One Health Collaborations in US State / Local Government & Policy Webinar – Part 1

October 23, 2019

Hosted by the One Health Commission and the International Student One Health Alliance
ISOHA

Neil Vezeau, BS

- ISOHA Trustee
  - Immediate past president
- 3rd-year DVM/MPH Student at Iowa State University

Anastasia Lambrou, BS, MSc

- ISOHA Trustee
  - Immediate past Vice President for Members
- 4th-year PhD Candidate at the Johns Hopkins Bloomberg School of Public Health
ISOHA aims to connect, create resources, and promote the One Health concept to students globally, irrespective of their field of study.
Webinar Purpose & Goals

**Purpose:**
- Connect U.S. State and Local Governments working in One Health
- Create a forum for U.S. State and Local Governments working in One Health to share their experiences
- Initiate communications and collaborations between U.S. State and Local Governments working in One Health

**Attendees will:**
- Learn who major change-makers are in One Health in U.S State and Local Governments
- Learn practices for promoting One Health collaboration in government
- Be able to apply this in their own One Health related-work
- Form a community/forum around One Health in State and Local Governments
Forming Collaborations that transcend disciplinary boundaries

Connect, Create, Educate

Cheryl Stroud, DVM, PhD
Executive Director
What is One Health all about?

The term ‘One Health’ refers to the interconnections and interdependencies of human, animal (wild and domestic) and environmental health. The resurrection of this ancient concept began in the late 1990s when ecologists and wildlife conservationists realized that our ‘systems’ of specialized professionals had formed us into silos that never interacted. The concept was embraced by the veterinary medical profession and catapulted into the human health domain with growing awareness of diseases that are transmitted from animals to people such as AIDS, Avian Influenza, Salmonella, Escherichia coli, Lyme Disease, Rocky Mountain Spotted Fever, Zika virus and others can be altered by changing climate and landscapes and pose serious health and economic threats to human and animal populations, that understanding diseases and conditions that cross species boundaries, how animal and humans interact and what that means to public health is critical.

Our Mission

Our mission is to connect, create, educate and support networks to improve shared health outcomes and well-being of people, animals and plants to promote ecosystem resilience through a collaborative, local to global One Health approach.

Achievements

Connecting the Global One Health Community

The Commission provides opportunities for One Health leaders around the world to share their programs and initiatives. Its First (2013) and Second (2016) International What’s Who in One Health online webinars drew over 1,500 participants from more than 35 countries. The OHC manages a growing Global One Health Community (8,000 global participants, distributes a monthly Global One Health newsletter of One Health news, events, announcements and publications) and maintains an ever-expanding global directory of Who’s Who in One Health. Its website serves as a One Health Library and a directory for One Health leaders, scientific publications, relevant popular media news items, training, employment and funding opportunities. It also provides global outreach and representation of One Health at major international conferences.

Creating and Leading One Health Actions

Many of our ‘wicked’ health challenges, like antimicrobial resistance, can be controversial. The Commission provides a ‘safe zone’ for interprofessional conversations, projects and actions. Volunteer One Health Action Teams, made up of individuals from diverse backgrounds, identify public health and education gaps and work to address them. Examples include the OHC Bat Rabies Education Network; the international One Health Education Foundation and its US sub-group, the One Health Social Sciences Initiative and the newly forming One Health Ecology and Environment Team. Yet to be formed are teams to address

One Health Comparative Research and Medicine, One Health Food Safety and Security, One Health Advocacy and Public Policy, and others. In 2016 the OHC led an international stakeholder partnership to create an annual, global One Health Day which is now celebrated around the world every year on November 13. The One Health Day events are registered around the world in more than 35 countries. One Health Day 2017 and 2018 saw similar global participation. In 2017 the OHC partnered with the US Environmental Protection Agency on a citizen science National Pet Health Survey that collects health information on dog and cat companions and will be used by scientists, pet owners and the public to inform health.

One Health Day

One Health Day, our “Day of Hope for the Future”, has gained tremendous traction globally in the 21st Century. The One Health Commission provides leadership, platforms and resources to connect hundreds of One Health advocates and groups around the world, allowing them to combine forces to break through disciplinary silos and to reorient collective thinking and practice towards integrated systems frameworks. It seeks to sustain and expand its programs, to increase its global impact promoting interdisciplinary approaches to health challenges shared by people, animals and the environment. Its goal is to make the One Health model the default way of operating at all levels of academic, research, and governments around the world.

