | ENVIRONMENT

CENTER for ONE HEALTH EDUCATION ADVOCACY RESEARCH and TRAINING

Kerala Veterinary and Animal Sciences University
Pookode, Wayanad Kerala - 673576

One Health Resource Centre

INDOHUN
Indonesia One Health University Network
(Part of SEAHUN)

ONE HEALTH CONFERENCE

THE ELMER AND MAMDOUBA BOBST HOSPITAL | CASPARY RESEARCH INSTITUTE | THE INSTITUTE FOR POSTGRADUATE EDUCATION

AMC
SINCE 1910
ANIMAL MEDICAL CENTER

ONE HEALTH CARIBBEAN LOVE

Dynamic Drivers of Disease in Africa

ONE HEALTH CLUB
One Health Club
UNIVERSITY OF NAIROBI

ONE HEALTH CONSULTANCY AND RESOURCE CENTRE (OHECORC)
providing health information to the public for better health

P.O BOX 787
EMAIL: onehc

WSAVA
One Health Committee

ONE HEALTH FINLAND

CONSERVATION through PUBLIC HEALTH

Welcome to the Webinar

An edited version of this video is available on this channel. Edits include the synchronization of video at the second half of the webinar.



Understanding Bartonella: A One Health Perspective

The broadcast will begin momentarily



The One Health Commission is proud to support and share announcement of webinar:

"[Antimicrobial Resistance in the Environment](#)" by Dr. Laura Kahn

Webinar Date/Time:
July 13, 2016 @ 11am-12pm EDT

Overview:

This presentation will discuss findings of widespread antibiotic resistance in the environment. Massive amounts of human and animal waste applied to agricultural fields alter the global "resistome." Wildlife never exposed to antibiotics harbor antibiotic resistant bacteria in their feces. The Human Microbiome project has found that microbial cells outnumber human cells by an estimated 10-fold, fundamentally changing our perceptions about health and disease. Taken together, the findings of antibiotic resistance in external and internal environments suggest that human antibiotic use has altered global microbial populations in ways that we do not fully understand. We are fast approaching a post antibiotic era. This presents challenges and opportunities and will require a One Health approach to succeed.



WHO'S WHO IN ONE HEALTH

ONE HEALTH LIBRARY

- Audio Presentations
- Blogs
- Books
- Brochures and Educational Material
- Journal Articles and White Papers
- Journals / Periodicals
- Newsletters
- Reports
- Slide Presentations
- Video Presentations
- Webinars

Webinars

Commission Hosted

- Antimicrobial Resistance in the Environment: A One Health Perspective (July 13, 2016)
[Click here to view the recorded presentation](#)
- One Health and the Politics of Antibiotic Resistance (July 6, 2016)
[Click here to view the recorded presentation](#)

WHO'S WHO IN ONE HEALTH

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OPPORTUNITIES * EDUCATION * GRANTS * JOBS * MENTOR

OH 'ACTION' TEAMS AND PROGRAMS

NARRATIVES OF ONE HEALTH IN ACTION

Welcome to the Webinar: A One Health Approach for Elimination of *Taenia solium* Taeniosis/Cysticercosis



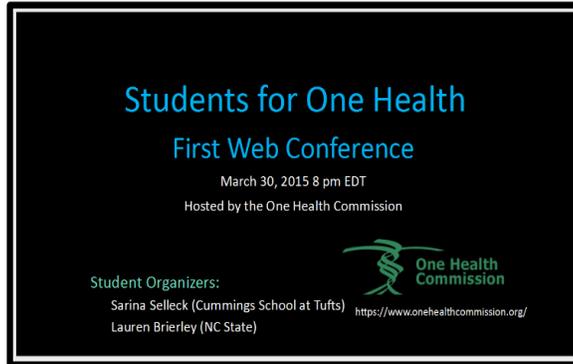
One Health Commission
Connect - Create - Educate

