

One Health in NSW

Human and animal health sector management of zoonoses of public health significance

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Industry &
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Health

Zoonoses

- Infectious diseases transmissible from vertebrate animals to humans
 - caused by viruses, bacteria, parasites
 - occur in livestock, wildlife, companion animals
disease-specific animal hosts
- Zoonoses of public health significance
 - require coordinated planning and response by human/animal health sectors
 - defined endemic/exotic zoonoses notifiable
nationally and/or within NSW, by either/both sectors
- People especially at risk of zoonotic disease
veterinarians/veterinary staff, wildlife officers, zoo keepers, farmers, shooters, abattoir workers, animal carers, pet owners

Management of zoonotic disease in NSW

Aims

- rapid detection and integrated inter-sector response to known and emerging zoonoses
- ensure interests of each sector are addressed

Strategies

Prevention and preparedness

Detection and notification

Analysis

Response

Prevention & preparedness – inter-sector linkage

National and NSW zoonoses policies and procedures mutually agreed through human/animal health linkages

Australian Government

- animal health representative on DoHA committees
eg CDNA, PHLN, NAMAC
- human health representative on DAFF committees
eg CCEAD

NSW Government

- Human/Animal Health Working Group
DoH, I&I, FA
- Wildlife Biosecurity Group
I&I, DoH, DECCW, AWHN, ARWH

Roles and responsibilities

	Human health - NSW Health	Animal health livestock and companion animals
State	coordination of state-wide infectious disease surveillance, response, policy	
	Department of Health Communicable Diseases Branch (CDB)	Industry and Investment NSW (I&I) Primary Industry Division
Local	detection, response to local disease, liaison with local stakeholders, inter-sector liaison	
	Public Health Units (PHUs) linked with Local Health Networks	Veterinarians in Livestock Health & Pest Authorities (LHPAs), and I&I

	Other agencies
Food-borne disease	NSW Food Authority (in I&I)
Wildlife and zoos	Department of Environment, Climate Change & Water Australian Wildlife Health Network Australian Registry of Wildlife Health
Occupational health	WorkCover NSW

Prevention & preparedness

- Whole of government and human/animal health sector national/NSW plans for managing human/animal health emergencies including zoonotic disease
- Disease-specific plans, policies, guidelines, factsheets targeted to appropriate audiences
- Plans
 - include measures to mitigate transmission
 - infection control, biosecurity, immunisation
 - tested in periodic national and NSW joint sector exercises
 - eg Eleusis, Hippolytus (avian influenza), Cumpston (pandemic influenza)
 - used in recent emergencies
 - eg pH1N1 2009 in humans and swine, equine influenza

Detection and notification

	Human health	Animal health
Detection	<ul style="list-style-type: none"> • clinicians • laboratories 	<ul style="list-style-type: none"> • agricultural / other animal workers • veterinarians in LHPAs, I&I, private practice, industry, education • laboratories
	additional syndromic surveillance - PHREDSS	syndromic surveillance not currently available
Notification	<p>to NSW Health - entered into NCIMS by PHUs</p> <p>then nationally – reported daily to DoHA NNDSS</p>	<p>to I&I NSW</p> <p>then nationally - reported quarterly to NAHIS</p>
	PHUs report zoonotic incidents of state-wide or animal health significance to CDB, liaison with I&I	I&I report zoonotic incidents of human health significance to CDB

Analysis of zoonoses notifications

	Human health	Animal health
Notification database	<p>NCIMS</p> <p>NSW database for notifiable conditions</p>	<p>BioSirt</p> <p>national livestock outbreak management system</p> <p>also used in some states for on-farm animal health events</p>
	<p>includes</p> <ul style="list-style-type: none"> • geomapping capability • electronic laboratory reporting • outbreak response 	<p>includes</p> <ul style="list-style-type: none"> • geomapping capability • link to other data bases eg LIMS, PIC, eWHIS
Analysis and Investigation	<p>at local, statewide, national levels - case report and risk assessment</p> <p>eg investigate case/contacts, site visits, workplace assessment, enhanced surveillance, laboratory characterisation of pathogen</p>	

Response

	Human health	Animal health
Procedures	Specific NSW response protocols per notifiable disease (include notification to I&I for zoonoses)	Defined national and jurisdictional procedures (include notification to human health for zoonoses)
	CDNA SoNGs for national common response eg ABLV, Hendra	Emergency Animal Disease (EAD) specific response in AUSVETPLAN
Response	Public health response per disease eg <ul style="list-style-type: none"> • disseminate information to cases/contacts • treatment or prophylaxis of cases/contacts 	For EAD ± convene specific CCEAD with human health representative
		Wildlife incident <ul style="list-style-type: none"> • may indicate known/unknown EID including zoonosis • WEIT may be convened by ACVO to support investigation

Recent NSW inter-sector responses to zoonoses

- Food borne Bacterial eg salmonellosis, listeria
 Cysticercus bovis
- Wildlife Psittacosis
 Australian Bat Lyssa virus
 possible EID eg magpie deaths
- Livestock Emergency Animal Diseases — Anthrax, pH1N1 2009
 Brucella suis
 Leptospirosis
- Companion Q fever
 animals Hydatidosis
- Zoos Tuberculosis

Outcomes of NSW One Health approach

Achievements

Improved infection control/biosecurity for veterinarians, animal carers following zoonotic disease incidents eg Hendra, Q Fever

Enhancements for consideration

- animal health sector
 - national real-time notification using BioSIRT
 - syndromic surveillance
- inter-sector data linkage for zoonoses
- align zoonosis notification
 - national/jurisdictional, within and between sectors
- arbovirus monitoring programs – share specimens between sectors

Conclusion

The integrated One Health approach by NSW human/animal health sectors

- is effective in management of zoonoses of public health significance
- ensures the different interests of each sector are addressed

Challenges

- rapid detection and response to zoonoses, particularly EIDs in wildlife
- increased community contact with a wider range of animals
 - eg petting zoos
- increasing zoonotic transmission of common infectious diseases
 - eg cMRSA

Acknowledgements

NSW Health

Communicable Diseases Branch

Public Health Units

Industry and Investment NSW

Primary Industries Division

NSW Food Authority

Livestock Health and Pest Authorities

Department of Environment, Climate Change and Water

Australian Wildlife Health Network

Australian Registry of Wildlife Health