

Hendra virus in the field – Risk profiling and management

IMED 2018

Vienna, Austria

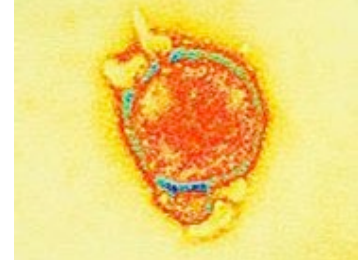
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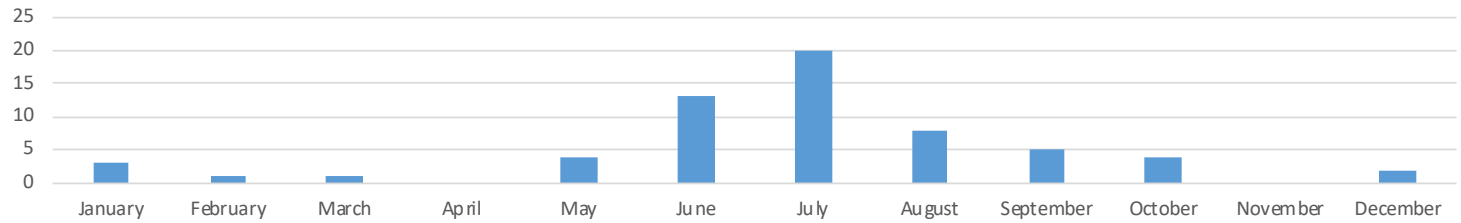
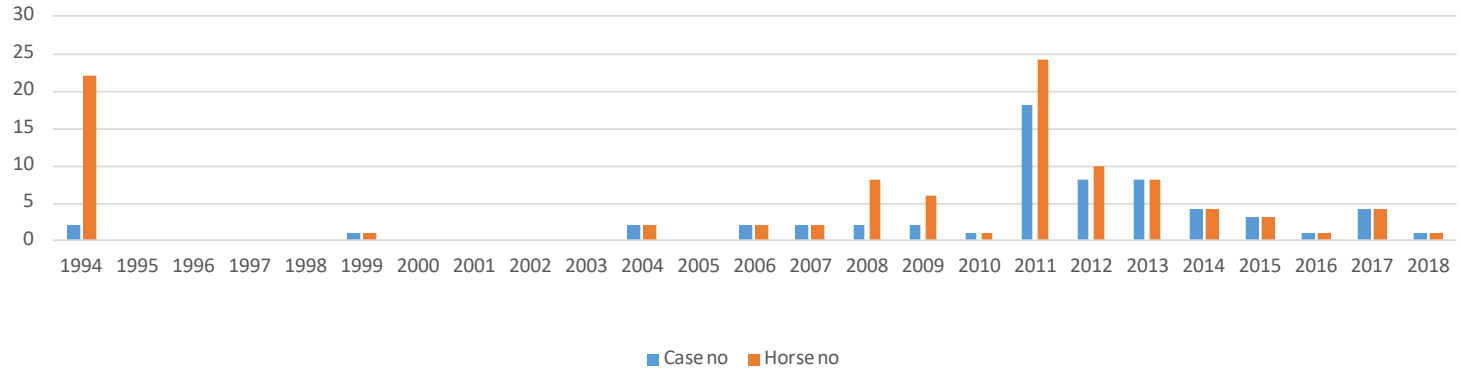
Department of Agriculture & Fisheries

Hendra virus

- Unknown outbreak in a horse racing stable in Hendra, Brisbane in September 1994 with 20 horses and 2 human infected
- Shortly after the Sept 1994 incident researchers isolated the virus
- Up to date, there were 99 horses and 7 human infected
- Originally called **Acute Equine Respiratory Syndrome**
- Name was then changed to **Equine Morbillivirus**
- Since reclassified with Nipah virus (first identified in 1999) as member of the new genus - **Henipavirus** in the **Paramyxovirus** family (Measles, Mumps, Distemper, human parainfluenza)
- Hendra & Nipah viruses have the ability to infect different species
 - horses, pigs, dogs, cats, etc
 - human