Online support for this broadcast provided by the One Health Commission

www.onehealthcommission.org

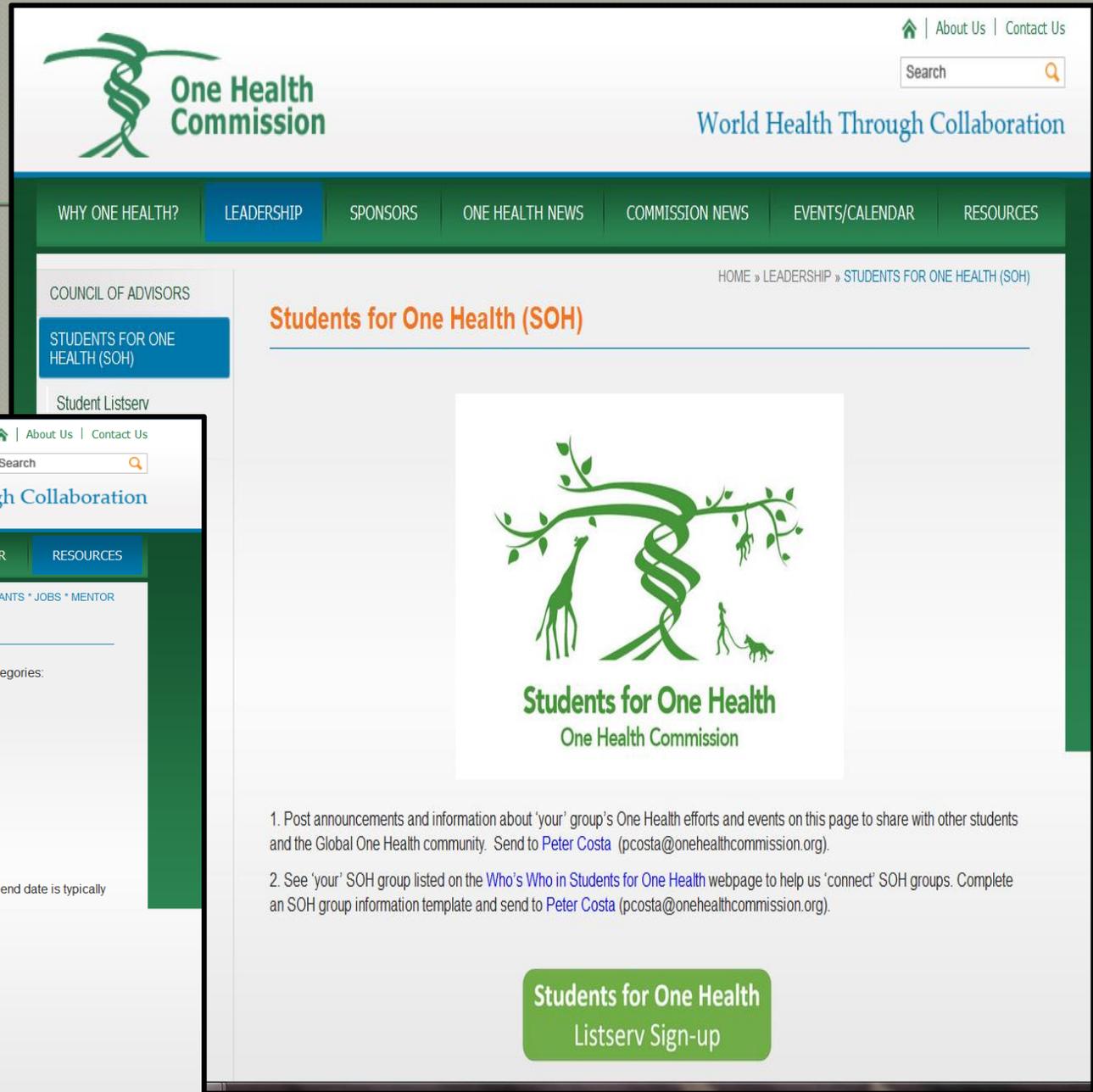
The broadcast will begin momentarily

Summary of First Students for One Health (SOH) online Meeting (March 30, 2015)



Students for One Health
First Web Conference
 March 30, 2015 8 pm EDT
 Hosted by the One Health Commission

Student Organizers:
 Sarina Selleck (Cummings School at Tufts) <https://www.onehealthcommission.org/>
 Lauren Brierley (NC State)



One Health Commission
 World Health Through Collaboration

Home » Leadership » Students for One Health (SOH)