Get Involved

If the One Health concept resonates with you, if you believe that the Commission performs a function vital to the shared health of people, animals and the environment on planet earth, please check here to learn more and your organisation can play a part in this global effort.

One Health Commission

OHC Connect - Create - Educate

www.onehealthcommission.org

Connecting One Health Stakeholders – we can accomplish more *together*!

One Health-Social Sciences Initiative
Engaging Social Scientists in the One Health Concept
Connecting One Health Stakeholders – we can accomplish more together!

One Health Opportunities
Online Bulletin Board

One Health Happenings!

https://www.onehealthcommission.org/en/resources__services/

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

The broadcast will begin momentarily


https://www.onehealthcommission.org/en/resources__services/one_health_library/
Educating about One Health and One Health Issues

One Health Educational Resources

Basic Guide for developing K-12 One Health lessons
K-12 Educational Resources

One Health for One Planet (1HOPE) Education Initiative

The World We Need

PREPARING SOCIETY TO CREATE THE WORLD WE NEED THROUGH ONE HEALTH EDUCATION

OHC BRET - Bat Rabies Education Team
To establish in the US an Inter-Agency One Health Program

June 19, 2019

July 16, 2019
Annual One Health Day
November 3

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

Check www.onehealthday.org for more information

http://bit.ly/2QYAaeD
Harris County Public Health in Texas  
Elya Franciscus, BASc, MPH

Idaho One Health Consortium  
Leslie Tengelsen, PhD, DVM

Los Angeles Dept of Public Health - Veterinary Public Health  
Karen Ehnert, DVM, MPVM, DACVPM

Minnesota One Health Antibiotic Stewardship Collaborative  
Amanda Beaudoin, DVM, PhD, DACVPM

Nebraska One Health  
Liz VanWormer, DVM, PhD

North Carolina One Medicine Symposium  
Carl Williams, DVM, MPH

Texas Dept. of State Health Services, James Steele DIN Conference,  
Eric Fonken, DVM, MPAff, Bonny Mayes, MA, RYT
One Health – Local Health Department

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Lead Epidemiologist, Office of Science, Surveillance and Technology

Dana Wiltz-Beckham, DVM, MPH, MBA
Director, Office of Science, Surveillance & Technology

Harris County Public Health (HCPH)
One Health Collaborations in U.S. State/Local Government and Policy
October 23, 2019
Houston, TX

#InvisibilityCrisis
Twitter: @HCPHTX
Harris County: Big, Diverse & Complex

Harris County is the third most populous county with over 4.7 million people spread over 1,778 square miles.
HCPH Priority Public Health Issues for 2013-2018
Selected for the magnitude of the issue and our ability to make progress in Harris County.
Our Premise: LLWWP
ONE HEALTH: THE BEGINNING
**Vision**
One Health, One Goal: Healthy people, animals, and places

**Mission**
Harris County Public Health’s One Health Team is committed to creating healthy, resilient communities by promoting and sustaining the health and well-being of humans, animals, and the environment, through:
• Joint education and communication efforts
• Creating and enhancing multi-disciplinary community partners
• Promoting policies which support One Health principles
HCPH and the Case for “One Health”

In one year in Harris County, diseases that spread from animals to people ...

**Salmonella and E.coli cases**
Due to eating or handling contaminated animal products

- **396** cases

**West Nile Virus, chikungunya, and malaria cases**
All transmitted by mosquitoes

- **95** cases

**Cryptosporidium or “crypto” cases**
A parasite spread by food, water, or soil contaminated by sick animals

- **31** cases

*Numbers represent closed cases of illness in humans in unincorporated Harris County (excluding Houston) in 2014.*
One Health Conference Timeline

2008
Shelter Medicine

2009
Vet Tech

2010
Zoonotic

2017
One Health
ONE HEALTH: HARRIS COUNTY PARTNERS
One Health Stakeholders and Partners

**National Partners**
- Biowatch and CDC

**Local Health Departments**
- Texas Department of State Health Services, Central Office, Regional Office, local health departments

**Animal Partners**
- Mosquito agencies, veterinarians, wildlife rehabilitation

**Other Partners**
- Environmental Health Association, School districts, Human healthcare, academia
ONE HEALTH:
SHOW ME THE MONEY
Funding Sources

• A little bit of everything!
  • General funds
  • Grant funds
  • Working with existing FTEs
  • PHAP program
  • CSTE fellowships
ONE HEALTH: SUCCESS AND CHALLENGES
Zika – 2016-2017
HCPH Components of Effective Zika Response

