

Animal-Human Syndemics and Socially Responsible Global Health Research

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FACULTY OF VETERINARY MEDICINE

*Bringing innovation and community together
to advance animal and human health*



Sharing My Journey of “Connections”

- Terminology-- One Medicine to Global Health
- Linking Social Sciences to Veterinary Medicine: Animal-Human Syndemics
- Local is Global in Health Research
- Socially Responsible Global Health Research
- Competencies Required for Global Health Research Leaders

My Journey Through Terminology



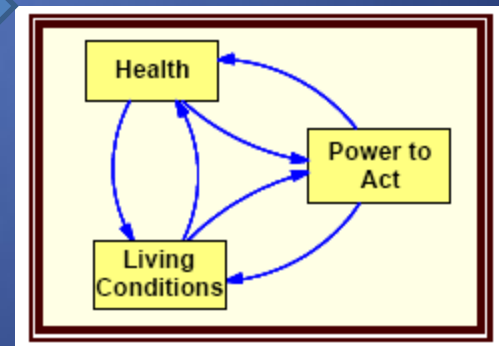
One Medicine

<http://www.onemedicine.net/>

One Health



Syndemics



<http://www.cdc.gov/syndemics/index.htm>

Global Health

Global Health

My Journey Through Terminology



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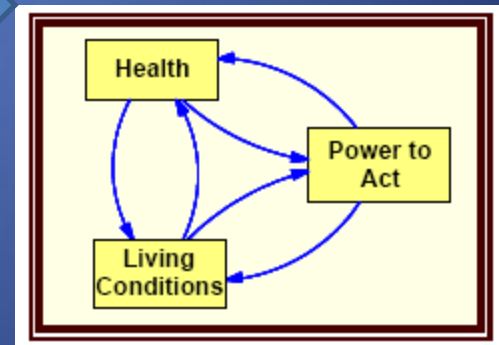
<http://www.avma.org/onehealth/>

ECOHEALTH

INTERNATIONAL ASSOCIATION FOR ECOLOGY & HEALTH

<http://ecohealth.net/>

Syndemics



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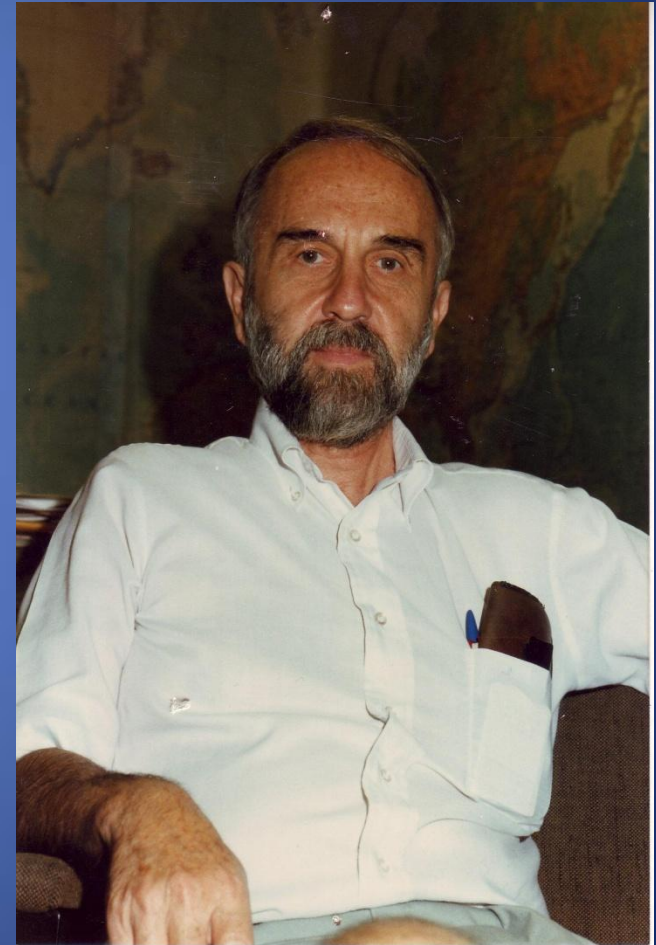
Global Health

„One Medicine“ and Calvin Schwabe, DVM, PhD Sudanese Dinka Pastoralists 1960s

Jakob Zinsstag

„There is no difference of paradigm between human and veterinary medicine. Both sciences share a common body of knowledge in anatomy, physiology, pathology, on the origins of diseases in all species.“

Schwabe C. (1964, 1984 3rd Edition):
Veterinary Medicine and Human Health
Williams and Wilkins, Baltimore



One World, One Health



Shared Environments, Food, Health



<http://www.flickr.com/photos/tym/275160131/>



<http://www.flickr.com/photos/albinoflea/214719574/>



<http://www.flickr.com/photos/leniners/383990746/>



B. Buntain

...how does a One Health approach work?

