

Veterinarians as important biosecurity information providers during the 2007 equine influenza outbreak in New South Wales, Australia



Source: NSW DPI

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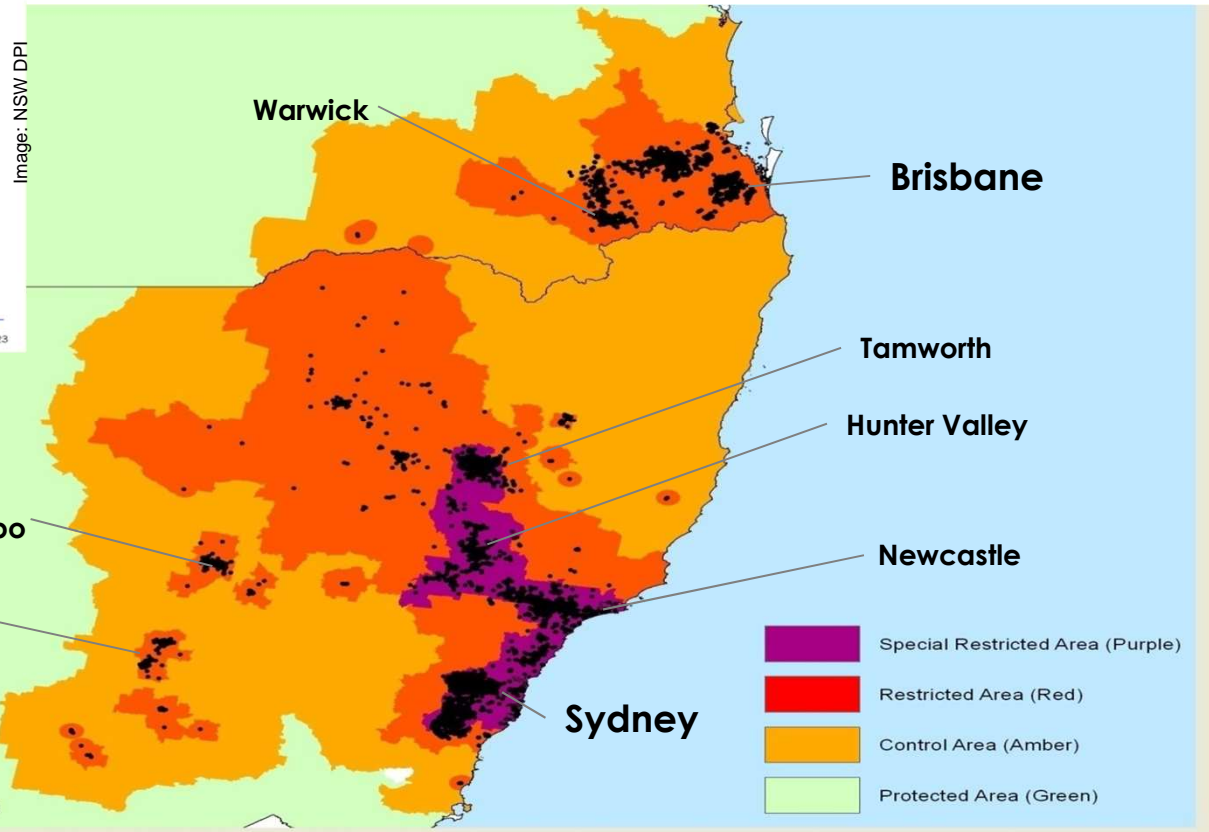
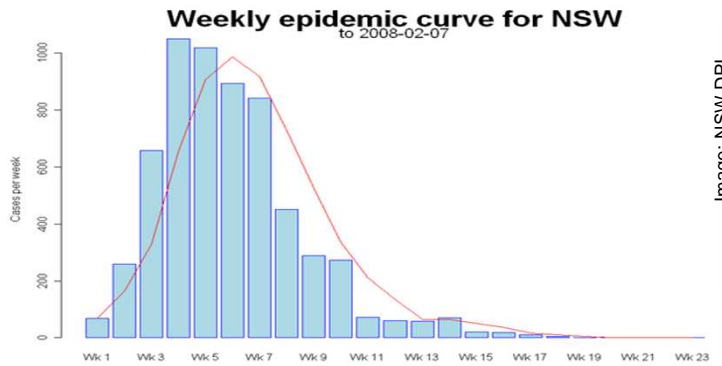
Farm Animal & Veterinary Public Health | Faculty of Veterinary Science



1st One Health Congress
14-16 February 2011



Background – The 2007 equine influenza outbreak



➤ Why are biosecurity information sources and perceptions important?