Health Equity

One Health

Multi-Disciplinary Team (MDT)
Rabies Disease

WILDLIFE/ENVIRONMENT EXPORTS
VETERINARIANS
EPIDEMIOLOGISTS
MEDIA

COMMUNITY
ANIMAL CONTROL OFFICERS
PHYSICIANS

Laboratory-confirmed rabies in Harris County, 2016

= 2016 rabid bat
Novel H1N1 – 2009-2010
HCPH Priority Public Health Issues for 2013-2018
Selected for the magnitude of the issue and our ability to make progress in Harris County

One Health Conference
Two Days, 32 speakers, 300+ professionals including Veterinarians, Technicians, Public Health, Physicians, Nurses covering topics: Zoonotic Disease, Human-Animal Bond, Antibiotic Resistance, Climate Change etc.

One Health Conference
From Theory to Practice
September 14–15, 2018

One Health, One Goal: Healthy People, Animals and Places
#CHSHEALTH2018
NEVER A DULL MOMENT

- Tropical Storm Allison (2001)
- Nation’s first Biowatch hit in Houston (2003)
- Monkey Pox found in exotic pet market (2003)
- Possible Lassa Fever on cargo ship – Africa (2004)
- Crosby Well natural gas explosion (2005)
- Hurricane Katrina Response – Astrodome (2005)
- Hurricane Rita Evacuation (2005)
- Multi-State GI illness investigation – soccer (2005)
- Fake Flu Investigation (2005)
- Salmonella Saint Paul investigation (2008)
- Hurricane Ike Response (2008)
ONE HEALTH: THE FUTURE
We are not prepared for:
• More cases
• More germs
• More risk

But we could be with:
• More funding
• More vector control
• More research & education

Future State: Looking Ahead

Proactive Policies and Funding Support that are Flexible and Appropriate to Build Necessary Capacity at the Local Level
Idaho One Health Consortium

Leslie Tengelsen, PhD, DVM
State Public Health Veterinarian
Idaho One Health Lead
Division of Public Health
Idaho Department of Health and Welfare
Idaho One Health Consortium (IOHC)

- Idaho is a predominantly rural, agricultural state (population 1.7 million*)
- The IOHC was formed by the Idaho Department of Health and Welfare (IDHW) in 2015 with the intention of engaging professionals from diverse disciplines and perspectives in conversations around OH-worthy topics that touch aspects of human, animal, and environmental health

**Goals:**
- To increase awareness of OH issues across disciplines (didactic),
- To identify OH issues in Idaho, and, when possible,
- Identify action items and workgroups to improve OH outcomes.

**Long-term outcome:**
- Build upon and develop cross-cutting relationships in daily work activities


10/23/2019
Participants

- Prior to 2015, members of state government (health, agriculture, fish and game) and federal government (USDA) would meet annually to focus on zoonotic disease topics (Zoonotic Disease Working Group [ZDWG]).
  - ~10 members (small and typically lacked action items, stayed in our silos)
- 2015, the IOHC was formed with ZDWG members with an eye on expanding the scope of meetings and expanding participants, to include additional professionals working on OH areas. In-person meetings only, word of mouth, targeted invitations.
- In 2017, with initial assistance from the One Health Commission (Go-to-Meeting), the IOHC initiated statewide webinar participation options!
- In 2018, Idaho moved to WebEx platform.
  - Expanded to ~100 members statewide!
    - federal, state, local government representation in areas of public health, Ag, wildlife, environmental quality, academia, members of healthcare, veterinarians, etc..
- Meet 3x per year
2018 Survey of IOHC Participants

- **Snapshot**: Regional variation noted in current IOHC participation (single survey)

- **Primary work county noted by participants** (map)

- 10 additional respondents selected ‘statewide’, representing government or academia.

- 1 listed ‘national’ work duties.