One Health for One World: A Compendium of Case Studies

“Ecohealth” Resource File



<http://www.vwb-vsfc.ca/english/resources.shtml>

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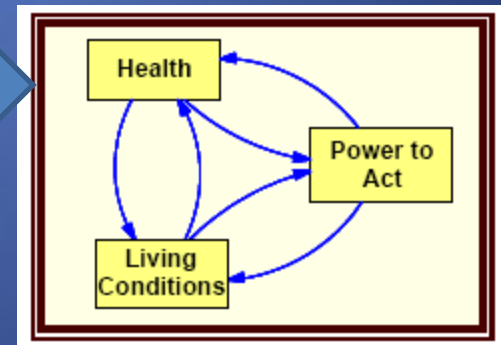
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Global Health

Global Health

Ecosystem and Public Health



- Water/air quality/land use issues
- Food safety/security
- Economics
- Climate change
- Zoo roles in society
- Zoonotic diseases
- Ecosystem dynamics
- Practical policy solutions
- Community engagement
- Animal-human connections
- Wildlife conservation
- Animal shelter services for society



Ecosystems and Health

- Sustainable strategies for improving health and livelihoods
- Environmental change, emerging and re-emerging diseases
- Resilient communities



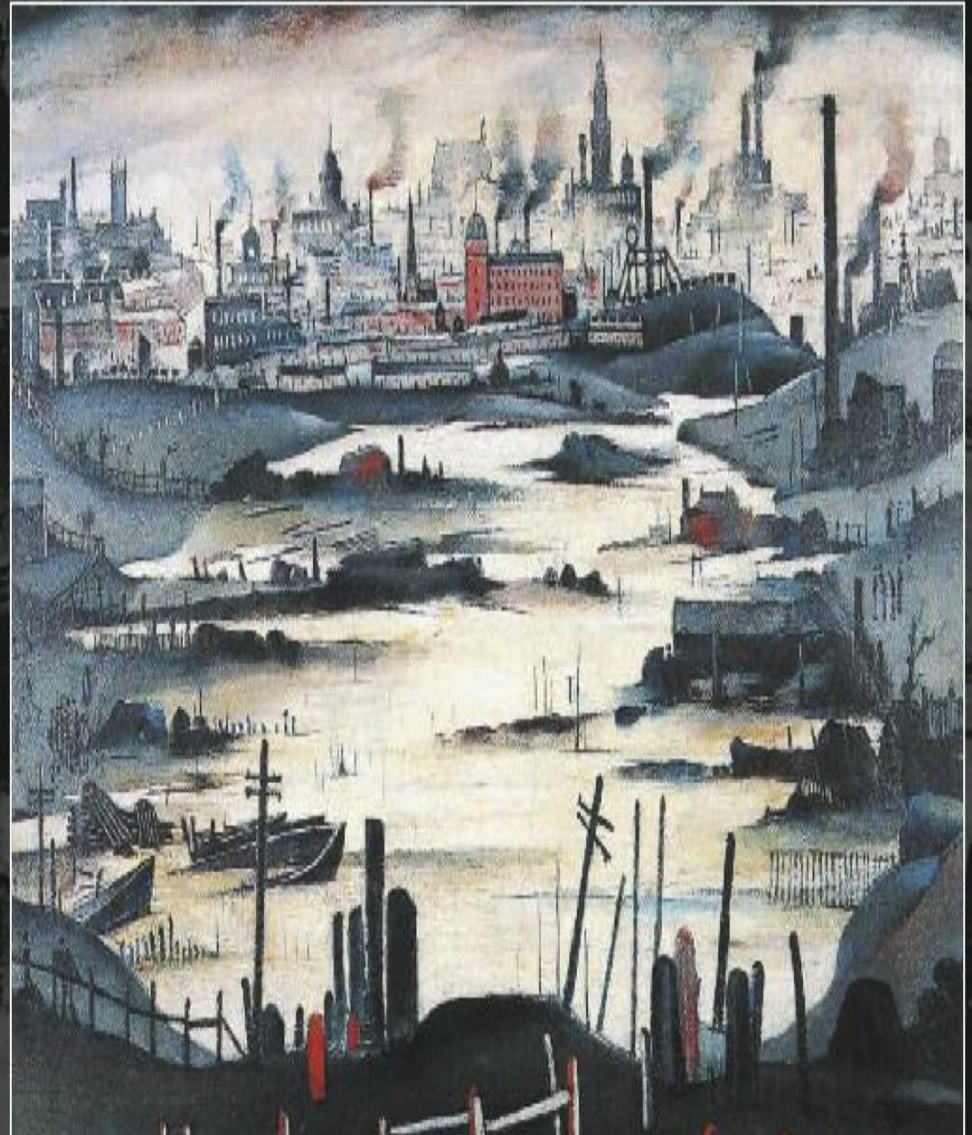
Northern Canada Program Principles (S. Kutz)

