



Canadian Food
Inspection Agency

Agence canadienne
d'inspection des aliments

Canadian Food Inspection Agency



Our vision:

To excel as a science-based regulator, trusted and respected by Canadians and the international community.

Our mission:

Dedicated to safeguarding food, animals and plants, which enhances the health and well-being of Canada's people, environment and economy.

Zoonoses: The Animal/Human Interface

***Evolving Veterinary Education For A Safer World
World Organisation for Animal Health***

Paris, France

October 12 – 14, 2009

Canada

Presentation Overview

- D.V.M.s are.....
- Convergence of Animal and Human Health is Not A New Concept or Challenge
- What Has Changed?
- Current Reality
- Consequence Management At The Interface
- Critical Competencies
- The Students Get It!

D.V.M.'s Are.....

- Doctors of Veterinary Medicine (DVMs) and as a result...
- Doctors of Very Many Species (DVMs) and as a result...
- Doctors of Very Many Situations (DVMs) and as a result...
- Determiners of Very Many Scenarios (DVMs)



Convergence of human and animal health is not a new concept

- Edward Jenner's Inquiry -
Jenner observed that patients who had previously had cowpox were immune to smallpox - this led to the discovery of the small pox vaccine

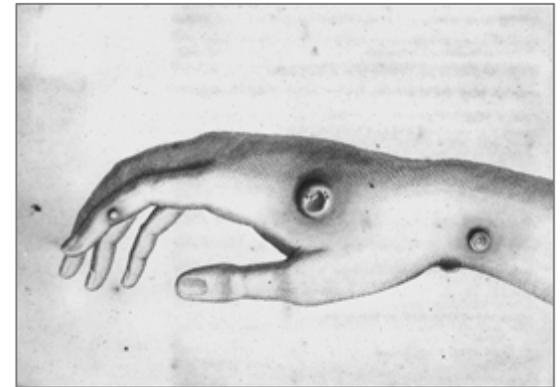
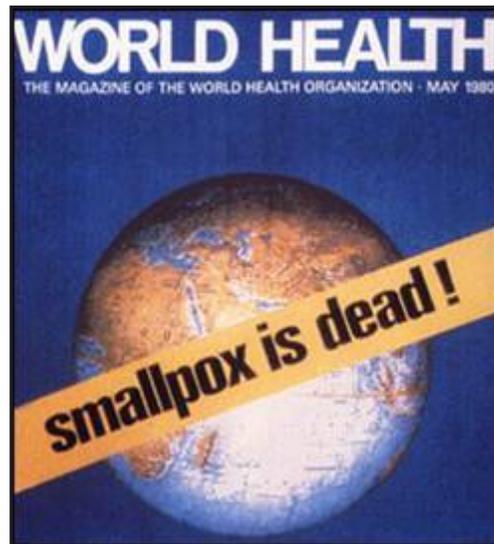


Fig. 1. Cowpox lesions on the hand of Sarah Nelmes, from Jenner's *Inquiry*. Material from one of these lesions was used to 'vaccinate' James Phipps on May 14, 1796

Nipah Virus



The Convergence of Animal and Human Health is Not A New Concept

- **60% of all human pathogens are zoonotic**
- **80% of animal pathogens are multi-host pathogens**
- **75% of emerging infectious diseases are zoonotic**
- **Bacterial, viral, parasitic, fungal, prion**



The Convergence of Animal and Human Health Is Not New Concept

- From Acariasis and Anthrax to West Nile and Yersinia over 250 zoonoses documented
- Transmission may be in either direction
- Transmission pathways well defined
 - Aerosol
 - Direct
 - Fomites
 - Oral
 - Vector
- Not limited to any one animal population
 - Companion animals
 - Livestock
 - Laboratory
 - Wildlife
 - Aquatic

