

Unravelling zoonotic diseases in Australia

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THIS EDITION OF *Australian Journal of General Practice (AJGP)* contains five articles covering zoonoses encountered in Australia: Q fever,¹ brucellosis,² psittacosis³ and leptospirosis,⁴ and Australian bat lyssavirus exposure.⁵ An article published in *Australian Family Physician* in 2014,⁶ on recognition, diagnosis and management of common Australian zoonoses, completes the set.

The papers were coordinated through The Regional One Health Partnership (One Health), an informal group of professionals consisting of clinicians, veterinarians, academics, epidemiologists, public health practitioners, environmental scientists, wildlife health specialists, pathologists and others. One Health acknowledges the interconnection between human health, animal health and the environment, and provides a holistic approach to the understanding of health issues. Professionals combine skills, legislative authority and data access to monitor and address shared risks and interests through collaboration on issues such as communicable disease clusters, animal die-offs, toxic spills, epidemiological and research studies, policy development and education resources.

A large proportion of communicable diseases have an animal origin, including salmonellosis, campylobacteriosis, cryptosporidiosis and enteropathogenic *Escherichia coli* infections, while Ebola, severe acute respiratory syndrome, Hendra and tularaemia are examples of emerging, rare zoonoses. More than two-thirds of emerging diseases have an animal association.⁷ The articles included in this issue of *AJGP* cover the more 'traditional' zoonotic diseases in Australia, which are notifiable in most states and territories.

Understanding the epidemiology of zoonoses is improving as surveillance systems refine the collection of risk exposure information, and agencies, research organisations and other partnerships combine investigative efforts in the spirit of One Health.

Recent findings indicate more obtuse risk pathways for zoonotic diseases than previously considered. These include lawn mowing 'aerosolisation' of wildlife and bird droppings (eg Q fever, psittacosis), feral pig hunting (eg brucellosis), people living on stock transport routes (eg Q fever), and involvement in the birthing of horses, cats, cattle and other animals (eg Q fever, psittacosis). It requires patience and skill to collect patient exposure information down to this level but is worth the effort as people with zoonotic disease often present with signs and symptoms that are difficult to differentiate from other conditions; yet prompt, appropriate treatment may prevent ongoing sequelae and complications.

Q fever, brucellosis, leptospirosis and psittacosis (along with other zoonotic diseases such as rickettsial diseases) are bacterial infections and respond to appropriate antibiotic therapy. Multiplex polymerase chain reaction tests are now available that cover multiple zoonotic agents and could be a useful diagnostic tool to detect early onset disease.

Apart from the articles in this edition of *AJGP*, many primary healthcare networks provide point-of-care decision-making resources and referral networks on their 'HealthPathways'⁸ or 'Map of Medicine' sites. Additionally, the regional public health unit should be considered as a reference point for disease information and advice, as it can provide current data on local zoonosis risk and incidence, and connect GPs to agricultural or wildlife agencies for further assistance. In the future, there may be a process to refer

people between veterinarians and general practitioners, to assess and reduce the risk of zoonoses.⁹

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