
NSW Health

NSW Zoonoses Annual Report 2019

Health Protection NSW

June 2024



Health Protection NSW acknowledges the traditional owners of the lands on which we work, live and play. We pay our respect to Elders past, present and emerging. This report was produced on the lands of the Cammeraygal People of New South Wales. The knowledge, resilience and strength of Aboriginal Peoples is key to supporting health in their communities.

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1. Overview

A zoonosis is any disease or infection that is naturally transmissible from vertebrate animals to humans. Worldwide, at least 61% of all human pathogens are zoonotic organisms, and during the past decade up to 75% of emerging pathogens were zoonoses.¹

This report focuses on:

- Notifications of selected zoonoses in humans to NSW public health authorities during 2019
- Animal health events investigated in collaboration with the NSW Department of Primary Industries (DPI) and Local Land Services (LLS) requiring a public health response
- Post-exposure risk assessments and treatments delivered for the prevention of rabies and Australian Bat Lyssavirus (ABLV).

Beyond the scope of this report are numerous zoonoses transmitted through food, water or vectors – many of which are notifiable to NSW public health and animal health authorities ([Appendix 2](#)).

Surveillance findings on enteric and other zoonoses are routinely published in other reports available via the [NSW Health website](#). A wealth of further information and resources are also available ([Appendix 3](#)).

2019 Highlights

- NSW observed a slight increase in the number of Q fever and psittacosis notifications in humans in 2019. There were fewer notifications of brucellosis and leptospirosis in humans in the same period, compared to 2018.
- No human infections of anthrax, avian/animal influenza, Hendra virus, rabies/ABLV or tularaemia were reported (Table 1, overleaf).
- The numbers of people exposed to animals at risk of rabies and ABLV requiring assessment and prophylactic treatment was the highest yet reported. The majority were due to the number of travellers exposed to potentially rabid animals overseas, but the increase in 2019 was largely driven by an increase in the number of people with local bat exposures.
- Sporadic animal infections with ABLV, anthrax, brucellosis, psittacosis, and Hendra virus infection were reported in NSW, requiring public health investigation of exposures and some interventions to prevent human infections.

Table 1: Incidence of selected zoonotic diseases in humans notified in 2019 compared to the previous 5 years (2014–2018), by local health district (LHD) of residence^a, NSW^b

LHD	n (Rate per 100,000 ^c)							
	Brucellosis		Leptospirosis		Psittacosis		Q fever	
	5yr mean 2014-2018	2019	5yr mean 2014-2018	2019	5yr mean 2014-2018	2019	5yr mean 2014-2018	2019
Central Coast	<1 (0.06)	0	<1 (0.18)	0	<1 (0.06)	1 (0.29)	2 (0.54)	0
Far West	0	0	0	0	0	0	5 (15.96)	2 (6.65)
Hunter New England	3 (0.35)	0	3 (0.33)	2 (0.21)	<1 (0.07)	2 (0.21)	52 (5.66)	50 (5.31)
Illawarra Shoalhaven	<1 (0.05)	0	<1 (0.1)	0	<1 (0.05)	0	10 (2.42)	18 (4.33)
Mid North Coast	<1 (0.09)	0	11 (5.17)	3 (1.34)	<1 (0.09)	0	25 (11.54)	28 (12.54)
Murrumbidgee	<1 (0.07)	0	<1 (0.14)	2 (0.67)	2 (0.61)	0	14 (4.92)	6 (2.02)
Nepean Blue Mountains	0	0	<1 (0.11)	0	1 (0.33)	4 (1.04)	1 (0.38)	2 (0.52)
Northern NSW	<1 (0.07)	0	4 (1.35)	2 (0.65)	<1 (0.07)	0	33 (10.96)	26 (8.47)
Northern Sydney	<1 (0.02)	0	<1 (0.09)	1 (0.11)	<1 (0.04)	0	4 (0.46)	5 (0.53)
South Eastern Sydney	<1 (0.02)	0	1 (0.11)	0	<1 (0.04)	2 (0.21)	1 (0.15)	0
South Western Sydney	2 (0.17)	2 (0.2)	<1 (0.02)	0	<1 (0.08)	0	3 (0.35)	2 (0.2)