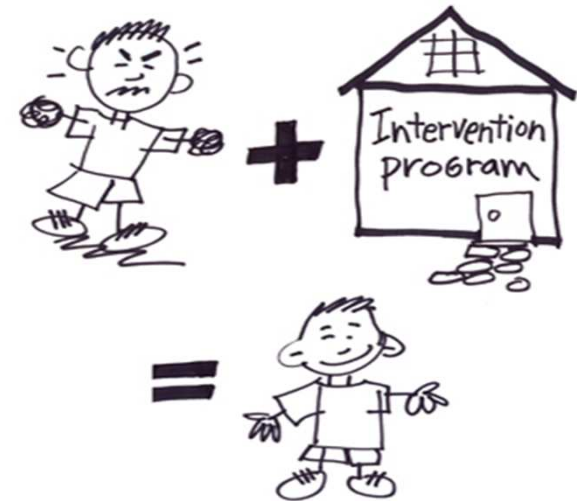
› Public health behaviour models:

Compliance with protective behaviours depending on perceptions (Bish, 2010)

➔ Extend to biosecurity behaviours

› Previous research:

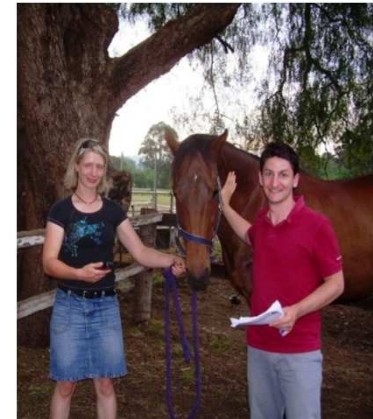
Perception of low biosecurity effectiveness associated with poor compliance.



AIM:

To investigate factors associated with perceptions of high biosecurity effectiveness following the 2007 equine influenza outbreak

- Randomised sampling using NSW DPI laboratory database as sampling frame
- Face to face interview, ~1 hour
- Timing: July- November 2009
- Participants: 200 Horse owners/ managers from the highly affected areas of NSW (red + purple zone)



- › Descriptive analyses
 - › Multivariable logistic regression analyses
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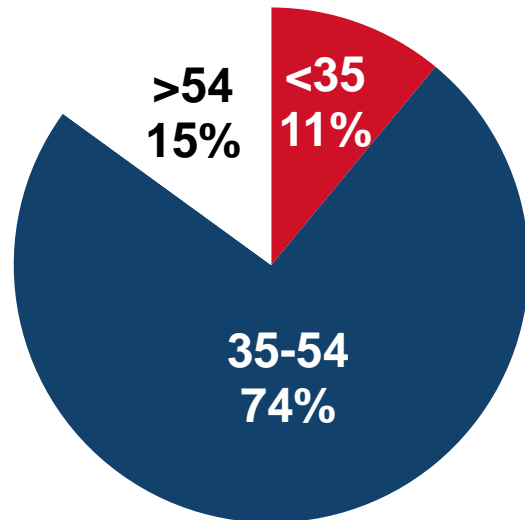
- › Binary outcome variable: Perception of biosecurity efficacy (high/ low). Based on 17-item question rating 17 infection control measures.

High = >50% of measures considered 'very effective'.

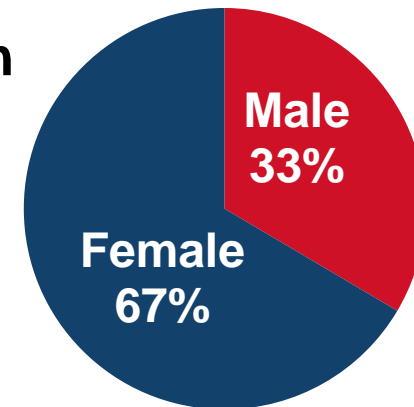
- › Explanatory variables: Biosecurity perceptions, Information sources, EI infection status, participants demographics and horse involvement
 - › Confounders included: age and gender of participants
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Descriptive results:

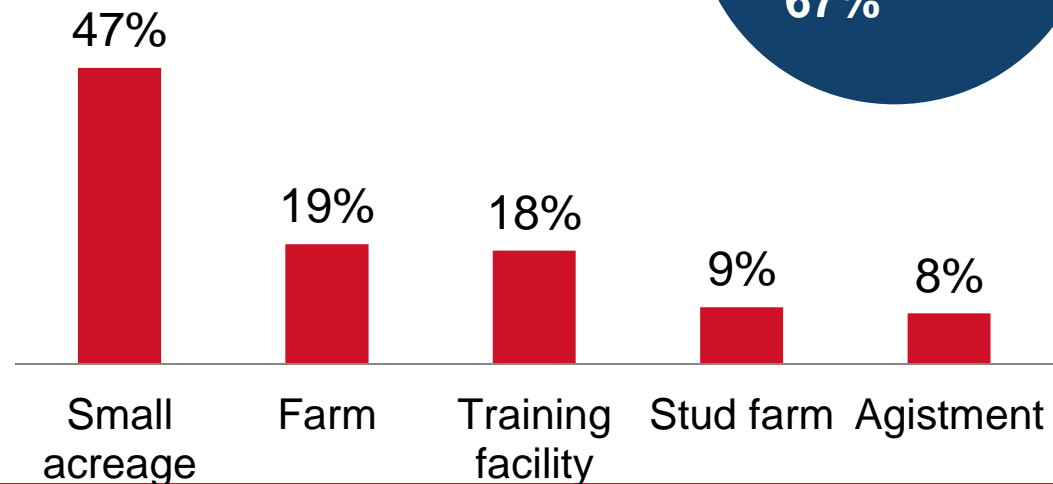
Age distribution (years)



