Integrating approaches to animal, human and plant health: UK perspective

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Why integrated approaches?

- BTWC MXP WP.5 (Indonesia and Norway)
  - ‘Animal and plant health are considered as important global public health goods, and essential for food safety and security… human health cannot be considered in isolation from animal and plant health’

Opportunities for coordination
- Human/animal/plant
- Surveillance/detection/diagnosis/containment
Examples of UK national approaches

- Human/animal health
  - Zoonoses: Human Animal Infections and Risks Surveillance group
    - multi-agency, cross-disciplinary horizon scanning group
    - identifies emerging, potentially zoonotic infections that may pose a threat to UK public health
    - includes relevant infections in monthly summary
    - circulated to relevant Government departments and agencies
Examples of UK national approaches

- Human/animal health
  - Technology Strategy Board: Detection & Identification of Infectious Agents Innovation Platform
    - Aims to produce new rapid diagnostic tests and devices for detection and identification of infectious agents in both humans and animals
Examples of UK national approaches

- Human/animal/plant health
  - The Biochip Project
    - developing diagnostic microarrays as a routine diagnostic and surveillance tool for viral diseases
    - exploits resources and expertise across agriculture and health
    - covering viruses of plants, fish and animals, including zoonotic viruses
    - exploits the clear synergies between plant, animal and clinical virology
    - desired output: multiple target assay (600+ viruses) made available to government agencies as a usable tool
International Cooperation and Assistance

Options for coordination on human, animal and plant health

- Addressing each aspect in overarching programmes
  - UK Biological Non-Proliferation Programme: e.g. cooperation between UK and recipient’s Institutes in human, animal or plant health

- Combining relevant activities, e.g. workshops, training
  - Joint events involving participants from public and veterinary health

- Combined projects
  - Addressing aspects that cover more than one sector (human/animal; human/animal/plant)
Linkages between human and animal health

- UK WP.3 MXP 2009
  - views on priorities for promoting capacity building

- Emphasised importance of One World – One Health initiative
  - envisaging a strategic global framework for reducing risks of infectious diseases at the animal–human–ecosystems interface

- Royal Society Report: ‘One Medicine’ approach
  - interplay between human and veterinary medicine
  - utilising common knowledge and expertise to provide insights into medicine
  - highlights potential benefits and challenges associated with integrated approach
Foresight Project: Detection and Identification of Infectious Diseases

- **Aim:** to produce a challenging and long-term vision for the detection and identification of infectious diseases in plants, animals and humans

- **Objectives:**
  - to take a broad look across plants, animals and humans
  - to consider international as well as national issues
  - to look 10-25 years into the future
  - to build upon the best work by others in this area
Foresight Project: Detection and Identification of Infectious Diseases

- **Reviews of future science**
  - form the building blocks for new innovative detection, identification and monitoring systems

- **Analysis of future threats of infectious diseases**
  - define requirements for future detection, identification and monitoring systems

- **Analysis of societal contexts**
  - different systems of culture and governance and local systems of belief and attitudes

- **Evaluation of future detection, identification and monitoring systems**

- **Action Plan**
  - by key stakeholders around the world
Foresight Project: Detection and Identification of Infectious Diseases

- Report produced in April 2006
- Progress Report in May 2007
- Further progress in Foresight 2008 Review (April 2009)
- Action plan commitments
  - UK Government departments and agencies
  - Research Councils
  - Trade Association
  - IGOs (WHO, OIE, FAO)
  - International Potato Center
Some resulting developments

- **Southern African Centre for Infectious Disease Surveillance Networks (SACIDS)**
  - links 25 human & animal health institutions (Tanzania, Kenya, Zambia, Democratic Republic of Congo, Mozambique, South Africa)
  - has attracted seed funding from international donors
  - to harness innovation in S&T to improve capacity to detect, identify and monitor infectious diseases of humans, animals and plants in the region

- **FAO**
  - Foresight gave impetus to development of a Crisis Management Centre
    - covers animal disease, plant pest and food safety crises
    - coherent coordinated strategy and approach
Some resulting developments

International Potato Center

- Feasibility exercise: developing diagnostic capacity in sub-Saharan Africa for plant and animal (including zoonotic) diseases
  - along with key UK agencies (Fera, VLA) and commercial diagnostic companies
- Roadmap for the development of a diagnostic network for plant health in SSA

UK, e.g.

- Technology Strategy Board’s Detection & Identification of Infectious Agents Innovation Platform
- Defra Biochip Project
Conclusions

- Need a more sustained, pro-active and integrated approach to international surveillance for infectious diseases of humans, animals and plants
  - including rapid identification of new threats

- Build effective and sustainable partnerships between developed and developing countries
  - help provide infrastructure, technologies and skills to support infectious disease control activities

- Encourage development and deployment of new tools and technologies for surveillance, detection, diagnosis and containment of infectious diseases in humans, animals and plants
Conclusions

- Need interdisciplinary approach
  - incorporating traditional biomedical science with economics, social sciences, demographics and agricultural science
- BTWC
  - capacity building in infectious disease control contributes to enhancing effectiveness
  - work in this context can act as an additional catalyst to other international efforts
- Meaningful progress is only possible with sustained commitment from governments, non-governmental organisations, industry and the international community
  - only by working together can sustainable improvements in combating infectious diseases be achieved