Southern NSW	0	0	0	0	<1 (0.1)	0	16 (7.86)	15 (7.01)
Sydney	<1 (0.06)	0	<1 (0.06)	0	0	0	<1 (0.06)	1 (0.15)
Western NSW	<1 (0.07)	0	1 (0.36)	0	1 (0.5)	1 (0.35)	54 (19.39)	81 (28.56)
Western Sydney	1 (0.11)	1 (0.1)	<1 (0.06)	0	<1 (0.06)	0	<1 (0.04)	4 (0.39)
NSW total	8 (0.10)	3 (0.05)	24 (0.32)	10 (0.12)	8 (0.11)	10 (0.12)	222 (2.87)	240 (2.97)

^a Exposures may have occurred outside the LHD of residence.

^b There were no notifications of anthrax, avian or animal influenza, Hendra virus infection, Rabies/ABLV virus infection or tularaemia in humans in NSW during this period.

^c For population data source see [Appendix 1](#).

2. Brucellosis

Brucellosis is an infection that can be transmitted to humans from animals such as cows, sheep, goats and pigs. *Brucella suis* remains a potential source of human infection in Australia, while other *Brucella* species have either been eliminated or never detected. Human cases in NSW are rare and usually result from contact with feral pigs in north-western NSW, or from consuming unpasteurized dairy products while overseas.

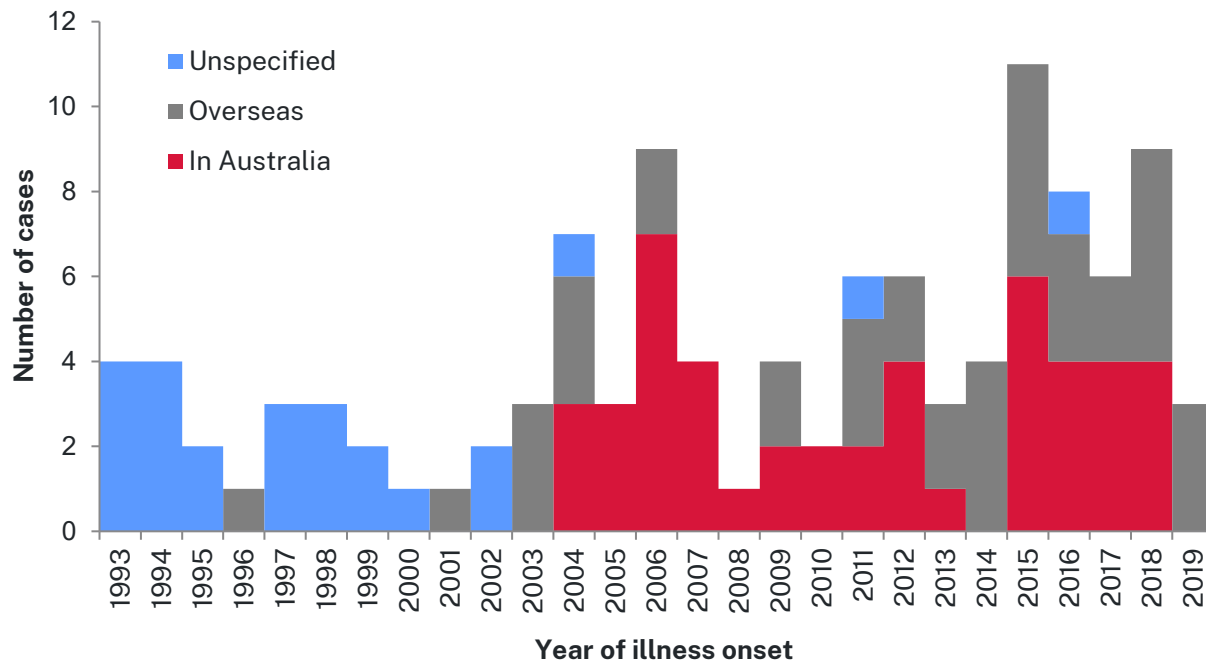
Key points:

- 2 confirmed cases and 1 probable case notified in 2019.
- 3 overseas acquired

During 2019, 3 (0.05 per 100,000) cases of brucellosis were notified in NSW (Figure 1).

