Moving a One Health Way of Thinking into the Future with Real Action and Meaning

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Not a new concept....however....
A New Professional Imperative!!

Why is there a need for a One Health way of thinking?
Traveled to Ecuador on assignment

Boated the Amazon, climbed a Volcano

Returned home with many Insect Bites

Two weeks later: swollen painful joints, fever, skin lesions, discolored fingernails, shortness of breath

Radiographs = lung lesions, >10 CT scans = granulomatous visceral lesions
Two years and 76 specialists later:
tentative diagnoses of 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 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.”

This is why we need to include One Health Education in Graduate Medical Education for all specialties.
Veterinary Medicine, Mind over Miller, July 2011

Many more case studies can be found on the Galaxy DX Website
Monarch butterflies are struggling for survival due to climate change, loss of habitat, and insecticides in the environment. 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  NY Times: March 13, 2013
“Between animal and human medicine there are no dividing lines –Nor should there be.”

Rudolf Virchow, MD, 1821-1902
Father of Cellular Pathology
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<tr>
<th></th>
<th>Name</th>
<th>Role and Contributions</th>
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<tbody>
<tr>
<td>1848-1932</td>
<td>Bernard Bang, Dutch MD / DVM</td>
<td>isolated Brucella abortus from cows, natural reservoirs,</td>
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<tr>
<td>1849-1919</td>
<td>Sir William Osler, MD</td>
<td>Father of modern medicine: studied under Rudolf Virchow: may have 1st coined term ‘One Medicine’?</td>
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<tr>
<td>1850-1914</td>
<td>Daniel Salmon, DVM</td>
<td>early USDA APHIS; hired human physicians to work across disciplines</td>
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<td>1854-1934</td>
<td>Thiebold Smith, MD</td>
<td>in Bureau of Animal Industry found that heat killed pathogens could immunize …led to vaccines against typhus and to Jonas Salk producing the polio vaccine</td>
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Wildlife Conservation Society holds One Health Symposia in Bangkok, China, Brazil and Brazil respectively.

The AMA and AVMA partner in a One Health Initiative Task Force between human and veterinary medicine.

One Health Initiative website team (Kaplan, Kahn, Monath, Woodall) began grassroots web communications platform.


1854-1941 John McFadyean, DVM, MD, challenged assertion that bovine TB was of no concern to humans.

1884-1974 Karl Meyer, DVM, MD, UC Berkley, integrated fields of veterinary and human medicine (typhoid, malaria, influenza, brucellosis, anthrax, plague……etc).

1947 The CDC/Veterinary Public Health Division is established led by James Steel.

1984 Calvin Schwabe uses the term "One Medicine" in his 1984 text ‘Veterinary Medicine and Human Health’.

2002 First annual One Medicine Symposium is held in North Carolina (continues today).

2004 The Wildlife Conservation Society (WCS) publishes the 12 Manhattan Principles for establishing a holistic approach to preventing epidemic/epizootic disease and for maintaining ecosystem integrity.
2009

- The **CDC/ One Health Office** is established

- **USAID** establishes the Emerging Pandemic Threats program

- **One World, One Health Expert Consultation** in Winnipeg, Manitoba

- **One Health Commission** is chartered as a 501c3 non-profit

- IOM sponsors One Health Summit in Washington, D.C.
2010
• The Hanoi Declaration
• The Tripartite Concept Note is published
• FAO, WHO, OIE hosts “Stone Mountain Meeting,” defines specific actions to move the concept of One Health forward
• The United Nations and the World Bank recommend adoption of One Health approaches
• The European Union reaffirms its commitment to operate under a One Health umbrella
One Health History (cont.)

2011
• The 1st International One Health Congress is held in Melbourne, Australia
• The 1st One Health Conference in Africa is sponsored by OCHEA
• Tripartite Technical Meeting in Mexico City

2012
• The Global Risk Forum sponsors the first One Health Summit in Davos, Switzerland (also 2013, 2014)
• 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
• OHC Sponsored the First International Who’s Who Webinar
Evolution of Need for One Health?

Not a new concept....... but a new professional Imperative!!

We came from ‘generalists healers’ to be very specialized with amazing capabilities ...........

News Bulletin:
It’s up to ‘us’ to create a true paradigm shift.

There are ‘many’ clusters or ‘bubbles’ of One Health activity around the U.S. and world; working hard at making this a day to day way
One Health

Comparative medicine / Translational medicine

Zoonotic infections
- Bacterial infections
- Viral infections
- Antimicrobial resistance
- Vector-borne infections
- Parasite infections
- Food safety
- Cancer and cardiovascular disease in humans and animals
- Metabolic disorders in humans and animals
- Joint and skeletal diseases in humans and animals
- Human - animal bond
- Environmental hazards exposure to humans and animals

Intervention
- Vaccines and therapeutics
- Surveillance
- Vector control
- Sanitation

Global health

Ecology

Public health

Human medicine

Molecular and microbiology

Health economics
One Health Wake Up Call !!

We need a way to communicate, share and learn ACROSS disciplines

Wake Up Call!!!
Heal the Past......

Live the Present....

ALWAYS LOOK into the Future
Reframing ‘G.R.O.W.T.H.

Moving from

- Gross domestic product
- Resource destruction
- Overpopulation
- Wealth inequality
- Techno fixes

Towards

- Hunger
- Gross national happiness

Towards

- One world
- Renewables resources
- Wellbeing
- Thrivability
- Hope

www.postgrowth.org
Benefits of a One Health approach

*Increased or Improved*
- Interdisciplinary Programs/Teams
- Information Sharing / Networking
- Disease Prevention/Interventions
- Approaches to Therapy
- Public Health Outcomes
- Environmental and Plant Health
- One Health Transdisciplinary research
- Health and Well-being of the Planet
Engage in New Way of Thinking, Interacting and Action
How To Break Down Those **Silos**

**BEGINS with YOU**

as an Individual
Your Thinking, Your Beliefs, Your Actions

**Join others** in shifting the paradigm of thinking and Action

**Encourage/ Demand Transdisciplinary Approaches**
to the complex, wicked problems that face our world
How To Break Down Those Silos

**TRANSDISCIPLINARITY**
Connecting Knowledge from each of our domains and specialties

**COLLABORATION** with
Transparency, Honesty and Respect for the other’s concerns and sensitivities Sense and Action of INCLUSIVENESS

**RESPECT**
for others and their knowledge and RESPECT for our Complex Interconnected WORLD and its FUTURE
The One Health Commission Charter

- Connect
- Create
- Educate

To improve health outcomes and well-being of humans, animals and plants
To promote environmental resilience through a collaborative, global One Health approach

https://www.onehealthcommission.org