EXPLORING THE ECONOMIC CONCEPTS BEHIND ONE-HEALTH: WHAT CAN WE LEARN FROM IPM?

AARES 2016: 60th Annual Conference of the Australian Agricultural and Resource Economics Society

David Adamson
ARC DECRA Fellow
UQ
Outline

- What is one-health
- Objective
- Issues & economic problems
- What can we learn from IPM
- Summary
One-Health Concept

• One-health provides a system based approach to understand how health issues between humans, wildlife and domesticated animals are intrinsically linked, with an aim to gain efficiency from public and private health expenditure.

• Starting to include flora and wider ecosystems:
  • Use the same treatments (antibiotics)
  • Nutrition

• Still a relatively new concept but it needs some rigour
Disaggregated Health System

- Traditionally treat all these issues as separate and each has an institution looking after their interest group

- Each institution
  - Creates (often) different rules and regulation (domestic)
  - Fit into international rules and regulations

- Increasing concern (real or otherwise) about private and public expenditure on issues that cross the divide
  - Ebola
  - Antimicrobial resistance
  - Food safety and food security
Economic Definition

The objective of one-health approach is to obtain a better health outcome for society

- **Society** *(Welfare)*
  - Humans, Ecosystems, Production systems, Companion animals

- **Outcome** *(Metrics)*
  - Health (quality and term)
  - Expenditure (allocation, efficiency of use, ethically & equality)
  - Operational environment (regulations)
  - Scale and scope

- **Prove that market failure exists (or social opportunity costs of not considering a systems approach)**
With the Economic Problem Defined

- Can determine the appropriate tools to use from our economic tool box
  - Logically we can use all of them to inform policy

- Also use these tools to determine if this is a rent seeking exercise
  - The funding pots sizes are different

- But need to take lessons from closely aligned issues to prevent stumbling into the same problems
  - Lessons from Integrated Pest Management (IPM)
IPM

• Been around for 60+ years

• Like one-health multiple definitions

• But basically designed to improve the outcomes from pest control by understanding the system

• Economics has an equally long history in this area but…
But..

- clear, but case-specific, definitions in the numerous theoretical and applied works, which advocate its many virtues, the practical meaning of the ‘I’ in the much used acronym has become a matter of contention. It rarely represents true ‘integration’, usually at best symbolises ‘improved’, and in some circumstances might be somewhat cynically defined as ‘incidental’ to pest management (Zalucki et al., 2009)

- This is the challenge for One-Health, how can the concept overcome the inevitable cynical reference
Key Lessons for One-Health

Need to understand the costs and benefits of issues

- Preventative Management
- Residual Eradication (special case)
- Containment Emerging

The alternative interest groups involved

- who infects whom
- who pays between groups (and/or private v public)
- resistance management
- Developed v developing

Incomplete data sets to tell the welfare story but

- Amount spent on human health dominates
Key lessons for One-Health

• Gulf between the concepts and the actual analytics

• Top ranked economic journals discourage multiple issues

• Needs a strong policy narrative to stitch the range of examples together
Top-Down

- Policy is used to shift private demand and supply curves towards social supply and demand curves

- Frames the legal and social boundaries for private action

- Policy influences
  - Increases prices
  - Regulations (reduce choice)
  - Provides funds
    - Reduces direct costs
    - Reduces indirect costs

- Need to get the story right
Policy Problems

• Domestic level of risk deemed acceptable
  • Human, trade, environment

• International market access

• Cost subsidisation of existing, exotics, new threats
  • Moving towards a user-pays in some cases

• But really operating in a data vacuum at (inter)national scale
  • Little real data on Benefits and Costs
  • Even worse time series
Summary

• One-health (and associated names) could really do with looking around and seeing what already exists
  • Little point in re-inventing the wheel

• Real and emerging problems impacting on private and public costs

• Profession we have an inside edge to helping solve these issues.