All three cases were acquired overseas. One case had an onset while in Australia, however likely acquired their infection overseas. All three cases were male, with a mean age of 25 years. None identified as Aboriginal. Two cases reported no known risk factors for brucellosis, the other reported consuming unpasteurised dairy products. County of acquisition included India and Samoa. Two cases were confirmed by culture as *Brucella melitensis*. *Brucella melitensis* is not found in Australian animals.

Figure 1. Trends in brucellosis notifications by place of acquisition, NSW, 1993–2019



3. Leptospirosis

Leptospirosis is a disease of humans and animals caused by *Leptospira* bacteria, found in infected animal urine and animal tissues. Although relatively rare in Australia, leptospirosis is more common in warm and wet areas such as north-eastern NSW. Infections usually occur in people who have close contact with animals or who have been exposed to water, mud, soil, or vegetation contaminated by animal urine.

Key points:

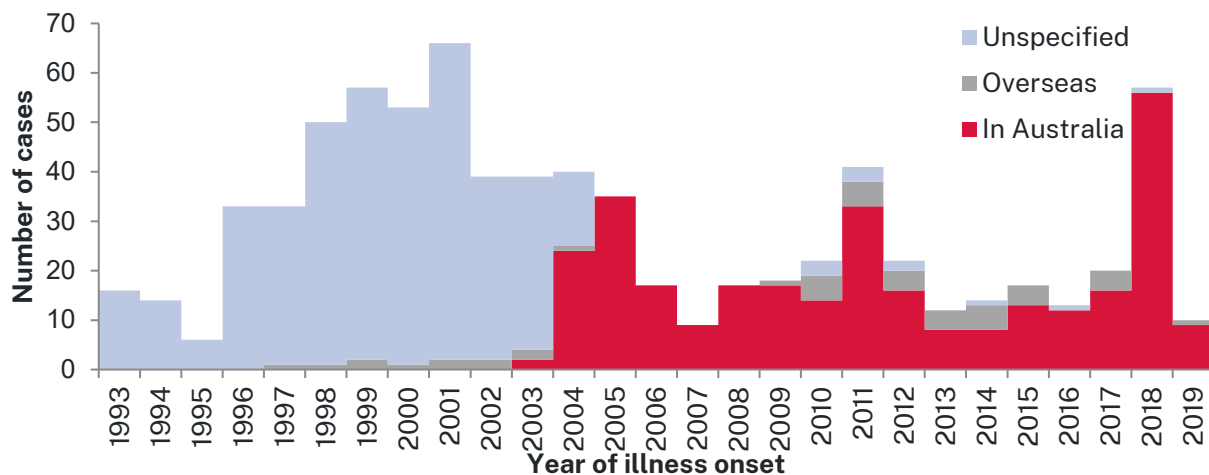
- 10 confirmed cases notified in 2019.
- 9 infections acquired in NSW following direct or indirect exposure to urine or other body fluids from infected farm animals or rodents.
- 1 infection acquired during overseas travel in 2019.

During 2019, 10 (0.12 per 100,000) confirmed cases of leptospirosis were notified in NSW. This is a decrease compared to recent years, and the lowest count since 2007 (Figure 2). Cases were predominately male (90%, n=9), ranging in age from 13–65 years (mean: 37.9 years). One case identified as Aboriginal (0.36 per 100,000).

Nine cases acquired their infection in NSW. Exposures reported by cases included: contact with farm animals (n=5), working on a farm (n=5), and contact with rodents or environments potentially soiled by urine from rodents (n=5). One case did not report any high-risk exposures.