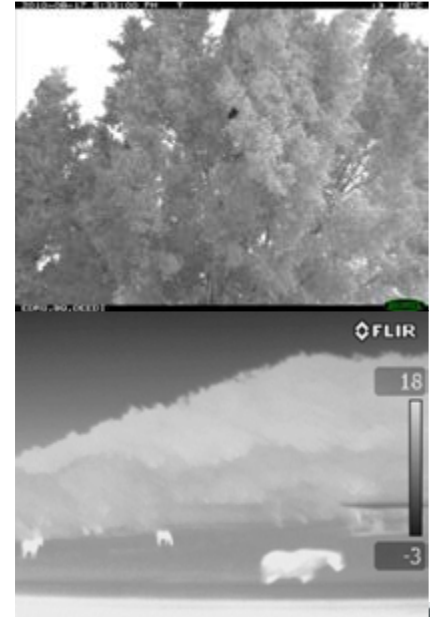


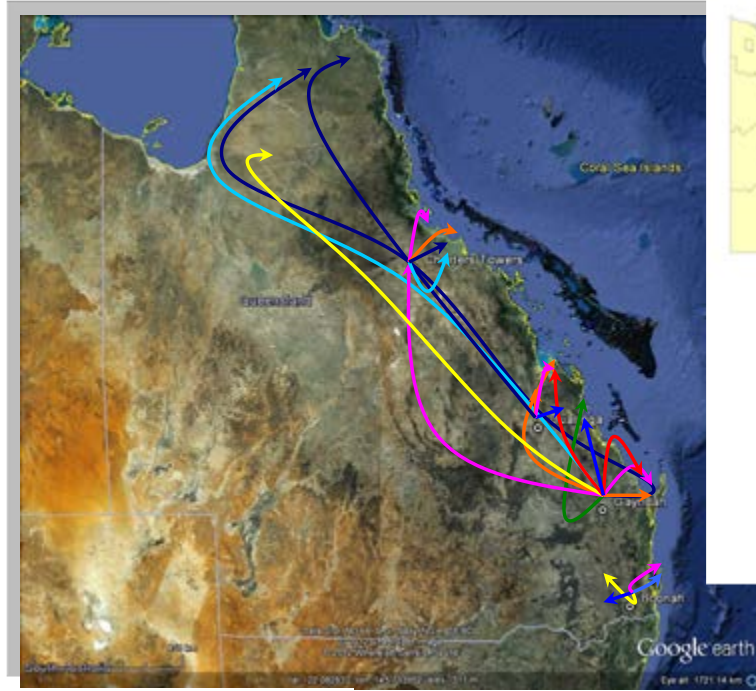
Hendra virus spillover events



Infected property risk profiling

- Case history
- Horse
 - Recent movement, health, behaviour, social status
- Horse management
 - Supplementary feeding, water, movement within property
- Property
 - Pasture condition, stabled (+/-), other feral animals
- Vegetation
 - Location and stage of fruiting/ flowering trees or shrubs
- Flying-fox activity
 - Spats, faeces, eaten fruit/ flowers/ seeds
- Potential bat-horse interaction site(s)
 - Evidences of activity around and under the trees or shrubs





Conclusion

- Flying-foxes (fruit bats)
 - Activities driven by food sources influenced by climate changes, especially after extreme weather events.
 - Unusual foraging choices – poisonous plants
 - Hendra virus shedding in relation to their immunity and health status
- Horses
 - All infected horses were paddock horses
 - Sex, age, breed and health status prior to HeV infection did not play a significant role
 - Horse personality such as dominance and inquisitiveness could have brought the horses closer to the environment with flying-fox foraging activities
- Human
 - Awareness of FF activities and perception of Hendra virus risk on their property
 - Decision on horse husbandry
 - locations of water/feed troughs, night yarding under/close to flowering/fruitle trees
 - Hendra virus vaccination (available since 1 Nov 2012)

Acknowledgement

- Biosecurity Queensland, Department of Agriculture & Fisheries
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- Department of Agriculture and Water Resources
- Australian Animal Health Laboratory
- Infected property owners

