

Summary report: Outcomes of an audit of Hendra virus risk management in the veterinary industry 2010

Acknowledgement

WHSQ acknowledges the support of the key stakeholders and the valuable assistance provided by veterinarians at the audited veterinary clinics.

More information

Contact [Workplace Health and Safety Queensland](#) on 1300 362 128 for information about protecting against and managing Hendra virus risks in the workplace.

Contact [Biosecurity Queensland](#) on 13 25 23 for information about Hendra virus, animal health and biosecurity.

Contact [Queensland Health](#) on 13HEALTH (13 43 25 84) for information about Hendra virus and human health. Seek advice from a general practitioner, local hospital emergency department or local public health unit if you have concerns about possible exposure to Hendra virus.

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Introduction

The *National Occupational Health and Safety Strategy 2002–12* targets eight categories of occupational diseases, including work related infectious and parasitic diseases. To support this strategy, Workplace Health and Safety Queensland conducted an audit of Hendra virus risk management in the Queensland veterinary profession in 2010.

Hendra virus is an emerging occupational hazard for those who work with horses. The natural source of Hendra virus in nature is flying foxes.

Spill over of infection from flying foxes to horses occurs sporadically and exposes those who have close contact with infected horses, especially veterinarians and veterinary assistants, to the risk of serious illness and death.

Why have the compliance intervention?

The intervention was initiated in response to cases of Hendra virus infection among veterinary professionals in Queensland. The aim of the intervention was to obtain a snapshot of how the Queensland veterinary profession is managing Hendra virus risks, to identify barriers to effective risk management and to influence future industry strategies.

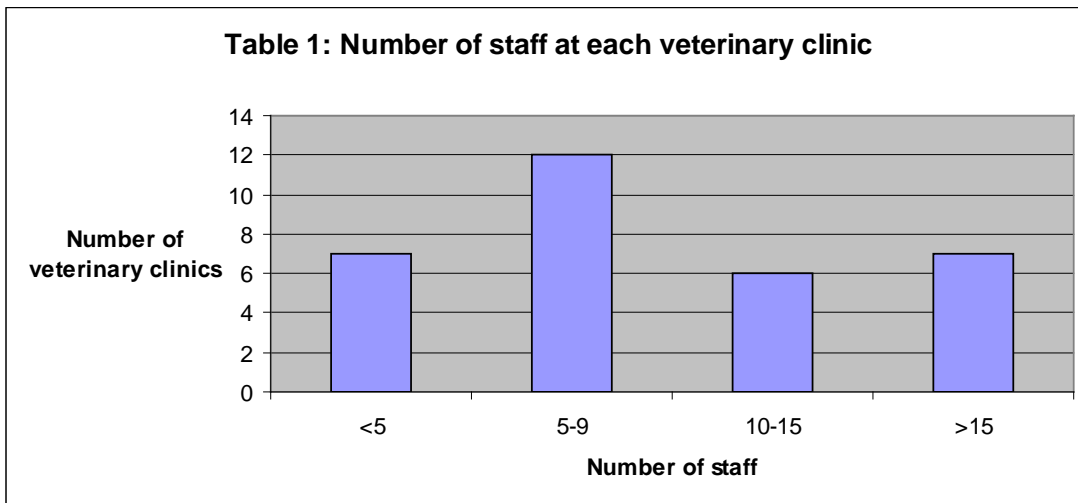
What did the intervention involve?

Workplace Health and Safety Queensland consulted with key stakeholders including the Australian Veterinary Association, Equine Veterinarians Australia, Biosecurity Queensland, Queensland Health and the Queensland Horse Council.