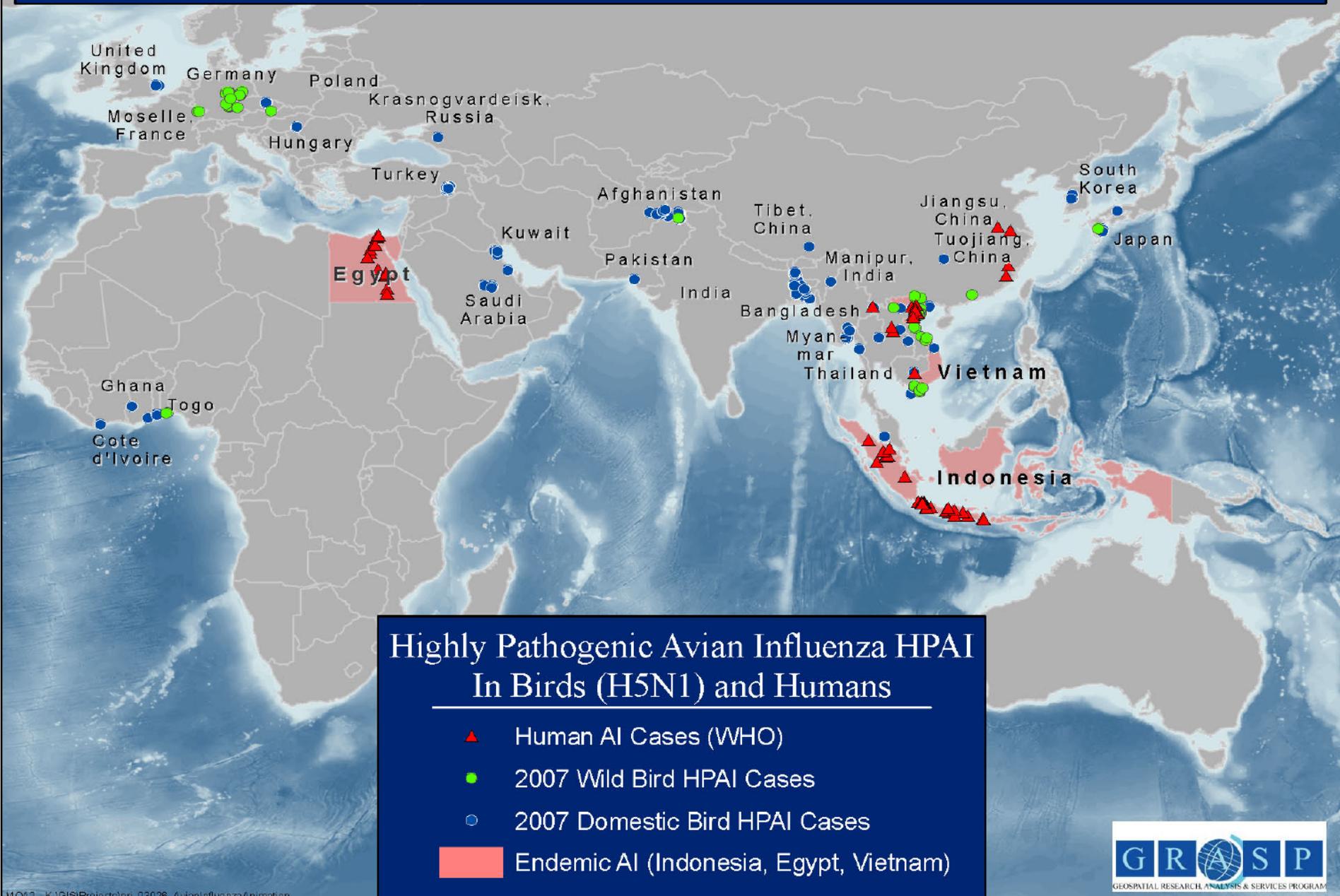


Current Reality

- Estimated 70,000 people get salmonellosis from contact with reptiles in the U.S. each year
- Over 150 people die every day from rabies
- Last month eighty-nine people in the United Kingdom contracted e. coli following a visit to a petting zoo
- Report of resistance to Tamiflu in Japan
- Pandemic H1N1 2009 in swine and turkeys (victims or vectors?)
- Consequences of water supply contamination with giardia, cryptosporidium, campylobacter, e. coli.....
- Food borne zoonoses versus food security
- Bioterrorism



2007 Cumulative HPAI Confirmed Cases (OIE) and WHO Confirmed H5N1 Human Cases





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So What Has Changed?

- Globalization of trade and travel
- Number and variety of companion animals kept as pets
- Demographics of animal based food production systems
- Population concentration and susceptibility
- Population encroachment
- Eco-system degradation
- Environmental and climate change
- Pathogen adaptation



Consequence Management At The Interface

- Need for expanded and enhanced partnerships
- Need for a changed dialogue and relationship with animal owners and with the public
- Occupational health and safety
- Personal protection
- Biosecurity and biocontainment
- Food handling and preparation
- Health is more than the absence of disease
- Vulnerable population determination and precautions
- One Health: A New Professional Imperative



Critical Competencies

- Comparative medicine health professional
- Lateral thinking
- Problem solving vs dilemma management
- Communication and leadership skills
- Facilitators of knowledge transfer
- Promoters of bio-security and biocontainment
- Catalysts for ecosystem health and sustainable food production
- Part of a community of health professionals that supports animal, owner, family and society
- Emergency medicine
- Ethics of prevention, detection, reporting, treatment



The Students Get It!

Students Get First-hand Insight into Public Health at the Centers for Disease Control and Prevention

Earlier in 2008, 23 DVM students and 8 faculty members from the Canadian veterinary colleges, accompanied by representatives from the Canadian Food Inspection Agency (CFIA) and the Public Health Agency of Canada (PHAC), travelled to Atlanta, Georgia to attend the "CDC Vet Students Day." The 1-day event, hosted by the Centers for Disease Control and Prevention (CDC) and the American Association of Veterinary Medical Colleges (AAVMC), introduced the students to the CDC's mission of prevention and preparedness, and to the exciting fields of public health and epidemiology.

