



Hendra in the news: Public policy meets public morality in times of zoonotic uncertainty

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ABSTRACT

Public discourses have influence on policymaking for emerging health issues. Media representations of unfolding events, scientific uncertainty, and real and perceived risks shape public acceptance of health policy and therefore policy outcomes. To characterize and track views in popular circulation on the causes, consequences and appropriate policy responses to the emergence of Hendra virus as a zoonotic risk, this study examines coverage of this issue in Australian mass media for the period 2007–2011. Results demonstrate the predominant explanation for the emergence of Hendra became the encroachment of flying fox populations on human settlement. Depictions of scientific uncertainty as to whom and what was at risk from Hendra virus promoted the view that flying foxes were a direct risk to human health. Descriptions of the best strategy to address Hendra have become polarized between recognized health authorities advocating individualized behaviour changes to limit risk exposure; versus populist calls for flying fox control and eradication. Less than a quarter of news reports describe the ecological determinants of emerging infectious disease or upstream policy solutions. Because flying foxes rather than horses were increasingly represented as the proximal source of human infection, existing policies of flying fox protection became equated with government inaction; the plight of those affected by flying foxes representative of a moral failure. These findings illustrate the potential for health communications for emerging infectious disease risks to become entangled in other political agendas, with implications for the public's likelihood of supporting public policy and risk management strategies that require behavioural change or seek to address the ecological drivers of incidence.

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Introduction

Hendra virus is a *zoonosis* – which means it can be transmitted across species boundaries from its natural host (flying foxes or fruit bats) to cause infection and disease in domestic animals and people. Emerging bat-borne infections such as Hendra are a pressing global public health concern (Wong, Lau, Woo, & Yuen, 2007). Hendra is highly lethal to humans and endemic in Australian flying fox populations. Like other new and re-emerging infectious diseases, changes in the incidence and cross-species transmissibility of Hendra are likely to hinge on the ecological impacts of natural events and human activities (Jones et al., 2008). Indeed it is clear that Hendra has 'spilled' over from flying fox populations into horses, and then people and pet dogs through

their increasingly intense interaction in rural and peri-urban areas. Importantly, the impacts of these interactions are bi-directional; anything that induces 'stress' in flying foxes is thought to amplify viral shedding into the environment (Parrish et al., 2008). Efforts to disrupt flying-fox encroachment on human settlement, therefore, are likely to increase the risk of human infection. Current hopes of prevention rest on the development of a vaccine for horses, the only confirmed intermediate host for Hendra transmission to humans. In the interim, public health responses to Hendra have focussed on education and behaviour modification amongst high-risk groups such as veterinarians, horse owners and people who work in equine industries, and the institution of disease surveillance and quarantine measures involving both human and animal health sectors (Adamson, Marich, & Roth, 2011).

Since Hendra virus first emerged in 1994 there have only been four human deaths and seven human infections. However concerns in Australia about the risks to human health escalated sharply in 2011 when outbreaks in horses occurred over a greater geographic area and at a far higher frequency than past 'Hendra seasons' (Field, Cramer, Kung, & Wang, 2012). Concern about the risks posed by

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the bat-borne virus were further heightened by the subsequent and unexpected discovery of a pet dog with a naturally acquired infection (Tapim & Withey, 2011).

Many Australians, particularly those living in regional areas, already consider flying foxes to be a noisy and unhygienic pest. Towns and city suburbs in north-eastern parts of the country can find themselves ‘under siege’ from large groups of roosting ‘fruit bats’ – with these ‘camps’ or colonies sometimes comprised of several thousand individuals. Aside from the impacts of noise and faeces, flying fox colonies can ‘fly in and feed’ on commercial orchards causing significant economic losses for fruit growers. For this reason there has been a longstanding practice of shooting flying foxes and disrupting their colonies with sirens, smoke bombs and helicopters to deter them from congregating in agricultural and residential areas.

Whereas in the past diseases of wild animals were thought to pose limited risk to humans, the connection between human activity – particularly changes in land use – and changes in patterns of infectious disease is becoming increasingly clear (Newell et al., 2005). The urbanisation of coastal habitats is thought to have had a number of effects on flying fox populations in eastern Australia – restricting access to their normal foods and forcing them to both turn to, and increasingly rely on, commercial orchards and urban gardens for sustenance (Plowright et al., 2008). And because food is scarce flying foxes are also less inclined to migrate, leading to the formation of permanent camps in agricultural and residential areas. These effects are also exacerbated by natural events that further limit the availability of natural and horticultural food resources, such as cyclones and floods (Plowright et al., 2011). As large groups of flying foxes congregate in and around human settlements this gives the impression that the population is thriving, whereas this is more a result of reduction in their natural habitat, and several species of flying foxes are, in fact, vulnerable to extinction (Welbergen, Klose, Markus, & Eby, 2008).

