INTRODUCTION TO ONE HEALTH (AND PLANETARY HEALTH)

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One Health and Planetary Health

- **One Health**
  - integrated effort of multiple disciplines to achieve optimal health for human, animal and environment

- **Planetary Health**
  - health of human civilisation and state of natural systems on which it depends
Context
Societal, cultural and ecological influences

Goal(s)
eg public health, economic security, social stability, animal and environmental health

Institutional context
- Animal and human health service
  - Patterns, provision and access
  - Regulation and governance

Livestock production

Disease emergence

Animals
Humans
Environment
Antibiotic Residue Pathways in Ecosystems

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HUMAN BEHAVIOUR AND ZOONOTIC DISEASE

Poultry and Avian Influenza
Growth of Meat Consumption
1961 to 2025

Data source: FAOSTAT and OECD
Spatial Distribution of HPAI H5N1 in S & SE Asia since 2010

AI data source: FAO Empres-i

Updated from:
Pfeiffer et al 2007 - The Veterinary Journal

Data source: FAO Empres-i
Network Analysis of Poultry Trade in Northern Vietnam

From: Magalhaes et al 2010 - BMC Vet Research
Free Grazing Duck Flocks in Mekong Delta of Vietnam

Source: A Meyer, T Vergne
Role of Fighting Cocks?

- common throughout South-East Asia
- cultural significance
- organised fighting cock industry, including breeders
  - official gambling industry
- informal cock fighting
  - most rural households involved
  - fighting cocks recruited from backyard chickens
  - less controlled by authorities
Chicken Transaction Chain: Example of Business Relations (Cash, Chickens and Credit) in Chittagong, Bangladesh

From: Høg et al submitted
Explaining Practices associated with Chicken Slaughter at Live Bird Markets in Chittagong, Bangladesh

- habituation
  - current practices have become habituated
- lack of self-risk perception
  - most workers see no risk
- necessity
  - workers have no occupational alternative
- confidence
  - bare handed approach is a tactic of risk avoidance to conciliate consumers

From: Høg et al submitted
HPAIV H5N1 Transmission in S & SE-Asia

adapted from V. Martin, FAO-AGA
Factors influencing Effectiveness of Risk Management

Social, economic and political factors:
- availability of resources
- legislation, governance
- variation of values within society
- stakeholder acceptance

Risk Management:
- policy measures
- uncertainty

Science:
- scientific knowledge

Policy impact
Global Chicken Meat Trade Network (Top 25% Importers in 2013)

From: FAOSTAT
Ambient Density of Human Population in Megacities

FROM: URBANAGE.LSECITIES.NET
Conclusions

- Eco-social systems changing rapidly
  - Increasing urbanisation
  - Increasing demand for food, including meat
- Need to better understand
  - Socio-economic and anthropological drivers of zoonotic disease risk
    - Food trade networks
    - Biosecurity behaviour along value chains
- Need to develop cost-effective surveillance and control policies based on inter- and transdisciplinary approaches
  - Improved monitoring and management of national and international trade
  - Need to effectively influence human behaviour along food value chains
THANK YOU VERY MUCH