- One Health Approach-Collaborative and multi-disciplinary
 - Responds to an identified need
 - Integrates science and local knowledge – North/South link
 - Community engagement and support
- 
- A young child wearing a blue winter jacket and hood is sitting in a red sled on a snowy surface. The sled is filled with various supplies, including a box of 'Prof'Sick' medicine, a plastic bag, and other items. A yellow rope is attached to the sled, suggesting it is being pulled. The background shows a snowy landscape with a building in the distance.
- Graduate and youth education
 - Climate studies

EcoHealth Magazine:

- Health and sustainability challenges worldwide
- Human and veterinary medicine linkages
- Conservation concerns
- Ecosystem management
- Rural and Urban Development, Planning

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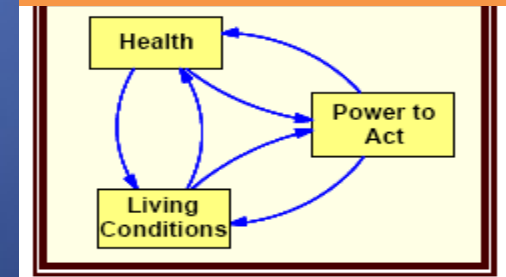


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*Social
Sciences
& Syndemics*



<http://www.cdc.gov/syndemics/index.htm>

Global Health

Viewing Through a Social Scientist's Lens



What the Social Scientists Say

To improve health, we must address what contributes to inequities:

Social-cultural

Psychological

Gender

Economic

Health Policies

Diseases follow a social gradient locally and globally

Social Determinants of Health



“We must close the health gap in a generation”
Commission on Social Determinants of Health, WHO

Social Determinants of Health

- Improve Daily Living Conditions
- Tackle the Inequitable Distribution of Power, Money and Resources
- Measure and Understand the Problem and Assess the Impact of Action
 - Monitoring, Research and Training

“We must close the health gap in a generation”

Commission on Social Determinants of Health, WHO

My Experiences - Social Conditions

Integrating Humanities and Medicine

Cultural Beliefs

- Maasai- Animal versus Human Disease



Gender Differential

- Women- Children: no access to health care w/o husband's consent

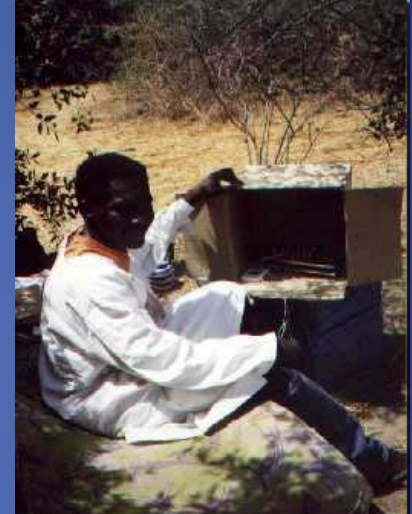


Jakob Zinsstag

Communities Are Important Participatory Stakeholder Meetings (Jakob Zinsstag)



Jakob Zinsstag: Integrating Social Scientists and Delivery of Veterinary and Human Health Services for Chad Pastoralists



Social Scientist's Discovery *Syndemics*

Diseases interact with each other and with social conditions to produce excess morbidity and mortality (Singer 2003)

There are few isolated (single) health problems in the world: locally and globally

CDC: Syndemics Prevention Network Website

Syndemics Related Issues

- Social ecology
- Health promotion
- Social epidemiology



We added:

- *Animal-human connections*



Social Science & Medicine

2009 Publication

Animal-human connections, “one health,” and the syndemic approach to prevention

Melanie Rock, Bonnie J Buntain, Jennifer M Hatfield, and
Benedikt Hallgrimsson

68 (2009) 991-995

Elsevier

“Animal-Human Syndemics”

