

Boosting the frontline fight against the Hendra virus

Impact
Case Study

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Equivac® HeV—the first vaccine to protect Australian horse owners and the equine industry against the deadly Hendra virus

the challenge One of the biggest threats to Australia's society today is major pandemics transferred, not from human to human, but from animals to humans. The Hendra virus that was first identified in horses in 1994 is a Bio-Safety Level-4 disease agent, which is the most dangerous level in the world. It is an infection that is transmitted from animals to people and reflects the alarming trend in 70 per cent of all emerging infectious diseases found in people over the past two decades. The transmission of the virus between humans and horses is still unknown but once transmitted can be fatal, with four of the seven people infected with the virus dying as a result.

the response CSIRO **isolated and identified the virus within two weeks** of it being reported. CSIRO's Australian Animal Health Laboratory is the only facility in the world capable of safely handling the virus and comprehensively testing the vaccine. This research forms part of CSIRO's commitment to targeting biosecurity threats that pose a risk to our animals, people, and environment and the research also has direct application for the development of vaccines for other highly infectious diseases in both humans and animals.

A horse vaccine was crucial to breaking the cycle of Hendra virus transmission from animals to people, as it prevents the horse developing and passing on the disease. In May 2011 CSIRO announced a prototype vaccine, and along with its collaborators, launched the Equivac® HeV vaccine in November 2012. By March 2013 CSIRO scientists confirmed that horses were **immune to a lethal exposure** of the Hendra virus six months post vaccination. The Australian Veterinary Association now recommends that all horses in Australia are vaccinated against the Hendra virus.

the engagement One of the biggest threats to Australia's society today is major pandemics transferred from animals to humans, as opposed to human to human, reflecting the alarming trend in 70 per cent of all emerging infectious diseases found in people over the past two decades. The Hendra virus is transmitted from animals to humans and is a Bio-Safety Level-4 disease agent, which is the most dangerous level in the world. The virus was first identified in horses in 1994, how the transmission occurs between humans and horses is still unknown but once transmitted it can be fatal, with four of the seven people infected with the virus dying as a result.

the impact Equivac® HeV is a **world-first commercial vaccine** for a Bio-Safety Level-4 disease agent. This vaccine enables commercial and private equine activities to continue with minimal negative impact by increasing personal safety for horse owners, vets and others regularly interacting with horses. It also enhances security for the Australian horse industry and reduces time spent in quarantine.

The vaccine has reduced costs attributed to future disease response and containment and minimised the chances of the Hendra virus mutating and spreading more readily between horses, or from human to human.



contact us

FOR FURTHER INFORMATION
CSIRO Animal, Food and Health Sciences
Dr Deborah Middleton
Veterinary Pathologist
t +61 3 52277 5016
e Deborah.Middleton@csiro.au

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