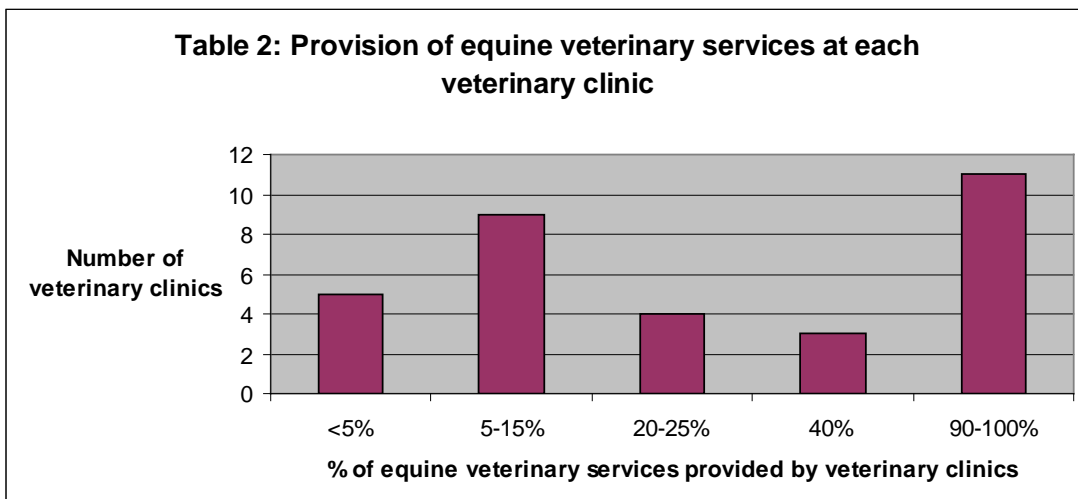
An audit checklist was developed using the workplace health and safety content of Biosecurity Queensland's veterinary guidelines for Hendra virus.¹

Between February and June 2010, Workplace Health and Safety Queensland inspectors visited 32 veterinary clinics across Queensland that provided equine veterinary services.

The number of staff at each clinic ranged from less than five to more than 15. The inspector completed the checklist and provided advice and resources to assist with Hendra virus risk management.



The percentage of equine veterinary services provided at each clinic varied from less than five per cent of the business to 90 to 100 per cent of the business.



What were the results of the intervention?

The results of the intervention highlighted the following key indicators of Hendra virus risk management.

Policies and procedures

- 22 clinics (68 per cent) had documented Hendra virus response plans and associated standard operating procedures available.

Triage system

- 27 clinics (84.4 per cent) had implemented a triage system to identify Hendra virus risk factors at the time of arranging an equine veterinary consultation.

Information, instruction and training

- 30 clinics employed workers. Of these, 20 clinics (66.6 per cent) provided workers with Hendra virus information, instruction and training.

Contact with healthy horses

- 31 clinics (96.9 per cent) had regular hand hygiene practices.
- 24 clinics (75 per cent) routinely used disposable gloves for contact with equine blood and body substances.
- 24 clinics (75 per cent) performed higher risk equine veterinary procedures (e.g. invasive procedures of the respiratory tract and necropsy). Of these, 13 clinics (40.6 per cent) routinely adopted recommended infection prevention and control practices¹ for higher risk procedures and three clinics (9.4 per cent) adopted recommended infection prevention and control practices only for equine dental procedures.

Contact with sick horses

- 19 clinics (59.4 per cent) routinely adopted recommended infection prevention and control practices¹ for examination of all sick horses; two clinics (6.3%) reported they were attempting to do this.
- 11 clinics (34.4 per cent) reported that the recommended infection prevention and control practices would only be adopted if a horse presented with fever and respiratory or neurological signs.

Contact with horses suspected or confirmed to be infected with Hendra virus

- 32 clinics (100 per cent) reported that recommended infection prevention and control practices¹ would be routinely adopted for contact with horses suspected or confirmed to have Hendra virus infection.

Personal protective equipment

- 26 clinics (81.2 per cent) had available the recommended personal protective equipment (PPE)¹ to protect against exposure to Hendra virus.
- 2 clinics (6.3 per cent) had incomplete recommended PPE available.
- 4 clinics (12.5 per cent) did not have the recommended PPE available.
- 9 clinics (28.1 per cent) did not have enough PPE for assisting people, or for more than one contact with a horse suspected or confirmed to have Hendra virus infection.
- 13 clinics (40.6 per cent) had training on the correct use of PPE
- 1 clinic (3.1 per cent) provided respirator fit testing
- 5 clinics (15.6 per cent) had veterinarians with facial hair, and this may have compromised the protection provided by respiratory protective equipment.