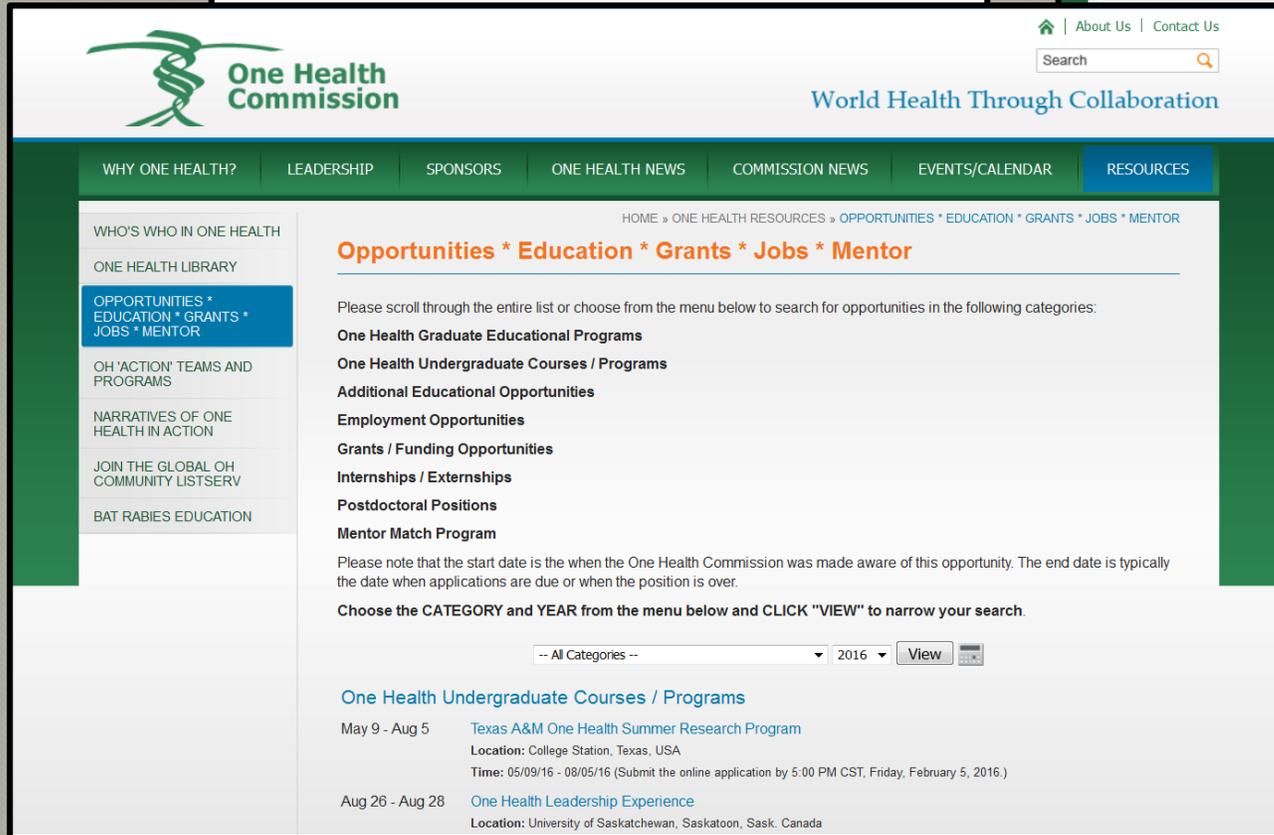
Students for One Health (SOH)



Students for One Health
 One Health Commission

1. Post announcements and information about 'your' group's One Health efforts and events on this page to share with other students and the Global One Health community. Send to [Peter Costa](mailto:pcosta@onehealthcommission.org) (pcosta@onehealthcommission.org).
2. See 'your' SOH group listed on the [Who's Who in Students for One Health](#) webpage to help us 'connect' SOH groups. Complete an SOH group information template and send to [Peter Costa](mailto:pcosta@onehealthcommission.org) (pcosta@onehealthcommission.org).

