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Protecting People Protecting Agriculture Protecting Wildlife

Integrative Approaches to Disease Control:

The Value of International Collaborations

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OIE Global Conference on Wildlife
Animal Health and Biodiversity – Preparing for the Future
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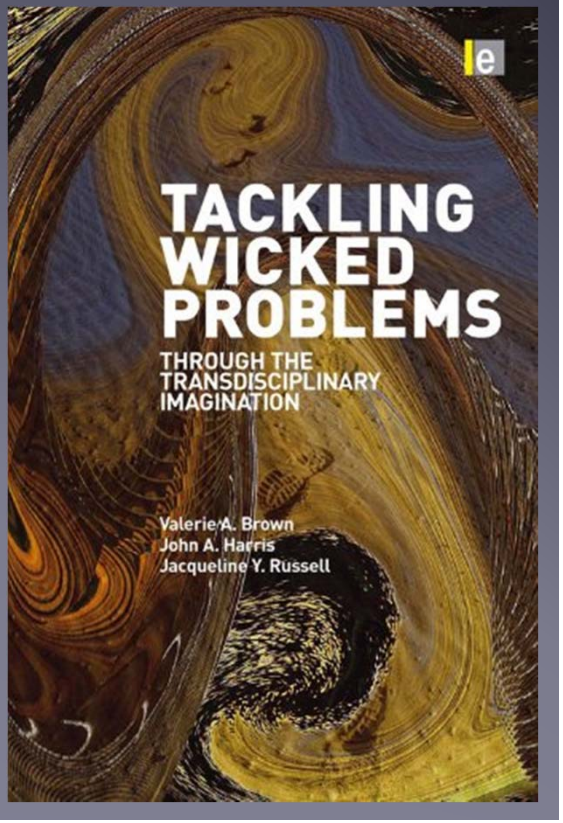
Complex Problems

- Societal Problems Increasingly complex
  - Not isolated to particular sectors or disciplines
  - Not predictable
  - Emergent phenomena with nonlinear dynamics
  - Have
    - Positive and negative feedback to causes
    - Uncertainties continue to arise
    - Unexpected results occur



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Complex Problems

- Many Environmental Issues
  - Climate change
  - Maintenance of biodiversity
  - Pollution
  - One Health
- Global Characteristics

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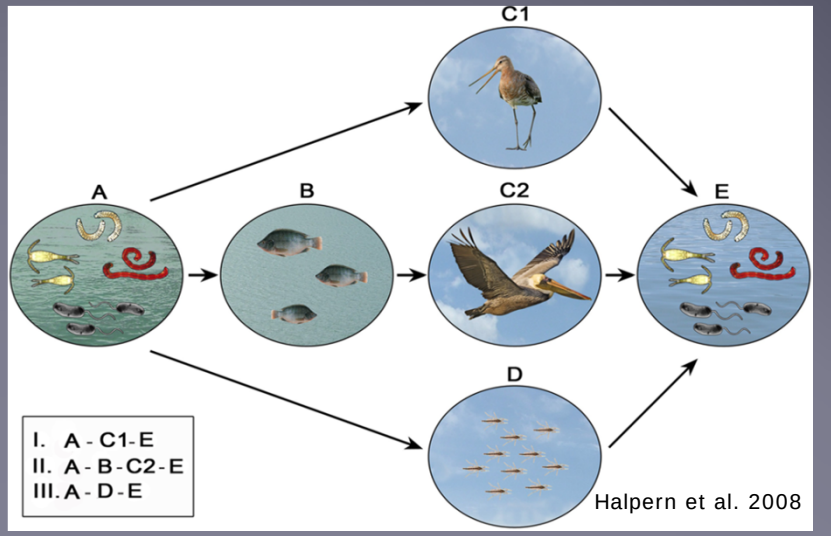
One Health Issues

- Comprise Several Sub-Problems
  - Different disciplines and social sectors
- Variations in the Preference and Values of Decision Makers and Stakeholders over attributes
  - Qualitative
  - Quantitative
  - Economic

Possible courses for dissemination of Cholera



Halpern et al. 2008

Collaboration

- Difficult on Complex issues
- Barriers to Success
  - Philosophical
  - Government policies
  - Poor facilitation
  - Project scope
  - Inadequate leadership
  - Methodological boundaries
  - Duplication of effort

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Keys to Successful Collaboration

- Purpose, Vision, and Goal Setting
- Policy Level Support
- Communication
- Information Exchange
  - Policy
  - Technical
  - Education
- Participation of Stakeholders

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Keys to Successful Collaboration

- Relationship/Team Building
  - Trust
  - Respect for different perspectives
- Effective Leadership
- Adequate Support
  - Political
  - Financial
  - Infrastructure
  - Time