Client information

- 16 clinics (50 per cent) had a system to provide documented health and safety information to a client when testing a sick horse for Hendra virus infection.

Membership of a professional association

- 28 clinics (87.5 per cent) had veterinarians who were members of the Australian Veterinary Association.

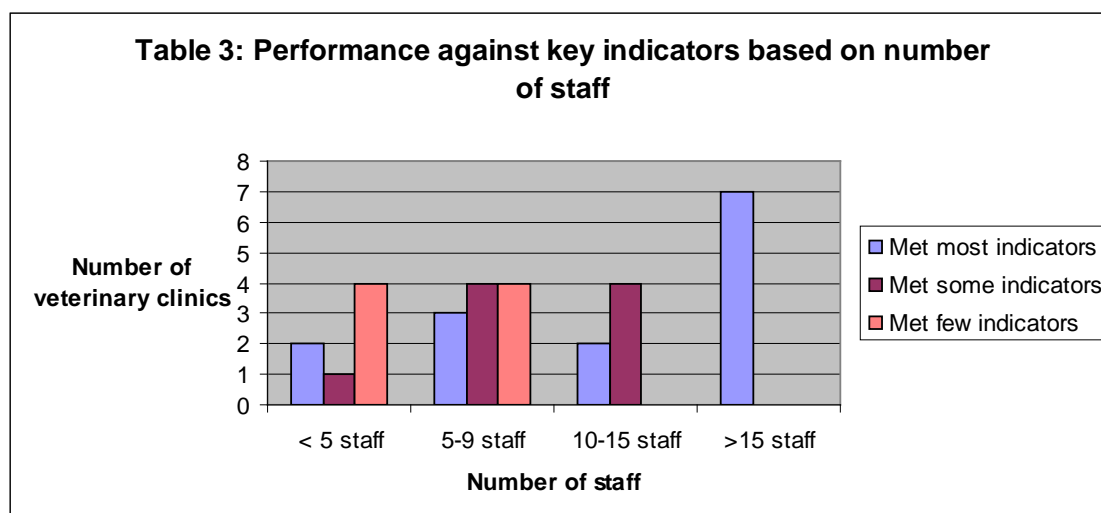
Barriers to risk management

The following barriers to Hendra virus risk management were identified:

- PPE issues, including cost, time, client reaction, and safety concerns such as heat stress, reduced peripheral vision and 'spooking' horses.
- Time required to document policies, procedures and training records.
- Difficulty in changing established infection prevention and control practices.
- Limited availability of veterinary infection prevention and control resources.
- Low perception of risk.
- Perceived difficulties around Hendra virus sampling and sample transport.

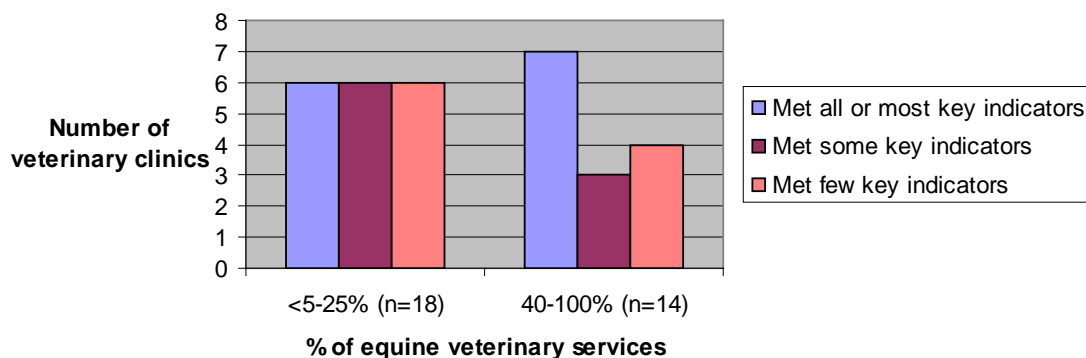
Relationship between performance and the number of staff and provision of equine veterinary services

Performance against the key indicators was influenced by the number of staff at each clinic. Clinics that had more than 15 staff performed significantly better than clinics with fewer than five staff.