One case acquired their infection overseas (Hawaii, USA) where the person reported extensive exposure to freshwater bodies.

Figure 2. Trends in leptospirosis notifications by place of acquisition, NSW, 1993–2019



4. Psittacosis (Ornithosis)

Psittacosis is an uncommon disease caused by the bacterium *Chlamydia psittaci*. The bacteria can also cause disease in animals which is usually called chlamydiosis. Most human cases in NSW develop the disease by inhaling feather dust, and particles contaminated with secretions and droppings from infected birds. More rarely, people can contract the disease from other animals, such as sheep, cattle and horses.

Key points:

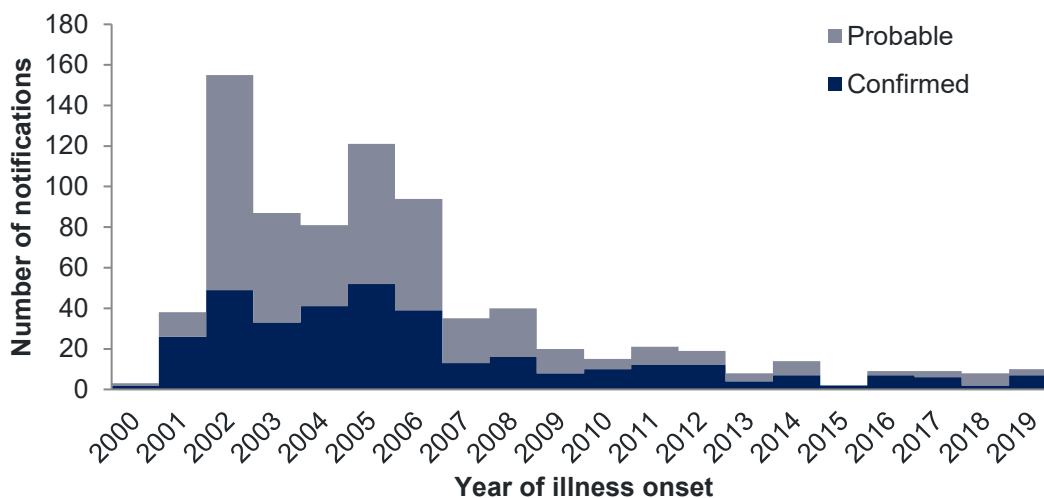
- 7 confirmed cases notified in 2019.
- 3 probable cases notified

Since surveillance began in 2000, relatively high case incidence rates and sporadic outbreaks were observed from 2002–2006 in NSW, followed by a steady decline (Figure 3).

During 2019, 7 confirmed and 3 probable cases were notified in NSW (0.12 per 100,000). These 10 cases were predominately male (70%, n=7), ranging in age from 40–81 years (mean: 61.2). No cases identified as Aboriginal. Six cases reported exposure to wild birds, and 3 reported exposure to pet birds. Two of those with wild bird exposures and 2 with pet bird exposures reported illness or death in the birds with which they had contact prior to their own illness.

One case reported no bird exposures. The case was most likely exposed to contaminated droppings aerosolised during regular lawn mowing, although he reported little bird life in his yard.

Figure 3. Trends in psittacosis notifications by case classification, NSW, 2000^a–2019



^a Psittacosis notifications are not available prior to 2000.