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Avenues for Collaboration

- Intra-Region Information Network
  - Regional symposia
  - Strengthen intra-region linkages

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Avenues for Collaboration

- Focus on Building/Enhancing Agencies

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Avenues for Collaboration

- Develop Communication Tools and Training

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Avenues for Collaboration

- Develop Roster of Regional Expertise

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Avenues for Collaboration

- Foster Holistic Approach

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Focus Collaborations

- Science and Tools to Make Informed Decisions

Focus Collaborations

- Harness Diversity of Different Institutions/Agencies

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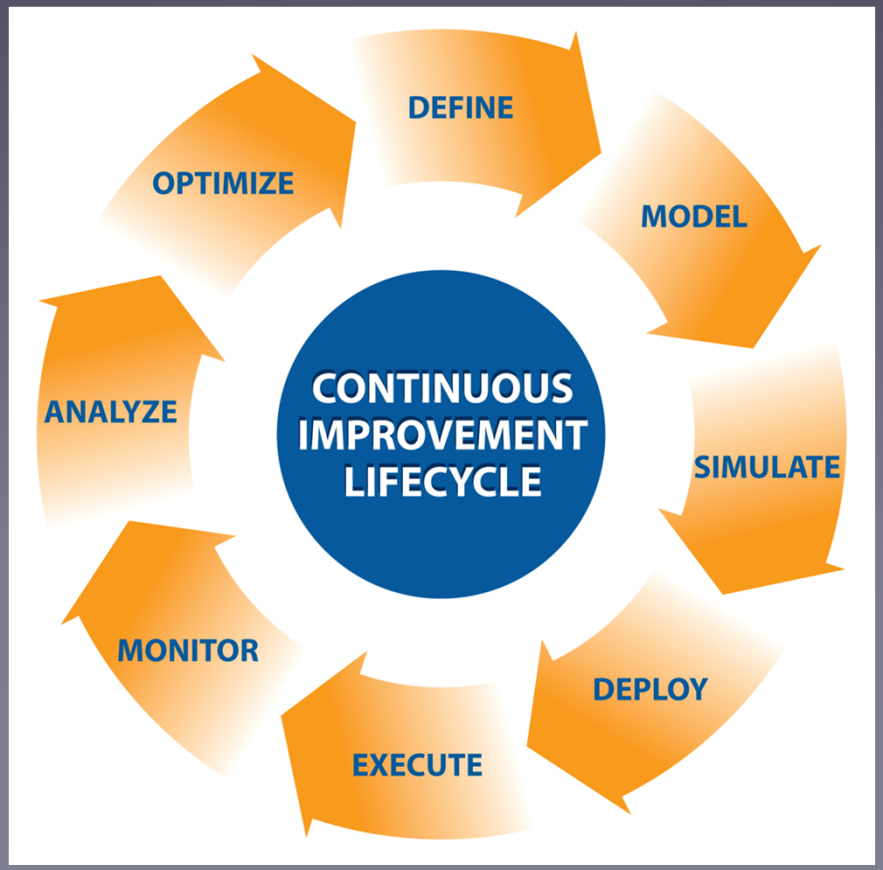
Focus Collaboration

- Process More Important than Short-Term Products



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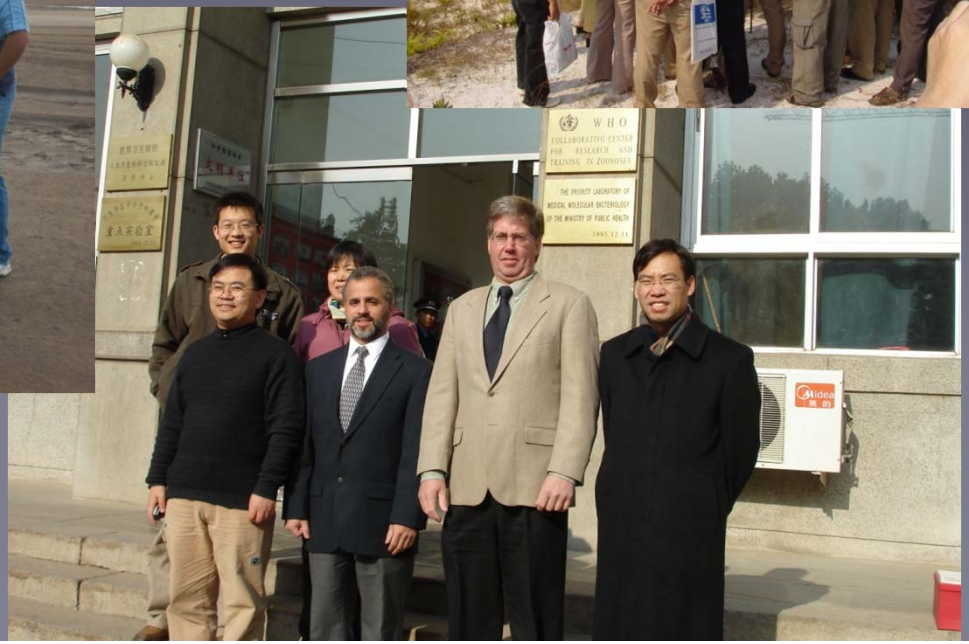
Focus Collaborations