Number of IOHC survey participants by county

<table>
<thead>
<tr>
<th>Count</th>
<th>Color</th>
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<tbody>
<tr>
<td>1</td>
<td>Light Green</td>
</tr>
<tr>
<td>2</td>
<td>Green</td>
</tr>
<tr>
<td>3+</td>
<td>Dark Green</td>
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### Focused Meetings

The IOHC has convened 13 times since September, 2015

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/22/2015</td>
<td>One Health 101</td>
</tr>
<tr>
<td>1/22/2016</td>
<td>Food Safety: Foods of Animal Origin</td>
</tr>
<tr>
<td>5/11/2016</td>
<td>Antimicrobial Stewardship-part 1</td>
</tr>
<tr>
<td>9/19/2016</td>
<td>Novel Influenza</td>
</tr>
<tr>
<td>12/5/2016</td>
<td>Antimicrobial Stewardship-part 2 FDA Veterinary Feed Directive</td>
</tr>
<tr>
<td>6/28/2017</td>
<td>Brucellosis</td>
</tr>
<tr>
<td>9/27/2017</td>
<td>Tuberculosis-focus on Ag and Ag worker concerns</td>
</tr>
<tr>
<td>12/15/2017</td>
<td>Flooding in Ag settings- preparedness and response to unintentional run-off</td>
</tr>
<tr>
<td>5/4/2018</td>
<td>Prion disease-focus on chronic wasting disease (CWD)</td>
</tr>
<tr>
<td>9/7/2018</td>
<td>Veterinarians and the opioid crisis</td>
</tr>
<tr>
<td>12/14/2018</td>
<td>Cyanobacterial blooms- problem solving for response to harmful algal blooms</td>
</tr>
<tr>
<td>4/5/2019</td>
<td>Rabies response in Idaho</td>
</tr>
<tr>
<td>8/23/2019</td>
<td>Echinococcosis concerns. CWD revisited</td>
</tr>
<tr>
<td>Upcoming 1/2020</td>
<td>Response to pesticide exposures (topic yet to be finalized)</td>
</tr>
</tbody>
</table>
Participation in Broader OH Activities

- Pacific NW partners: ID, OR, and WA share borders and collaborate on various public health/one health activities
  - Building relationships: Idaho has participated in OR and WA regional zoonotic and OH meetings in person and via webinar
  - Idaho recently worked with UW/Dr. Rabinowitz on curricula development for Ag worker safety (areas of OH and zoonotic disease)
  - Participate in regional efforts to understand rare fungal diseases, including their geographic distribution
- Attend the annual National Institute of Animal Agriculture antibiotic stewardship One Health meetings
- Use some limited CDC support to maintain OH activities in Idaho

10/23/2019
Limitations/Challenges

• Gaining and maintaining participation by healthcare providers and clinical veterinarians is challenging. Hoping to identify some federal funding to offer CE for future meetings.

• Would like to see topics for discussion coming more often from non-public health partners.

• Depending on the topic, IOHC has had various levels of success in identifying action items.

• Addressing OH problems could prove difficult in terms of actions needed.

• Continually working to identify optimal ways to expand participation geographically and by discipline.
Successes

• 2018 survey of members suggest that the meetings were well received and valued

• Relationships have been forged, with a broader, deeper understanding of OH topics achieved across disciplines

• Selected action items from past meetings include:
  • A survey of licensed veterinarians was deployed, in collaboration with the Idaho board of veterinary medicine, to learn more about the role veterinarians play in the opioid crisis
  • Public health was able to contribute to the Idaho Department of Fish and Game CWD surveillance and response plan
  • One health members contributed to the Idaho statewide Rabies Protocol and are working collaboratively with CDC on a bats and rabies safety video
  • Currently working on enhancing aspects of echinococcus surveillance to learn more about the burden this rare parasite might place on human, domestic animal (pets, livestock), and wildlife in Idaho
Summary

- Overall, IOHC meetings appear to be a valuable activity in Idaho

- Starting to see an increase in OH thinking from participating agencies

- Initially it took some time to increase participation, but once we provided a webinar option, membership steadily grew

- No shortage of topics for future meetings!
Healthy Pets Healthy Families (HPHF) Initiative

• Started in 2011, reliant on program resources only
• 2011 – gathered animal health data
• 2012 – started HPHF Coalition
  – Meets quarterly
  – Includes: veterinarians, physicians, nurses, health educators, epidemiologists, vector control, animal control, non-profit organizations, universities, dog trainers,…
  – Participatory decision making
    • Facilitated input from members
    • Final decision by program
HPHF Mission & Goals

- **Mission**: To use the connections between human and animal health in order to promote a healthy community.