Students for One Health
 Listserv Sign-up



One Health Commission
 World Health Through Collaboration

Home » One Health Resources » Opportunities * Education * Grants * Jobs * Mentor

Opportunities * Education * Grants * Jobs * Mentor

Please scroll through the entire list or choose from the menu below to search for opportunities in the following categories:

- One Health Graduate Educational Programs
- One Health Undergraduate Courses / Programs
- Additional Educational Opportunities
- Employment Opportunities
- Grants / Funding Opportunities
- Internships / Externships
- Postdoctoral Positions
- Mentor Match Program

Please note that the start date is the when the One Health Commission was made aware of this opportunity. The end date is typically the date when applications are due or when the position is over.

Choose the CATEGORY and YEAR from the menu below and CLICK "VIEW" to narrow your search.

-- All Categories -- | 2016 | View

One Health Undergraduate Courses / Programs

May 9 - Aug 5 [Texas A&M One Health Summer Research Program](#)
 Location: College Station, Texas, USA
 Time: 05/09/16 - 08/05/16 (Submit the online application by 5:00 PM CST, Friday, February 5, 2016.)

Aug 26 - Aug 28 [One Health Leadership Experience](#)
 Location: University of Saskatchewan, Saskatoon, Sask. Canada

Bat Rabies Education

Rabies is a deadly yet preventable disease that can be transmitted to people by mammals, including bats. It is a quintessential One Health issue living at the interface of human, animal and environmental domains.

The One Health Commission is pleased to identify gaps in One Health arenas and to support volunteer One Health Action Teams to address the needs. When it was recognized that there is no focused public health effort in the Americas to educate children and parents that bats can carry deadly rabies virus, the Bat Rabies Education One Health Action Team was born.

This dedicated Team is actively working to get educational posters, developed in partnership with the Global Alliance for Rabies Control and Bat Conservation International, in front of children and parents across the United States and, eventually, into Central and South America. The Commission is proud to also offer on its website educational resources about bats and rabies.

Not all bats have rabies but most human cases of rabies in the United States are caused by bats. Our goal is to make everyone, especially children and parents, aware of the risk of rabies transmission from bats. For more information please contact a member of the [Bat Rabies Education Team](#) or send us email at batrabies@onehealthcommission.org.

Key Messages

- Never touch a bat - bats can have rabies
- You can't tell if a bat has rabies just by looking at it
- If bitten, wash the wound and see a doctor
- If you come into contact with a bat, tell an adult or health professional
- Keep pets rabies vaccines up to date to protect both people and pets

Unusual Bat Behavior

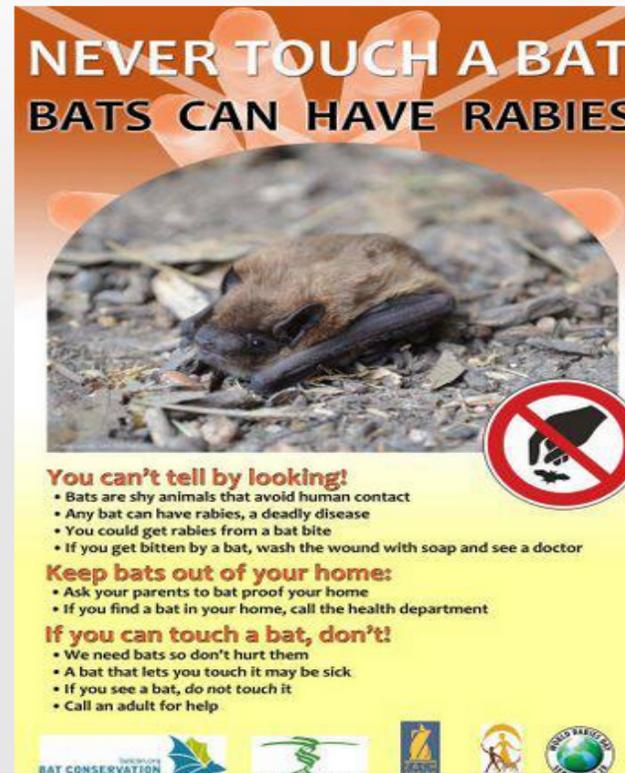
- Daytime activity
- Inability to fly
- Flopping on ground
- Unusual sounds

Rabid Bat Behavior

- Fluttering on the ground
- No fear of people
- Hissing
- Expanding wings

Posters

Never Touch a Bat - **CHILDREN** (English) (Español) (Portugues)



NEVER TOUCH A BAT
BATS CAN HAVE RABIES

You can't tell by looking!

