Beyond James Herriot….

… where the Animal Health Act fits in

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The Species problem – one animal among many
But things get more complicated with changing environments and contacts

“One Medicine”
And the connections become even more complicated
The human – animal – environment interface in Ontario

(40% of the people and 40% of livestock in Canada in a relatively small strip of land)
Pathogens that cross-species

Early warning of more risk to people

- Most emerging diseases in people
- 60% of all 1461 human diseases
- 5 of top 6 bioterrorism threats
Influenza

Small outbreaks of “swine flu” and “bird flu” have occurred in Ontario.

Flu is out there…
Get your free vaccine…
Practice biosecurity…
When diseases emerge – knowledge is imperfect – changing mosquito vectors in WNV
A few other themes ….

Everyone is connected – “instant karma” often gets me.
Yet many are disconnected (from farm, food, wildlife, environment, risk).
For many people risk is black and white – full on or full off and everything is an “emergency”.
OMAFRA needs to show “we are on it”

Bugs and drugs don’t respect legislative boundaries – you need many tools in the toolbox – regulatory and non-regulatory including prevention.
Nipah virus emerged in Malaysia and interrupted trade – some of our colleagues went to help out
Riding Mountain National Park – wildlife movement – ranges extend as climate, urban pressure and food sources change.
Think in exponential terms

Schematic Diagram: Principles of Disease Spread

However this is an unreal academic model....

Courtesy Bruce McNab
Modelling can indicate how the complexity of disease spread can grow due to:
-super spreaders or hubs
-there are infected premises you do not know about yet;
-airborne spread?
-wildlife and insect vectors changing?
ALL these affect the emergency management approach

Figure courtesy Bruce McNab
But things get complicated…

…when you hit a super-supperner.

Seen in FMD, BSE, CWD, Johnes, Flu, E.coli, SARS, And many other infectious agents

Figure courtesy Bruce McNab
Model disease spread like these neural networks. See the super spreader?
Modelling can indicate how the complexity of disease spread can grow due to:
- super spreaders or hubs
- there are infected premises you do not know about yet;
- airborne spread?
- wildlife and insect vectors changing?
ALL these affect the emergency management approach
More than a theory…
Below to display (or remove) the zone from the map below

SIMULATED  Security Zone SIMULATED
(yellow area on map)
Multiple levels of government and others involved. All doing the right thing - But is it my response or yours?
My Response or Yours?
Public Health + Feds + Industry + Municipal + Province

Incident command goes a long way towards fixing this situation.
Climate Change...animal health/biodiversity is involved...especially erratic swings in weather
A tragedy that began as an animal health and weather event

Courtesy of Dr. Carlton Gyles
You just never know what comes next....
Why are MRSA epidemics mostly in the developed world?

The medicines file is always one that needs work.
Our work needs to be aware of some unexpected contacts.
Animal health and welfare issues just keep on coming – calls for a robust system

So many species…
So little time.
Working in public health, animal health and welfare…, When we do a good job – nothing much happens.

- Preventing the problem: $1
- Correcting the problem: $10
- Dealing with failure: $100
New Threats Demand New Partnerships

Emergency Management

Public Health

Animal Health
ANIMAL HEALTH STRATEGY

Legislation

Prevention
Early Detection
Response
OMAFRA Animal Health Strategy – fitting it all together

Prevention and Preparedness and Planning

Growing Forward – Biosecurity
Stakeholder Partners
Veterinary extension work
Simulations with partners
Training

Early Detection

Animal Health Laboratory – U of G
Animal Health Strategic Investment
Animal Health Act
Veterinarians
“Soft” regulatory approaches

Response

Partnership, collaboration, stakeholder engagement,
policy development, infrastructure
risk assessment, continuous improvement
Animal Health Act - Context

• In 2010 the Animal Health Act came into force.
• And two regulations are listed and will come into effect January 2013:
  – a regulation for the reporting of hazards (labs and vets)
  – a regulation for compensation – (producers)
• OMAFRA can better respond to animal health events and emergencies and support the economic viability of the livestock and poultry industry.
Animal Health Act – more context

• All animal species – non human
• Over 118 hazards and diseases notifiable by laboratories
• Veterinary reporting of unusual findings
• Chief Veterinarian for Ontario directs responses
• All reports are triaged by veterinarians
• Responses guided by risk assessment
• Responses usually “soft” regulatory approach coordinated by Incident Command concept
Risk Assessment Process to Determine Appropriate Response

- Inspect
- Outreach & Communications
- Triage & Risk Assessment Process
- Reports to Chief Veterinarian for Ontario
- All Hazards

- ~20 AHA responses
- ~700 reports
- ~1 million lab tests
Reporting by Veterinarians

• Innovative part of the reporting regulation.
• Unusual findings reported by veterinarians while engaged in the practice of veterinary medicine.

• Detection of potentially serious animal, human or food safety risks.

• Hopefully also capture new and emerging diseases of public interest.
Office of the Chief Veterinarian (Dr. Greg Douglas)

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Definitely the end…Questions?