- Goals established for seven focus areas

- Based on local data

- Outlined in Community Report [http://publichealth.lacounty.gov/vet/Reports.htm](http://publichealth.lacounty.gov/vet/Reports.htm)
HPHF Projects

2013
- HPHF Community Report
- Single over-riding communications objectives (SOCO)
- HPHF Animal Owner handout

2014
- 1st Pet Expo
- Dog-friendly walking groups

2015
- 2nd Pet Expo
- SMART Objectives
- Obesity report
- Flea-borne typhus outreach

2016
- 3rd Pet Expo
- Pet related guidance for multi-unit housing
- Bite Prevention report
- Evaluation
HHPF Projects

2018
- Disaster Forum
- Skid Row Clinics – Flea-borne Typhus prevention
- Cannabis & Pets
- Community Needs Assessment

2019
- Pets & New Baby
- Pets & Rental Housing White Paper
- Pet Assisted Therapy Forum
- Pet preventive clinics & health fairs

2020
- 3rd Pet Health Survey
- Decade report
- Forum
- Education at Community Health Centers
Dog KAP Survey 2016

• Purpose
  – Knowledge, Attitudes, and Practices of dog owners
  – 40 Questions based on the Healthy Pets, Healthy Families 7 focus areas
  – Adjusted from original survey to collect mid-baseline data

• Methods
  – Paper survey
  – Collected at low-cost/free vaccination and spay/neuter clinics
Dog KAP Survey – Results – more work to do

Figure 4. Pet Owner Practices

Vaccine-Preventable Diseases
- Yearly Vaccinations
  - Yes: 45.51%, No: 54.49%
- Rabies Vaccine
  - Yes: 55.73%, No: 44.27%
- Parvo Vaccine
  - Yes: 44.89%, No: 55.11%

Parasite Prevention
- Flea/Tick Prevention
  - Use: 58.09%, Do Not Use: 41.91%
- Heartworm Prevention
  - Use: 93.59%, Do Not Use: 6.41%

Factors of Pet Obesity
- Free Feed
  - Use: 63.78%, Do Not Use: 36.22%
- Give Treats
  - Use: 77.23%, Do Not Use: 22.77%
- Walk Daily
  - Use: 45.21%, Do Not Use: 54.79%

Spay & Neuter
- Dog Fixed
  - Yes: 98.20%, No: 1.80%

Microchipping
- Microchipped
  - Yes: 47.44%, No: 52.56%
- Microchip Registered
  - Yes: 72.19%, No: 27.81%
Prevention and Education

- **Healthy Pet Expos**

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
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<tbody>
<tr>
<td>Attendance (public)</td>
<td>~1000</td>
<td>2000</td>
<td>1168</td>
</tr>
<tr>
<td>Pet vaccines given</td>
<td>Not tracked</td>
<td>500+</td>
<td>671</td>
</tr>
<tr>
<td>Pets sterilized</td>
<td>Not tracked</td>
<td>66</td>
<td>18</td>
</tr>
<tr>
<td>Pets dewormed</td>
<td>Not tracked</td>
<td>Not tracked</td>
<td>17</td>
</tr>
</tbody>
</table>
Surveys Bring Focus on Obesity

• **Dog Owner Survey**
  – 51% can’t feel dog’s ribs
  – 11% think dog is overweight
  – 43% walk dog daily
  – 73% free feed

• **Local Parks Survey**
  – Many not safe!

Dog friendly walking group toolkits
  – surveys to assess effectiveness
Flea-borne Typhus: another opportunity to utilize One Health to reduce risk

- Illness in humans caused by *Rickettsia felis* or *typhi*
- Transmitted by flea bites
- Rats, opossums, cats and other animals as flea vectors
- Increase in human cases in 2018
- Clusters in Downtown Los Angeles and Willowbrook
Flea-borne Typhus: One Health to reduce risk

Veterinary Partnership with Education

– Quarterly notification of veterinarians near human cases
– Promote messages:
  • Flea control for pets
  • Wildlife – Don’t harbor, don’t harass!
  • Keep vegetation trimmed in yard, crawl spaces and deck underside sealed off (harborage)
  • Do not leave pet's food and water outside
  • If rat or mouse infestation - recommend exterminator
Flea-borne Typhus: One Health to reduce risk

- **Skid Row Clinics**
  - Cluster of cases among homeless patients
  - Collaborate with LA Animal Services, Downtown Dog Rescue, Inner City Law
  - Weekly, then monthly free pet preventive clinics, including flea control
  - Cases diminished in area
Questions?