- Bats are shy animals that avoid human contact
- Any bat can have rabies, a deadly disease
- You could get rabies from a bat bite
- If you get bitten by a bat, wash the wound with soap and see a doctor

Keep bats out of your home:

- Ask your parents to bat proof your home
- If you find a bat in your home, call the health department

If you can touch a bat, don't!

- We need bats so don't hurt them
- A bat that lets you touch it may be sick
- If you see a bat, do not touch it
- Call an adult for help

Logos at the bottom: BAT CONSERVATION INTERNATIONAL, One Health Commission, FAO, ANIMAL HEALTH AND WELFARE FUND, WORLD RABIES DAY SECRETARIAT.

NEVER TOUCH A BAT BATS CAN HAVE RABIES



You can't tell by looking!

- Bats are shy animals that avoid human contact
- Any bat can have rabies, a deadly disease
- You could get rabies from a bat bite
- If you get bitten by a bat, wash the wound with soap and see a doctor

Avoid being bitten or scratched by a bat:

- Do not make contact with any bat while hiking or playing outdoors
- Bat proof your home

If you can touch a bat, don't!

- We need bats so don't hurt them
- A bat that lets you touch it may be sick
- If you see a bat, do not touch it
- Call animal control or the health department for help



www.rabiesalliance.org

United States Senate

WASHINGTON, DC 20510

February 12, 2015

The President
The White House
1600 Pennsylvania Avenue, NW
Washington, DC 20500

Dear Mr. President:

As you address current and future zoonotic diseases—human diseases with animal origins—we write to urge you to pursue a multidisciplinary, multisectoral approach that encompasses both human health expertise, and animal and environmental health disciplines.

As you know, the Ebola virus disease outbreak that continues to devastate West Africa was caused by transmission of the virus from an animal into the human population. According to the Centers for Disease Control and Prevention (CDC), such zoonotic diseases account for approximately 75% of all recently emerging infectious diseases. The concept that the health of humans is connected to the health of animals and the environment, is often referred to as the One Health approach which often includes physicians, veterinarians as well as ecologists to monitor and control public health threats. Although One Health is widely recognized to be integral to efforts to combat zoonotic disease, the collaborative effort of multiple disciplines required to address such disease outbreaks that occur at the human-animal interface has yet to materialize in a substantive way.

Sincerely,



Al Franken
United States Senator



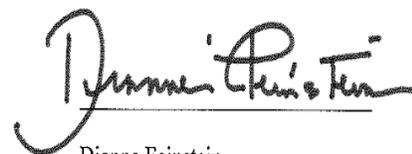
Christopher A. Coons
United States Senator



Kirsten Gillibrand
United States Senator



Mark R. Warner
United States Senator



Dianne Feinstein
United States Senator



Michael Bennet
United States Senator



Date: June 30, 2015

Connect, Create, Educate

**Executive Committee
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Joann Lindenmayer,
DVM, MPH, Representing
American Veterinary
Medical Association

Vice-Chair

Patricia A. Conrad,
DVM, PhD, Representing
Association of American
Veterinary Medical Colleges

Immediate Past Chair

Albert J. Osbahr, III, MD
Representing American
Medical Association

Treasurer

Marianne Smith-Edge, MS, RD,
LD, FADA, Representing the
International Food Information
Council Foundation

The President
The White House
1600 Pennsylvania Avenue NW
Washington, DC 20500, USA

Dear Mr President:

On behalf of the community of One Health advocates and stakeholders, the One Health Commission, a 501(c)3 non-profit organization, and the signatories below, writes to urge creation of One Health platforms in both the United States (U.S) and the United Nations (U.N).

As the seven U.S. senators (February 12, 2015 letter to you), the American Veterinary Medical Association (AVMA, letter of March 12, 2015) and the American Public Health Association (APHA, letter of May 21, 2015) have noted, the One Health Commission is acutely aware of the consequences of operating in separate health professional 'silos'. Within the past century many of those working within our human and animal health systems have evolved from generalist 'healers' to highly trained specialists within discrete areas of medical practice. While specialization has resulted in targeted research and applications that have significantly advanced our medical knowledge and health, that

114TH CONGRESS
2D SESSION

S. 2634

To establish an interagency One Health Program, and for other purposes.