Gender distribution



Premise type

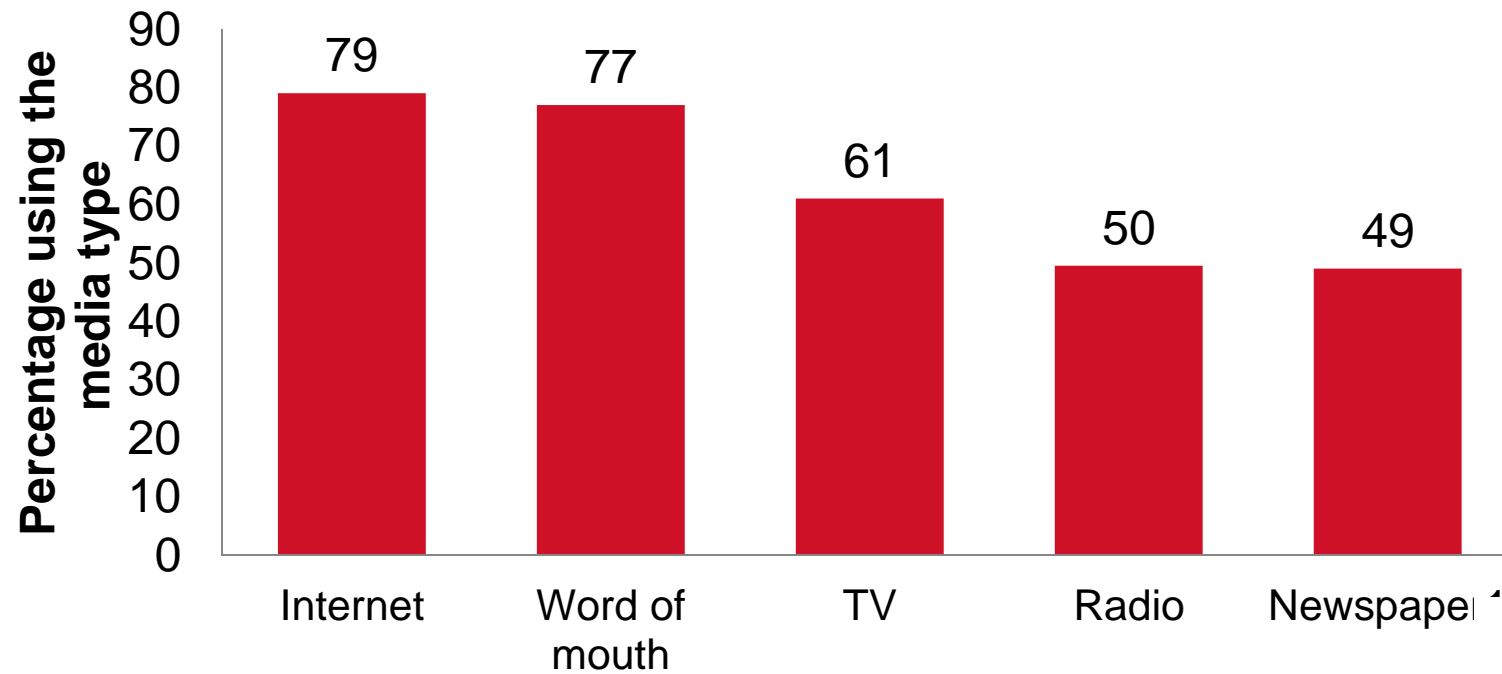


Biosecurity effectiveness perceptions:

