

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



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ONE HEALTH

What is it really all about?



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

Why is there a need for a
One Health
way of thinking?



Young Woman Travel Writer

- 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.....

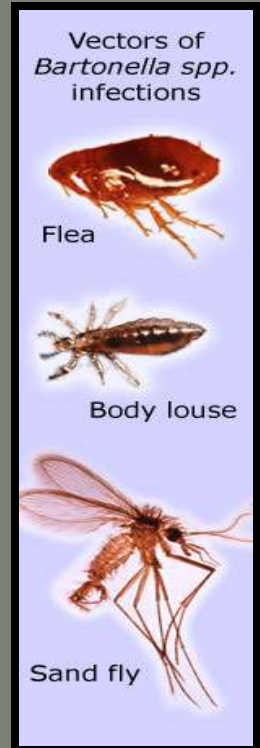
Bartonella Vinsonii





- 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
Struggling for Survival due to:
Climate Change
Loss of Habitat
Insecticides in the environment

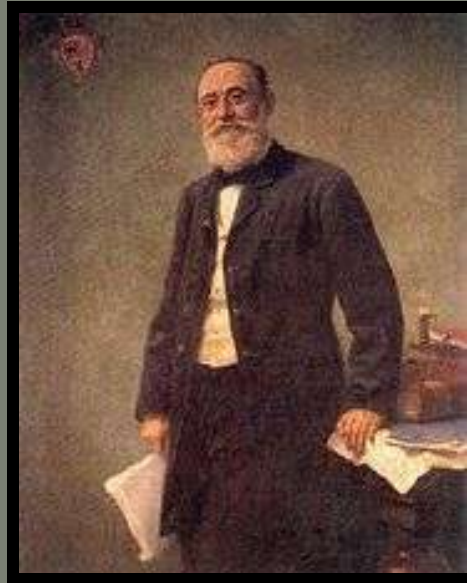
Monarch Migration Plunges to Lowest Level in Decades

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** NY Times: March 13, 2013



History and Significance of One Health



“Between animal and human medicine there are no dividing lines –Nor should there be.”

Rudolf Virchow, MD, 1821-1902

Father of Cellular Pathology

History of One Health: How did we get here?



- 1848-1932** **Bernard Bang, Dutch MD / DVM**, isolated *Brucella abortus* from cows, natural reservoirs,
- 1849-1919** **Sir William Osler, MD**: Father of modern medicine: studied under Rudolf Virchow: may have 1st coined term 'One Medicine'?
- 1850-1914** **Daniel Salmon, DVM**, early USDA APHIS; hired human physicians to work across disciplines
- 1854-1934** **Thiebold Smith, MD** 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

One Health History (cont.)

2004 , 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

2007 **One Health Initiative** website team (Kaplan, Kahn, Monath, Woodall) began grassroots web communications platform

2008 AVMA publishes the **Executive Summary of the AMA/AVMA One Health Task Force**. JAVMA, Vol 233, No. 2, July 15, 2008

2008 **FAO, OIE, WHO, UNICEF, UNSIC, World Bank** of joint pandemic flu response plan



One Health History (cont.)

- 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



One Health History (cont.)

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.

People, Pathogens and Our Planet

World Bank Report No. 50833-GLB

2010



One Health History (cont.)

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 Webi



Evolution of Need for One Health?