IN THE SENATE OF THE UNITED STATES

MARCH 3, 2016

Mr. FRANKEN introduced the following bill; which was read twice and referred to the Committee on Health, Education, Labor, and Pensions

A BILL

To establish an interagency One Health Program, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the “One Health Act of 2016”.

SEC. 2. INTERAGENCY ONE HEALTH PROGRAM.

(a) IN GENERAL.—The President, acting through the National Science and Technology Council, shall coordinate and support a national, interagency One Health Program to address infectious diseases in animals and the environment, and to help prevent the transmission of known and emerging infectious diseases between animal populations and human populations.

FIRST ANNUAL



one health DAY

november 3, 2016

Promoting efforts around the world to bring together
all human, animal, and environmental health disciplines

created and hosted by



✓ check www.onehealthday.org for more information





www.onehealthcommission.org

www.onehealthinitiative.com

June 9, 2016 For Immediate Release

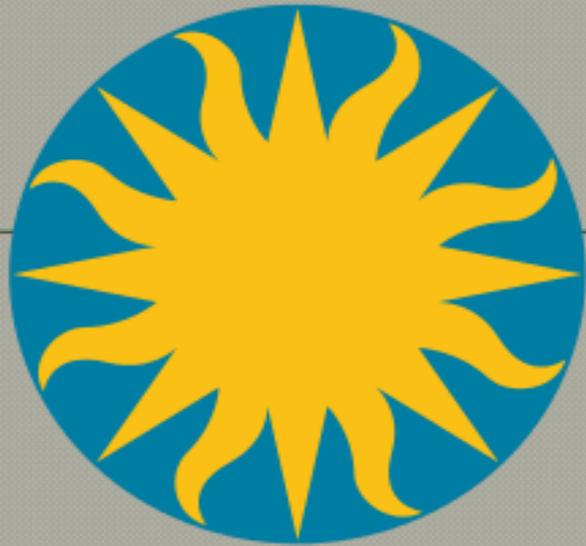
Preparing society to create the world we need through 'One Health' education!

Two leading international One Health groups, the [One Health Commission](http://www.onehealthcommission.org) and the [One Health Initiative](http://www.onehealthinitiative.com) Autonomous *pro bono* Team are partnering to help create and promote a comprehensive global education revolution that supports curriculum innovation on the unifying interconnected health of humans, animals, and the environment that sustains all life on earth. A Concept paper titled '[Preparing society to create the world we need through 'One Health' education](#)' has been released calling for interested parties to step forward to help with planning. The One Health concept encompasses a wide range of global public health and comparative medicine endeavors.

Dr. George Lueddeke, one of the "One Health" educational project leaders and author of a new One Health oriented book on [global population health and well-being](#), said that, "In keeping with the UN 2030 global Agenda for Sustainability, there is an urgent need for collective action by policy-makers, public / private educators, and health professionals to provide global ONE HEALTH learning opportunities across the education spectrum."

We must give younger generations in both low and high income nations "a better deal" for helping to shape a sustainable world, one that is being tested severely by a threatened environment, conflicts, inequities, poverty, ideological extremes, and consumerism. Time is running short. As one example, data from the *Living Planet Index* (2014) should "make us stop and think": "*in less than two human generations, population sizes of vertebrate species have dropped by half. These are the living forms that constitute the fabric of the ecosystems which sustain life on earth and the barometer of what we are doing to our planet, our only home.*"