Performance against the key indicators was not greatly influenced by the percentage of equine veterinary services provided by the business.

Table 4: Relationship between performance against key indicators and provision of equine veterinary services



Discussion

The Hendra virus audit program shows that at the time of the audit the Queensland veterinary profession was taking some steps to manage the workplace health and safety risks associated with Hendra virus. However there are opportunities to improve the management of Hendra virus risks at veterinary workplaces to protect veterinary professionals against this uncommon but serious disease.

Improvement opportunities exist in key areas such as:

- ensuring safe systems of work
- providing information, instruction and training
- adopting recommended infection prevention and control practices.¹

Findings and recommendations

- Eleven of the 24 clinics that performed higher risk procedures on horses did not routinely adopt recommended infection prevention and control practices. These procedures can expose veterinary professionals to a high level of contact with blood and body substances and associated droplets and aerosols. Horses infected with Hendra virus may be infectious late in their incubation period.^{2,3} Routine adoption of recommended infection prevention and control practices will protect against this risk.
- About one-third of clinics reported that recommended infection prevention and control practices were adopted only if a horse presented with fever and respiratory or neurological signs. Previous Hendra virus incidents have shown that some infected horses have presented with other clinical signs and occasionally have presented with milder clinical signs.¹ The routine adoption of recommended infection prevention and control practices will protect against contact with all horses infected with Hendra virus.
- A number of clinics had inadequate hand washing amenities in clinical areas and in vehicles used for call outs. Hand hygiene is an important risk control and adequate hand hygiene amenities should be provided.

- At six clinics the recommended PPE was not available or incomplete, and at nine clinics the supply of PPE was limited. Some clinics had not tested the PPE in the field to assess suitability and fit. The provision and proper use of PPE is an important risk control for safe contact with infected horses.
- PPE training was not provided at 19 clinics. Some items of recommended PPE, such as respiratory protective equipment, were not part of the regular suite of PPE used by veterinarians and staff were often not familiar with its use. Staff should be properly trained in the correct use of PPE to ensure their health and safety.
- At a number of clinics, Hendra virus information had not been provided to veterinary nurses. At most of these clinics the nurses did not accompany the veterinarian on callouts, however the nurses had the potential to be indirectly exposed to infection risks through handling items such as used veterinary equipment. All persons who may be exposed to Hendra virus risks should be provided with sufficient information to ensure their health and safety.
- At only half the clinics, when horses were being tested for Hendra virus, were clients provided with documented information to ensure their health and safety until test results were known. Clients should be provided with sufficient information to ensure their health and safety.

Limitations

The limitations include the:

- small sample size
- potential for bias created by self-reported veterinary practices.

In some instances, it was evident that the inspector's visit was the trigger for the employer to document Hendra virus response plans and training records and obtain PPE, highlighting that the level of compliance may over-represent the industry standard.

Where to from here?

Workplace Health and Safety Queensland will continue to strengthen partnerships with government and veterinary stakeholders to develop the capacity of veterinarians to manage Hendra virus risks more effectively. A high number of the clinics had veterinarians who were members of the Australian Veterinary Association and its specialist interest group Equine Veterinarians Australia, and these are important key stakeholders for liaising with the veterinary industry.

Since completion of the audit, a registered vaccine is now available to help prevent Hendra virus disease in horses. Vaccination of horses is the most effective way to help manage Hendra virus disease. It provides a work health and safety benefit by reducing the risk of Hendra virus transmission to humans and other susceptible animals.

References

1. Biosecurity Queensland 2018. Hendra virus Information for Veterinarians <https://www.business.qld.gov.au/industries/service-industries-professionals/service-industries/veterinary-surgeons/guidelines-hendra>.
2. Middleton D. Hendra virus. 2014. *Vet Clin Equine*; 30:579-589. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4252762>. Playford EG, McCall B, Smith G, Slinko V, Allen G, Smith I, Moore F, Taylor C, Kung Y, Field H. Human Hendra virus encephalitis associated with equine outbreak, Australia, 2008. *Emerg Infect Dis*. 2010;16(2):219-223. https://wwwnc.cdc.gov/eid/article/16/2/09-0552_article.