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Director, Veterinary Public Health
Los Angeles County
Department of Public Health
213-989-7060
kehnert@ph.lacounty.gov
References


2. Healthy Pets Healthy Families website: https://publichealth.lacounty.gov/vet/HealthyPetsHealthyFamilies.htm


7. HPHF dog friendly community walking groups webpage: http://publichealth.lacounty.gov/vet/hphf/walkinggroup.htm
Minnesota One Health Antibiotic Stewardship Collaborative

Increasing awareness and behavior change through a collective mission, cross-disciplinary learning, and sharing of evidence-based approaches to antibiotic stewardship

Amanda Beaudoin, DVM, PhD, Diplomate ACVPM
Director of One Health Antibiotic Stewardship
Minnesota Department of Health
One Health Collaborations in Government Webinar, October 23, 2019
Collaborative Participants

- **State agencies** of health, agriculture, environment, animal health
- **Healthcare professionals** from inpatient, outpatient, long-term care, dentistry
- **Veterinary professionals** from large and small animal clinical practice
- **University researchers** from veterinary medicine, engineering, chemistry, pharmacy, medicine
- **Industry and professional organizations**, human and animal
- **Pharmaceutical companies**, human and animal

Number of Members, n=102
MOHASC Vision

Minnesota leaders in human, animal, and environment health will work together to raise awareness and change behaviors to preserve antibiotics and treat infections effectively.

Communication Approach:

- Human, animal, and environmental health are inseparable.
- All antibiotic use can lead to resistance.
- There is some contribution to resistance from every sector using antibiotics
- Lack of “proof” of harm is not an argument for irresponsible use.
- Greater abuse in other disciplines is not an argument for injudicious use in yours.
- There are unreasonable critics.
- Behavior change is key.
Five-Year Strategic Plan Goals (2016-2021)

- Promote understanding of One Health antibiotic stewardship
- Improve human antibiotic stewardship
- Improve animal antibiotic stewardship
- Develop “antibiotic footprint” tools
**Operational Logistics**

- **Annual in-person meeting**
  - Discussion of hot topics in each health discipline, Q&A

- **4 Work Groups align with strategic plan goals**
  - Quarterly calls held to advance projects

- **Email bulletin**
  - >850 recipients in MN and beyond
  - Stewardship news from all health disciplines, education opportunities, MOHASC updates

- **Website**
  - Platform for human, animal, environmental health professionals, educators, public

- **Multistate One Health stewardship quarterly call**
  - Federal agencies, national organizations, >20 states

**Impact**

- **Collective vision magnifies state investment**
  - 1.0 FTE at Minnesota Department of Health
  - >1,000 hours/year of in-kind member contributions

- **A common mission energizes daily stewardship practice**
  - New resources, ideas, research opportunities

- **Networking drives practice change**
  - Mentorship that benefits giver and recipient
  - Improved continuing education offerings

- **Evidence-based approaches are shared to fill gaps**
  - Healthcare tools modified for other care settings and for animal health

- **Together, we ensure the public receives reliable information**
  - Website, fact sheets, videos, Minnesota State Fair booth
Activities Across Settings, Disciplines

• One Health Engagement
  • State Fair booth engagement with >12,000 attendees
  • “Professional exchange” events to observe antibiotic use and stewardship in diverse settings

• Healthcare
  • Tiered honor roll incentivize stewardship improvements in acute and long-term care
  • Public engagement initiatives to educate patients and families

• Animal Health
  • Webinar series to support veterinary stewardship education
  • Point prevalence studies of antibiotic use in companion animal practice
  • Initiatives to mitigate understanding gap between agriculture, healthcare, and public

• Environment
  • Multidisciplinary research to explore Minnesota’s “antibiotic footprint”
  • Education and promotion of drug disposal best practices
Using Minnesota’s Antibiotic Footprint to Define Consequences of Antibiotic Use and Drive Behavior Change

Mapping Minnesota’s Antibiotic Footprint in the Natural Environment

1. Map-based modeling
   • Where are antibiotics used, and where do they end up?

2. Environmental sampling
   • Measure antibiotic concentrations, resistance genes in environment

3. Model validation

Outcomes
• Develop a tool to predict environmental contamination with antibiotics and resistance genes
• Propose risk-based mitigation and behavior change strategies to minimize antibiotic resistance
• Maximize impact of funds invested to protect environmental, human, and animal health

The “D”s of Antibiotic Stewardship
Drive Behavior Change

• Diagnosis.
• Drug.
• Dose.
• Duration.
• De-escalation.
• Disposal. Dispose of antibiotics properly. Do not put in sink, toilet, or trash.