https://www.onehealthcommission.org/en/commission_news/press_releases/



Smithsonian



**Smithsonian Institute Exhibit –
Zoonoses and One Health
– coming in 2018**



Global Health Security Agenda

ABOUT

MEMBERS & MEMBERSHIP

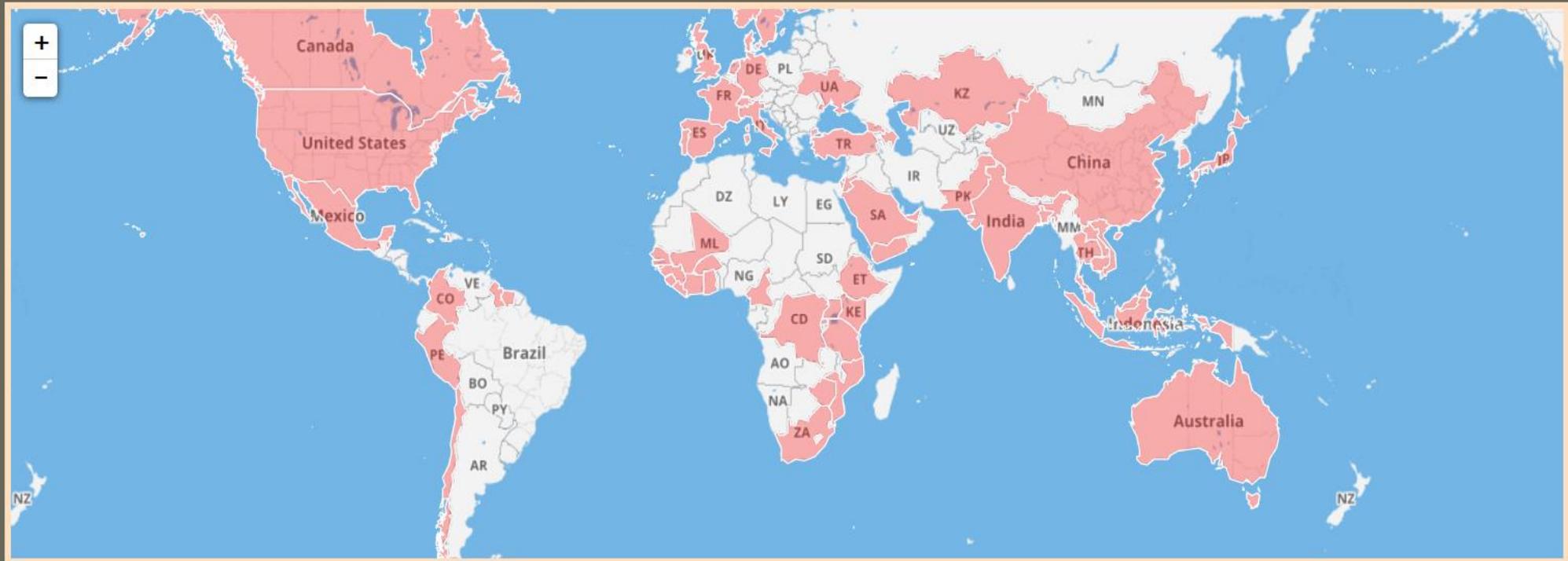
COUNTRY ROADMAPS

ACTION PACKAGES

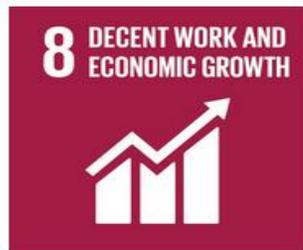
ASSESSMENTS & JEE

EVENTS & UPDATES

RESOURCES & SUCCESSES



updated as of 7 March 2016



On September 25th 2015, countries adopted a set of goals to **end poverty, protect the planet, and ensure prosperity for all** as part of a new sustainable development agenda. Each goal has specific targets to be achieved over the next 15 years.

For the goals to be reached, everyone needs to do their part: governments, the private sector, civil society and people like you.

*Collaborations don't just magically happen....
They start with relationships.....*