Participants were welcomed at a pre-event evening reception when the Canadian students had the opportunity to mingle and network with over 300 other North American veterinary students and faculty members. Early the next morning, participants were housed at the CDC campus where they cleared security and started the day by conducting a mock laboratory test and completing a brief computer survey on the foods they had eaten at the previous evening's reception. They were then given the results on whether they were one of the unlucky victims of a mock foodborne illness outbreak, which affected many a hungry

Les étudiants se familiarisent avec la santé publique aux Centers for Disease Control and Prevention

Plus tôt en 2008, 23 étudiants en médecine vétérinaire et huit professeurs de collèges canadiens de médecine vétérinaire, accompagnés de représentants de l'Agence canadienne d'inspection des aliments (ACIA) et de l'Agence de santé publique du Canada (ASPC), se sont rendus à Atlanta, en Géorgie, pour participer à la journée «CDC Vet Student Days». Cette activité d'un jour, organisée par les Centers for Disease Control and Prevention (CDC) et l'American Association of Veterinary Medical Colleges (AAVMC), a introduit les étudiants à la mission de prévention et de mesure d'urgence des CDC et aux domaines fascinants de la santé publique et de l'épidémiologie.

Les participants ont été accueillis lors d'une réception la veille de la tenue de l'événement où les étudiants canadiens ont eu l'occasion de faire des rencontres et de réseauter avec plus de 300 autres étudiants en médecine vétérinaire et professeurs de l'Amérique du Nord. Le lendemain matin, les participants ont été transportés en autobus jusqu'au campus des CDC où ils ont franchi le contrôle de sécurité et entamé la journée en réalisant une simulation de test de laboratoire et en réalisant un bref sondage informatique sur les aliments qu'ils avaient consommés



148

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Neither the atmosphere that protects us or the ecosystem that nurtures us are segmented by national or discipline boundaries.

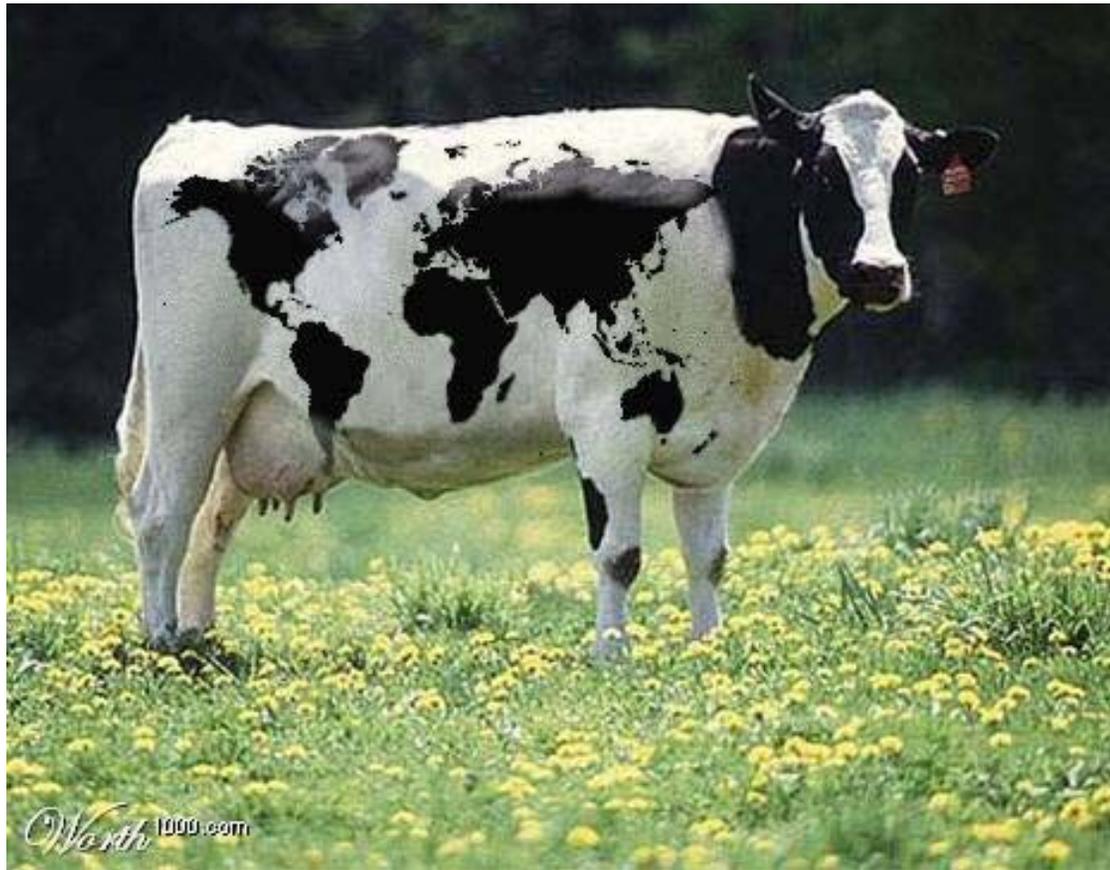


Risk transfer **is not** risk management. Similarly
consequence transfer **is not** consequence
management.



The practice of veterinary medicine is a public good founded on the strength of societal relevance.





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