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Professional and Public Engagement to Increase Knowledge

Minnesota State

Antibiotic Stewardship Professional Exchanges

Annual Meetings
• Minnesota One Health Antibiotic Stewardship Collaborative membership
• **Ruth Lynfield MD**, State Epidemiologist and Medical Director, Minnesota Department of Health
• **Beth Thompson JD, DVM**, State Veterinarian and Executive Director, Minnesota Board of Animal Health
• **Minnesota Commissioners** of Health, Agriculture, Pollution Control Agency
• **Emma Leof MPH**, Epidemiologist
• **Minnesota Department of Health HAI-AR Unit staff**
• CDC Division of Healthcare Quality Promotion for continued ELC funding of MOHASC Director position and Annual Summit

---

**MDH Contacts for One Health Antibiotic Stewardship**

Amanda Beaudoin, DVM, PhD
Director of One Health Antibiotic Stewardship
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Ruth Lynfield, MD
State Epidemiologist and Medical Director
[ruth.Lynfield@state.mn.us](mailto:ruth.Lynfield@state.mn.us)
GOALS

- Connect individuals from diverse disciplines and organizations to address the health of people, animals, plants, and shared ecosystems

- Support One Health research, management, training, and outreach

- Enhance public awareness of One Health

Liz VanWormer, University of Nebraska-Lincoln, liz.vanwormer@unl.edu; nebraskaonehealth@gmail.com
Building stakeholder collaboration in Nebraska

- Key One Health Issues in Nebraska
- Approaches to enhance communication among stakeholders
Identifying key One Health Issues in Nebraska

- Water Quality & Quantity
- Antimicrobial Resistance
- Zoonotic Disease
- Food Security & Sustainable Rural Livelihoods
Working groups to build synergistic projects

- **WATER QUALITY & QUANTITY**
- **ANTIMICROBIAL RESISTANCE**
- **ZOONOTIC DISEASE**
- **VECTOR-BORNE DISEASE**

**Nebraska Dept. of Health and Human Services** - Healthcare Associated Infections-Antibiotic Resistance (HAIAR) team
- iAMResponsible outreach program at UNL
- UNL and University of Nebraska Medical Center researchers
- USDA-ARS researchers

**Nebraska Dept. of Health and Human Services** – Vector-borne disease epidemiologists
- UNL researchers and extension specialists – entomology, veterinary medicine, natural resources
- National Drought Mitigation Center researchers
What does this mean for us?
Enhanced ability to understand and address antimicrobial resistance
What does this mean for us?
Enhanced vector-borne disease surveillance and response
Maintaining contact among One Health partners
- In-person meetings, seminars and symposia (when funding allows for bigger events)
- One Health listserv and website to distribute information
- Seasonal and monthly newsletters to give program and partner updates, highlight exciting One Health projects, and share events and funding & training opportunities
One Health project example:

Bryan Buss, CDC Epidemiologist, State of Nebraska
AN EXAMPLE OF ONE HEALTH ACTIVITIES IN NC

OCT 23, 2019
Although the concept has been embraced since the mid-19th century, Dr. Calvin Schwabe revived the phrase “One Medicine” in the 1980s. This short and simple phrase, originally coined by Sir William Osler, summarizes the need for collaboration among multiple disciplines to more collectively approach health issues that threaten animals, humans, and the environment.
NC One Medicine Symposium

- Held annually from 2003 through 2016
- Intended audience included:
  - Physicians, nurses, veterinarians, veterinary technicians, public health professionals, environmental health specialists, agriculture professionals, wildlife professionals, and federal, military, state and local emergency management and disaster response professionals
NC One Medicine Symposium

- Hosted by NCDA&CS and NC DHHS
- Cooperators included:
  - NC State University College of Veterinary Medicine, UNC Gillings School of Global Public Health, USDA APHIS Veterinary Services, and NCSU Office of Professional Development
NC One Medicine Symposium

- **Symposium Goal**
  - To educate and provide professionals with current information and take-home tools to improve awareness and understanding of health-related topics from a One Medicine perspective, promote collaboration across professional disciplines, and enhance preparedness for natural or man-made disasters, infectious disease outbreaks, and other challenges affecting human and animal health
  