And

**Relationships don't just magically develop,
*they start when we have opportunities to***





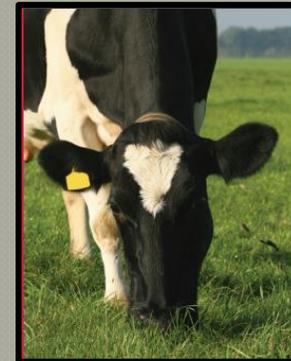
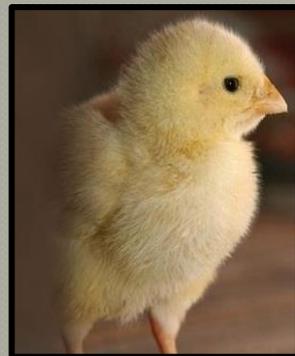
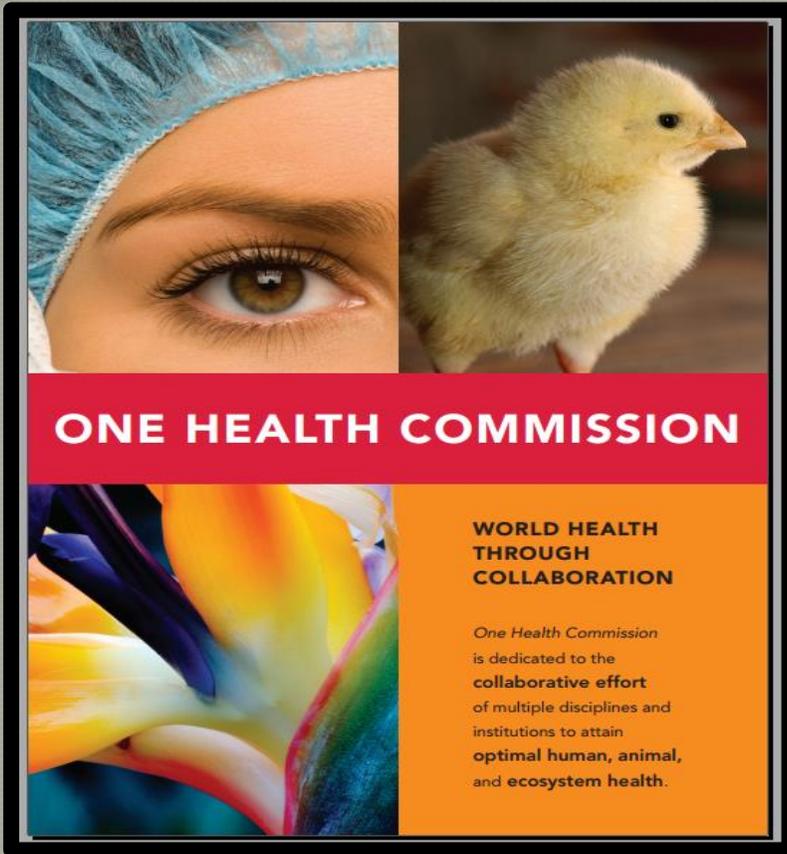
One Health

is a pathway to Planetary Health and Global *Security*



Hope you will help us
advance

the **One Health Concept**
Through Collaborations
that **'Connect,**
Create, and Educate'



To Ask a Question

□ Using the Webinar System

- “Click” the Q&A tab at the top left of the webinar tool bar
- “Click” in the white space
- “Type” your question
- “Click” ask

□ On the Phone

- Press Star (*) 1 to enter the queue
- State your name
- Listen for the operator to call your name
- State your organization and then ask your question

Continuing Education for COCA Calls

All continuing education (CME, CNE, CEU, CECH, ACPE, CPH, and AAVSB/RACE) for COCA Calls are issued online through the [CDC Training & Continuing Education Online system](http://www.cdc.gov/TCEOnline/) (<http://www.cdc.gov/TCEOnline/>).

Those who participated in today's COCA Call and who wish to receive continuing education should complete the online evaluation by December 16, 2016 with the course code **WC2286**. Those who will participate in the on demand activity and wish to receive continuing education should complete the online evaluation between December 17, 2016 and November 16, 2018 will use course code **WD2286**.

Continuing education certificates can be printed immediately upon completion of your online evaluation. A cumulative transcript of all CDC/ATSDR CE's obtained through the CDC Training & Continuing Education Online System will be maintained for each user.

Today's webinar will be archived

When: A few days after the live call

What: All call recordings (audio, webinar, and transcript)

Where: On the COCA Call webpage

http://emergency.cdc.gov/coca/calls/2016/callinfo_111716.asp

Upcoming COCA Call

Assessment & Evidence-based Treatments for Opioid Use Disorder

- **Date: Tuesday, November 29, 2016**
- **Time: 2:00-3:00 pm (Eastern Time)**

Free Continuing Education. Registration Not Required

<http://emergency.cdc.gov/coca>

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