“Two or more afflictions that interact synergistically within the context of specific physical and social environments, especially as a result of **inequality within and between human populations**, to produce excess disease burdens in a **human** population, and **animal** population, **or multiple** such populations.” (Rock, et al, 2009)

Syndemics Prevention Orientation

Mycobacterium bovis in Hispanics, CA

Syndemic approach to prevention would emphasize human-animal connections, multiple diseases, all in relation to the social, cultural, economic and physical environments

M. bovis + HIV/AIDS + *Campylobacter* + social conditions + health inequalities = higher prevalence, morbidity and mortality

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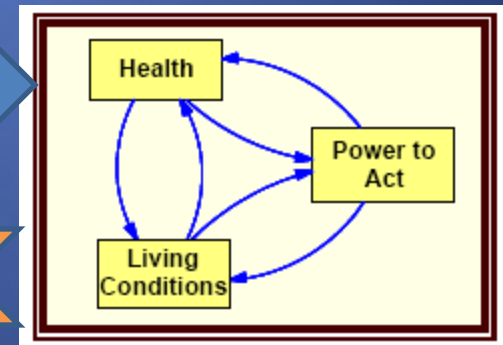


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Global Health Research

Diana Bryer
“Gaia’s Angel”





“Global Health provides a platform allowing researchers to address their responsibilities for social accountability at home and abroad” Dr. Jennifer Hatfield, Associate Dean, Global Health and International Partnerships, Faculty of Medicine, U of Calgary, Canada ; also- Canadian Coalition for Global Health Research

Defining Global Health

Goal: achieving equity in health for all

- ✓ Emphasizes transnational health issues, determinants, and solutions
- ✓ Promotes inter-disciplinary collaboration
- ✓ Synthesizes population-based prevention with individual-level clinical health care

(Koplan, et al., 2009)

*Preventing the global spread of diseases by
establishing the root causes of health disparities*

Global Health Foundational Principle

Vulnerable populations in our own country share levels of poverty and inequitable health care with developing countries



Global is Local

Micro-Financing Programs

From Developing Countries

To the USA: 1 in 7 in Poverty*



BENGALI
CAFÉ,
Mass

<http://www.accionusa.org/home/small-business-loans/about-us/meet-our-clients.aspx/d=412>

http://www.microloanfoundation.org.uk/What-we-do/What_our_clients_say.aspx

*<http://www.csmonitor.com/USA/Society/2010/0916/>

Global Health Competencies

- Animal and public health systems
- Syndemic approach to prevention
- Capacity building and sharing
- Community engagement skills
- Knowledge translation and translating research into action
- Cultural competencies
- Ethical and professional conduct

Global Health Research Competencies

“Defining features of the practice of global health research: an examination of 14 global health research teams”

Craig Stephen and Ibrahim Daibes

Global Health Action 2010,

3:5188- DOI:10.3402/gha.v3i0.5188

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<http://creativecommons.org/>

Examples- GHR Funded Programs



Primary
Prevention of Ill
Health Through
Sound Land
Use- South
America

Increasing Capacity to Achieve Millennium
Development Goal #6: combating
infectious Diseases- Central America



Veterinary Public Health as Part of the
Global Response to Emerging Diseases-
South Asia



Public and
Environmental
Health
Interactions in
Food and
Water-borne
Illnesses-
Caribbean



Global Health Research Competencies

14 Canadian-Funded Teams (Craig, Daibes)

Main domains of features shared

- Excellence in research
- Long-term visions and time frames
- Focus on implementation
- Partnerships- not parallel, isolated projects
- Ethical foundation
- Skilled people

Global Health Research Competencies

14 Canadian-Funded Teams (Craig, Daibes)

Core competencies were a blend of those needed for:

- Biomedical sciences
 - Human and animal
- Health promotion
- Population health
- Sustainable development
- System sciences



Photo: VetAid



Bowl and Fruit Jonathan Melton
Google Images

Global health research requires
new funding models that foster
long term collaborations and
trans-disciplinary teams



Equitable Health Promotion Team



“While there are differences in emphasis among the organizations espousing one name or another, the underlying premise – that the health of people, wild and domestic animals, and ecosystems – *share a common fate.*”



Health for All

We are truly connected
in today's world

Local *is* global

Our social responsibility
is to achieve *equitable*
access to *animal and*
human health care
and ensure a
sustainable world



**The End of the Tale
Thank You!**