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

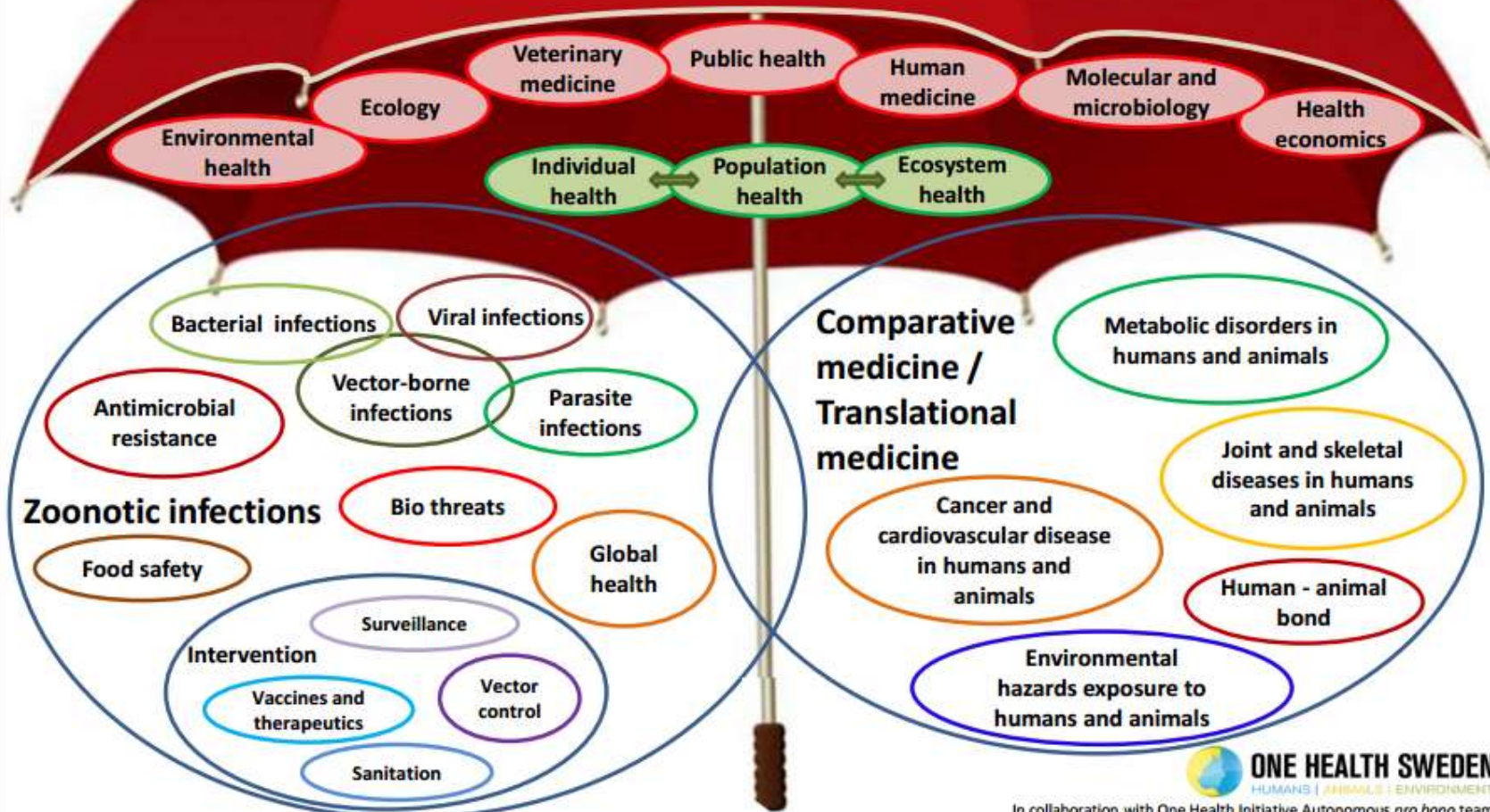
We came from
'generalists healers'
to be very
specialized
with amazing
capabilities



**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



One Health Wake Up Call !!

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



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



Hunger



Towards



Gross national happiness

Renewable resources



One world



Wellbeing



Thrivability



Hope



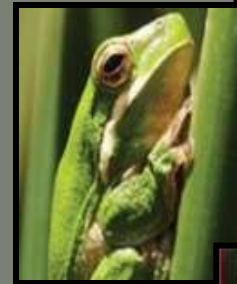
post growth
fair bigger towards better



Benefits of a One Health approach

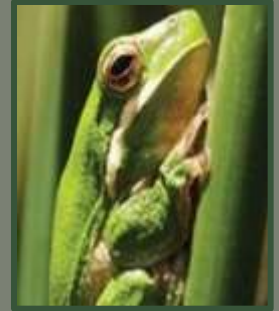
Increased or Improved

- 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