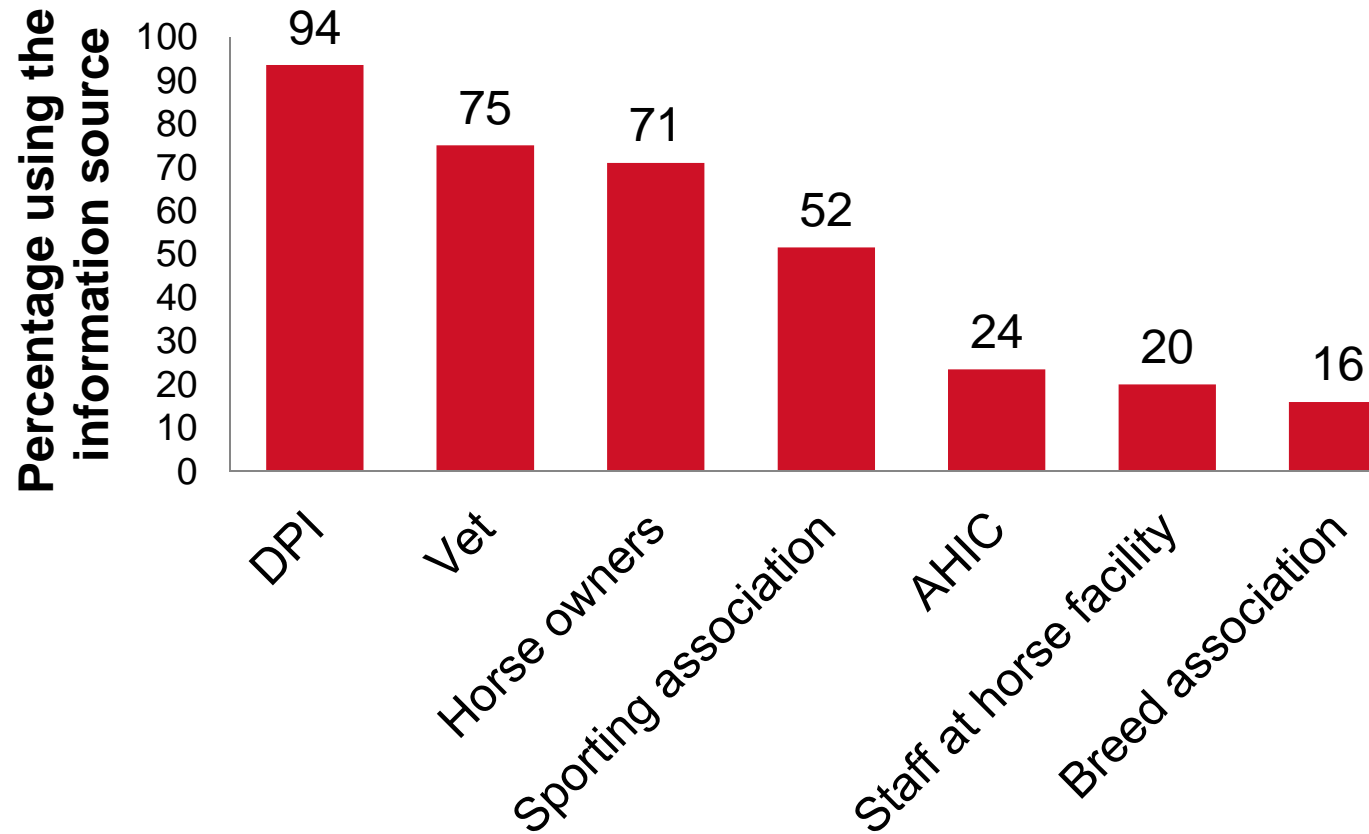
- Most (83%) perceived more than half of the recommended biosecurity measures as very effective.
- Most effective: Controlling who has access to horses, not sharing horse gear + reducing contact with other horses
- Least effective: Cleaning horse gear before use + showering on arrival at the property



Use of media to obtain information about controlling the spread of E1



Use of information sources to obtain information about controlling the spread of EI



Final multivariate logistic regression model results:

› No differences among genders and age groups.

› Property enterprise type:

Those on farms and at training centres were less likely to perceive that biosecurity measures are effective than those on small acreages.

› EI infection status:

Those whose horses had been infected with EI were less likely to deem measures effective.



Source: NZ MAF

Multivariate regression analysis results- continued:

- › Those receiving biosecurity info from a vet during 2007 EI were 5.5x more likely to think biosecurity was effective than those who did not receive information from a vet (95% CI: 2.2-13.7; $p < 0.001$).
- Vets are an important infection control information source

They also:

- Are widely used (75% in this study)
- Have existing relationships- trust
- Appear to be useful ‘Champions’



Conclusions:

- Majority (83%) perceived more than half of the recommended biosecurity measures to be very effective.
- Prior disease experience reduces perceived effectiveness of measures
- Differences among enterprise types
- Vets are an important infection control information source and should be considered for future biosecurity information delivery



Acknowledgements

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- › Initial data cleaning: Brendan Cowled - DAFF
- › We also gratefully acknowledge the time and cooperation of the 200 horse owners and managers interviewed.