  - Bridge research and applied one health
NC One Medicine Symposium

- Comprehensive CE offered for almost all allied health professions
- Registration costs kept at ~ $100.00
- Attendance consistently between 200 – 350
- Funding was supported by CDC PHEP Cooperative Agreement
- Wide range of topics: AMR, Zoonotic Influenza, Tickborne Illness, Pesticide use...
Ultimately funding waned

Most attendees found the symposium to be educational and beneficial

Continuance needs strong organizational and monetary support
James Steele Conference on Diseases in Nature Transmissible to Man

“Diseases in Nature Conference”
“DIN”
Conference History
1941

- Originating annual meeting at the Texas State Department of Health
Conference History

1950

- Federal government proposed that this meeting become 1 of 4 federally-sanctioned national conferences to address biowarfare concerns

Source: Houston Chronicle, April 14, 2013

Source: Timetoast.com
Conference History

1951

• First meeting of the “Conference on Diseases of Nature and Animal Diseases Transmissible to Man”
Conference History
1951

- First meeting of the “Conference on Diseases of Nature and Animal Diseases Transmissible to Man”
Conference Format

- One Health focus
- 2-1/2 day format
- Typical attendance 200-250
- J.V. Irons Luncheon/Reception

- 17 hours of presentations
- Poster session
- 8-10 topic sessions
- CE for 10 professions
## Multi-Agency Curriculum Committee

<table>
<thead>
<tr>
<th>Curriculum Committee</th>
<th>Affiliation</th>
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<tbody>
<tr>
<td>Thomas Leo Cropper, DVM, MPVM, DACVPM</td>
<td>Director, Trainee Health Surveillance Flight 559th Medical Group - Lackland AFB</td>
</tr>
<tr>
<td>Eric Fonken, DVM, MPAff</td>
<td>Texas Department of State Health Services</td>
</tr>
<tr>
<td>John Herbold, DVM, MPH, PhD DACVPM, DACAW, FACE, FNAP</td>
<td>University of Texas School of Public Health</td>
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<tr>
<td>Bonny Mayes, MA, RYT</td>
<td>Texas Department of State Health Services</td>
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<tr>
<td>Jeffery Musser, DVM, PhD, DABVP</td>
<td>Texas A&amp;M University</td>
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<tr>
<td>Kristy Murray, DVM, PhD</td>
<td>Baylor College of Medicine, Texas Children’s Hospital</td>
</tr>
<tr>
<td>Pamela Wilson, MEd, LVT, MCHES</td>
<td>Texas Department of State Health Services</td>
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DIN Conference Website

The James Steele Conference on Diseases in Nature Transmissible to Man (DIN)

2019 Conference

DIN is a not-for-profit conference and serves as a forum for the presentation of epidemiological investigations, clinical case studies, basic and applied research, and other topics in emerging and current zoonotic and environmentally-acquired infectious diseases. The conference’s goal is to increase knowledge and awareness of these diseases within the medical, public health, and academic research communities.

Past Conferences

Participants include physicians, physician assistants, nurses, veterinarians, epidemiologists, virologists, microbiologists, parasitologists, entomologists, sanitarians, public health professionals, wildlife biologists, animal control officers, and others involved in the diagnosis, investigation, prevention, control, and research of zoonoses and environmentally-acquired infectious diseases.

Conference History

DIN is co-sponsored by the Texas Department of State Health Services Zoonosis Control Branch and the Texas Health Institute. For more information about zoonoses in Texas, please visit the Zoonosis Control Branch’s website at http://www.dshs.state.tx.us/dcu/health/zoonosis/. For more information about the Texas Health Institute, please visit http://www.texashealthinstitute.org.

J.V. Irons Keynote Address

About Dr. James Steele

International Conference on Diseases in Nature Communicable to Man (INCDNCM)

Contact Us

Dedicated to improving the public health through a better understanding of zoonoses and environmentally-acquired infectious diseases.
2020 Conference
June 3-5, 2020
San Antonio, Texas
All sale proceeds benefit the American Veterinary Epidemiology Society

https://www.avesociety.org/
Thank you

Eric Fonken, DVM, MPAff
Bonny C. Mayes, MA, RYT

Texas Department of State Health Services
Discussion

- Do we want to make slides publicly available?
- May we release the speakers list? Including speaker contact info?
  - Should the speaker contact info be made available to webinar attendees?
- How do we want to continue building this One Health / Public Health community?
  - Partner with any existing organizations of public health workers?
- Would you be interested to learn how international governmental agency groups are implementing One Health?
Thank you for participating!

Be sure to tune in tomorrow!

Contact us

and each other!

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