- Start-Up Teams



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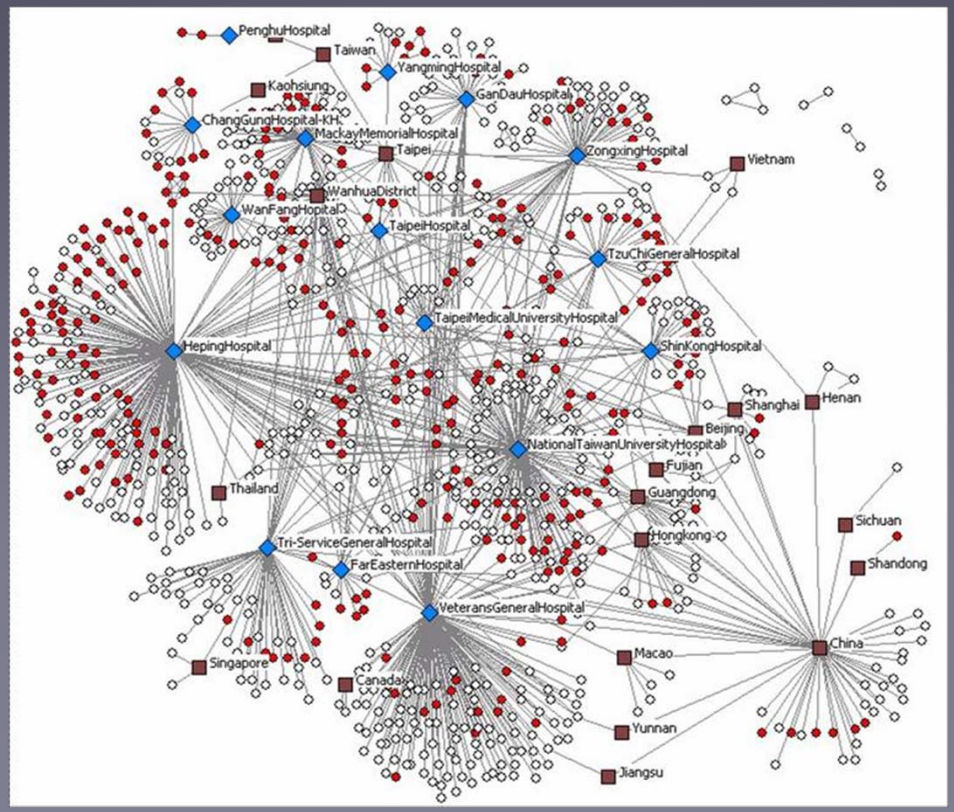
Focus Collaboration

- Creating Network of Networks



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Network Theory

- International Collaboration
  - Emergent, Self-Organizing System
  - Selection of Partners and Location of Investigation Through Individual Scientists

