Animal-Human Syndemics and Socially Responsible Global Health Research

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

Syndemics
http://www.cdc.gov/syndemics/index.htm

Global Health
http://ecohealth.net/
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„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 origines of diseases in all species.“

One World, One Health

Ecosystem Health
Terrestrial and Aquatic Animal Health
Human Health
Wildlife 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-vsf.ca/english/resources.shtml
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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 multidisciplinary
- Responds to an identified need
- Integrates science and local knowledge – North/South link
- Community engagement and support

- 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

http://ecohealth.net/
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EcoHealth
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One Health
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Social Sciences & Syndemics
http://www.cdc.gov/syndemics/index.htm
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

http://www.who.int/social_determinants/en/
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

http://www.who.int/social_determinants/en/
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*
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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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


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
Open Access @ Creative Commons
http://creativecommons.org/
Examples- GHR Funded Programs

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

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

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

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

Leadership in Veterinary Public Health (VPH) for Preparedness and Response to Highly Pathogenic Avian Influenza (HPAI)

By K.D. Apyapala

http://www.flickr.com/photos/tim_dejager/4908366394/sizes/z/in/photostream/
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
Global health research requires new funding models that foster long term collaborations and trans-disciplinary teams.
Equitable Health Promotion Team

- Psychology
- Sociology
- Geography & Mapping
- Anthropology
- Nutrition
- Communication Sciences
- Ethnobotany Plant Sciences
- Human Medicine
- Public and Population Health
- Veterinary Medicine
- Animal Sciences
- Economics
- Human Medicine
- Biomedical-Bioinformatics
- Public Planning & Policy Governance
- Ecological Sciences
- Social Sciences
- EQUITABLE HEALTH for ALL

Adapted from Rock, Buntain, Hatfield, Hallgrimsson
“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

L. King; M. Pappaioanou
The End of the Tale
Thank You!