For this reason, since 1986 in NSW and 1994 in Queensland, flying foxes camps have been legally protected from human interference to try and rehabilitate the population. In 2008 the Queensland government took the further step of refusing all applications by farmers for permits to shoot flying foxes to protect their crops, both on ecological grounds and because attempts to break up established camps may be counterproductive. It was argued that any measures that stressed flying foxes would increase the risk of Hendra spilling over into horses; and dispersing specific camps would likely be ineffective as there would be nothing to stop the colony re-establishing itself nearby, and once again in conflict with human settlement. Thus, what was designed to be legislation to protect a vulnerable species of native animal became a policy instrument with which to try and limit zoonotic risk exposure. This transition from conservation-focussed environmental policy to public health policy has been incremental, such that the policy aim was not to solve either problem but manage areas of emerging concern. Yet as people directly affected by flying foxes have struggled to ‘live with’ the growing throngs of unwelcome neighbours, many have come to believe that by protecting flying fox populations and advocating the adoption of low risk behaviours towards them, governments and health authorities have put the health and welfare of another species above that of human populations.

Experiences with Bovine Spongiform Encephalopathy (BSE) and Severe Acute Respiratory Syndrome (SARS) indicate that policy-making for a new zoonotic disease is always difficult and prone to polarising different stakeholders in affected communities (Phillips, Bridgeman, & Ferguson-Smith, 2000; Singer et al., 2003). A key feature in matters surrounding animal disease control is that radically different policy responses – such as wholesale culling or

vaccination – can typically be presented as plausible points of intervention. For this reason decisions surrounding what should be done about new or pressing zoonotic risks are often contested, and finding the right balance between over-caution, laissez-faire approaches, and determining the weight given to different socio-economic factors can be difficult. For example a lack of due diligence can expose the population to the risk of infection for far longer than necessary, as was the case with BSE. Conversely, the overzealous application of the precautionary principle can destroy the livelihood of a population, impact its food supply, limit development, and entrench or exacerbate socioeconomic disadvantage (World Health Organization, 2004). Furthermore, when the zoonotic risk is new, attempts to explain the choice of policy are likely to be further complicated by uncertainty regarding the precise risk of infection, the drivers of disease emergence, and the measures needed to control the risk of infection. Therefore public support for policies that disrupt people’s lives and communities or place precautionary limits on the development of natural resources might depend on their understanding of the causes and risks of zoonotic outbreaks, their trust in government agencies, and the likely consequences for them of different public health responses.

In this regard news media are an important source of information for the public (Brodie, Hamel, Altman, Blendon, & Benson, 2003), particularly with regard to the complex relationship between the environment and human health and with regards to the risk posed by animals. For not only does the media reflect the issues that concern people, it also impacts upon the issues the public thinks about, and the criteria through which they think about them – influencing people’s understanding of what is at stake, of who or what is to blame, of who is at risk, and of what can be done to address the situation (Entman, 1993; Scheufele, 2000). In this regard, while individual journalists may privilege independence, accuracy and balance, media organisations are rarely neutral and can both influence public opinion themselves, or be used by industry, politicians and interests groups to influence public perception of particular issues and/or promote their own ends (Callaghan & Schnell, 2001; Terkildsen, Schnell, & Ling, 1998). Therefore the effects of how the media chooses to raise to public prominence and then ‘frame’ events and opinions surrounding a new health issue such as an emerging zoonosis can be recursive. For example because elected officials, politicians and policy advisors are responsive to public opinion, public perceptions about the causes of a disease threat like Hendra virus might influence the level of public support for specific health policies, and, thereby, ongoing political debate (Gollust, Lantz, & Ubel, 2009; Harrabin, Coote, & Allen, 2003).

In this paper we analyse representations in the Australian media of the causes and consequences of the emergence of Hendra as a zoonotic risk, focussing on how the unavoidable uncertainty about its causes and likely consequences shaped perceptions of the health policies put in place in the attempt to mitigate the risk of human infection. In short we seek to examine media representations of an infectious threat within a broader policy context. Because flying foxes are a highly visible, widespread and relatively novel source of infectious risk for humans, the emergence of Hendra virus presents an opportunity to track and compare media representations of disease ‘events’, health policy goals, political discourses and public opinions in ways that are difficult for non-communicable diseases. In this our research is consistent with other reports examining media portrayals of the health risk and scientific and policy uncertainty associated with contested environmental exposures (Mayer, 2012) and Emerging Infectious Diseases (EIDs) (Daku, Gibbs, & Heymann, 2012; Hilton & Hunt, 2011; Washer, 2010).

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