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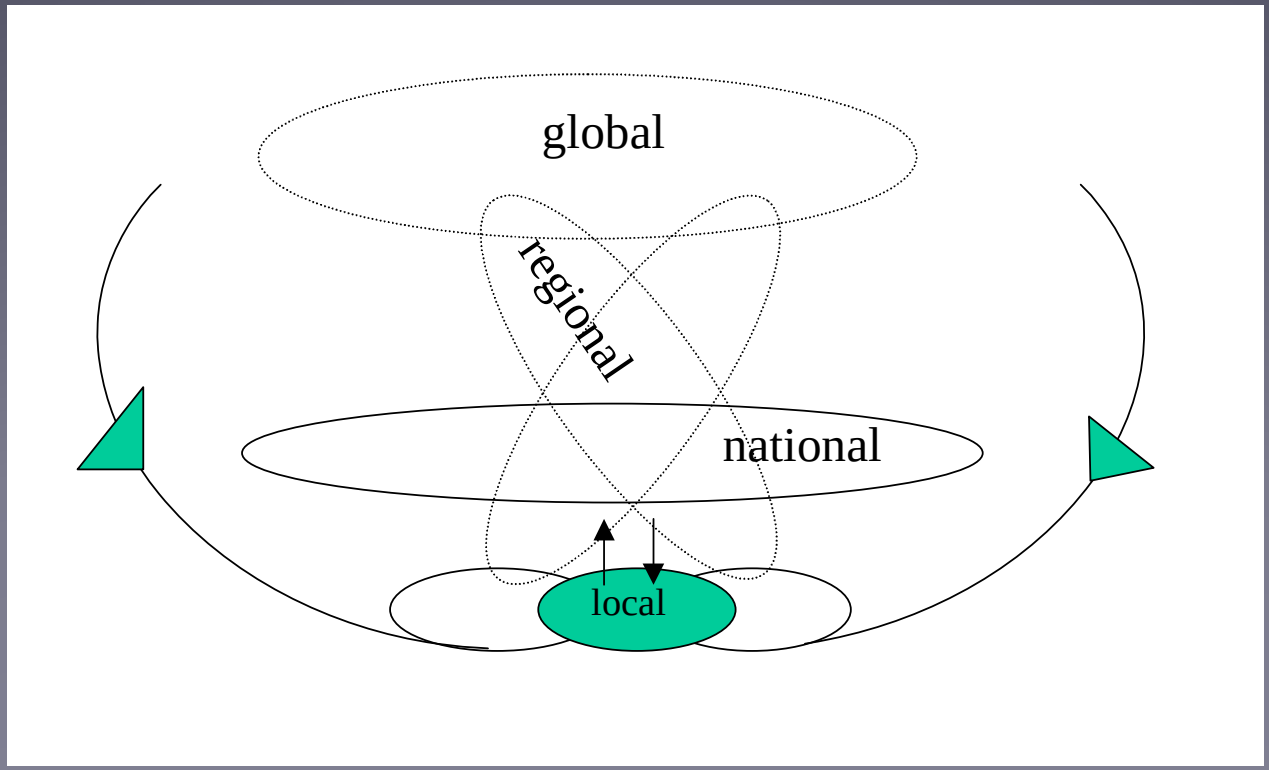
Network Theory

- Multidisciplinary Approach

Network Theory

- Interdisciplinary Collaborations

A Schematic view of Interdisciplinary collaborations operating at different levels



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The Future of International Collaborations

- Multidisciplinary
- Interdisciplinary
- Transdisciplinary

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Transdisciplinary Collaboration

- Recognition that complex problems:
  - Open and ill-defined
  - Reality not reducible to a single dimension
  - Common ground/comprehensive understanding are not derived from an ideal model
  - Investigation and problem solving is multilevel
  - A new dialogue of science and humanities required

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Summary

- One Health and Biodiversity Issues are Global and Complex
  - Require International Collaboration
    - Must overcome numerous barriers
    - Focus on keys to success
    - Develop networks of scientists, decision makers, social scientists
    - Facilitated by governments and international organizations

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Summary

- Must Move Toward Transdisciplinary Collaborations

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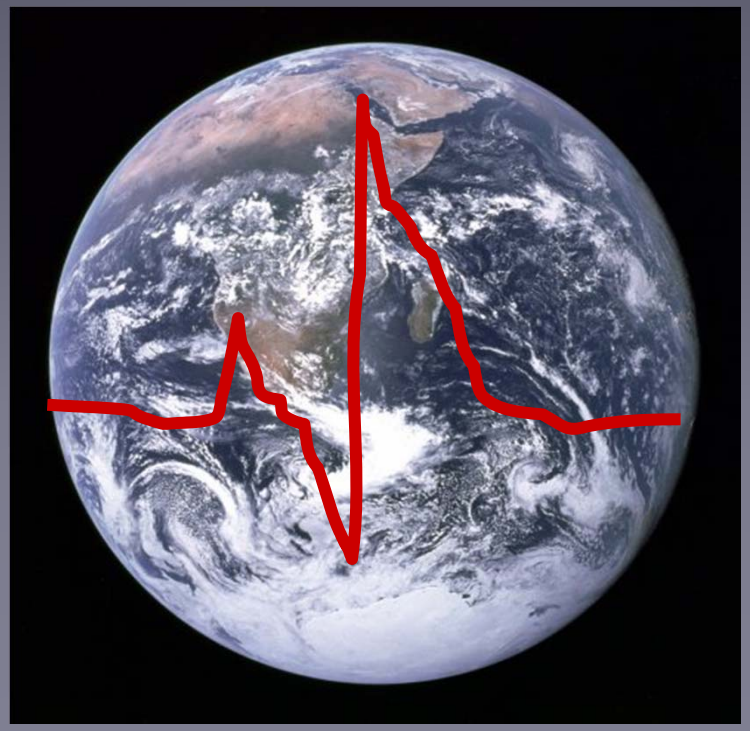
ONE HEALTH

MERGING ECOYSTEM, ANIMAL, AND HUMAN HEALTH