5. Q fever

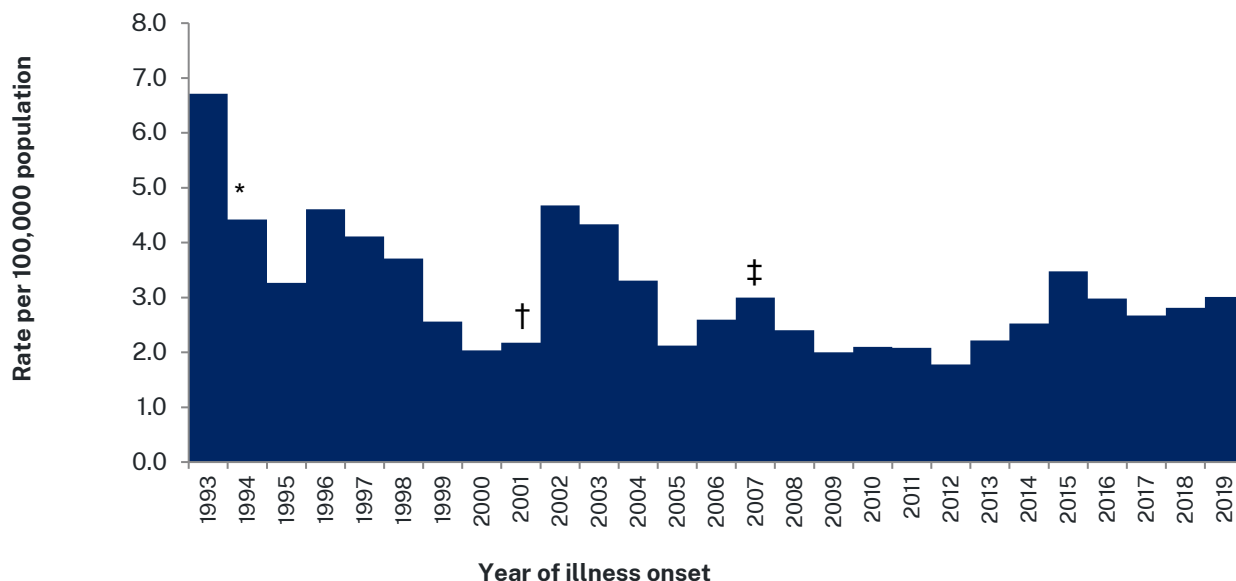
Q fever is caused by the bacterium *Coxiella burnetii*. The main carriers of the disease are cattle, sheep and goats but other animals, including marsupials, can also be infected. People are usually infected by inhaling aerosols or dust when working with infected animals, animal tissues or animal products. The bacteria survive for long periods in the environment as they are resistant to heat, drying and many disinfectants.

Key points:

- 240 confirmed cases notified in 2019.
- Adult males, Aboriginal people and populations in regional/remote areas were over-represented.
- 8 cases were reported in children aged less than 16 years.
- Most adult cases (75%) worked in a known high-risk occupation.
- Most cases (94%) were exposed to animals or animal products, tissues or discharges.

During 2019, 240 confirmed cases of Q fever (3.0 cases per 100,000) were notified in NSW. This was slightly higher than the five-year annual mean (222 cases, 2.9 cases per 100,000) (Figure 4).

Figure 4: Trends in Q fever notifications, NSW, 1993–2019



*1994: Vaccine introduced; †2001: National Q-fever management program commenced; ‡2007: National Q-fever management program end.

The majority of cases notified in 2019 were males (n=180, 75%), and cases ranged in age from 4-87 years (mean: 50 years) (Figure 5). Indigenous status was available for 84% (n=201) of cases. Of these, 13 cases identified as Aboriginal or Torres Strait Islander. The rate for Q fever in NSW Aboriginal and Torres Strait Islander residents was 4.6 cases per 100,000, and 2.4 per 100,000 non-Indigenous residents. An enhanced surveillance project undertaken in 2019 for the 2012-2017 period found the majority of Aboriginal people with Q fever were young males who had a residence in Western and Far West NSW LHDs. A further majority were employed in farm related professions

(e.g. shearing); were teenagers or young adults; or undertook recreational hunting activities. Messaging channels were identified to provide Q fever information to people in priority geographical areas; employment settings; age groups and activities that may not have been previously reached with health messaging. The most substantive increases in Q fever incidence rates across NSW were observed in Illawarra and Western NSW LHDs (Table 1).

The highest incidence of disease was observed in remote areas of the state (Figure 6) – especially Coonamble Shire (n=7, 176.9 per 100,000), Warrumbungle Shire (n=14, 150.9 per 100,000), Narromine Shire (n=8, 122.8 per 100,000) Warren Shire (n=3, 111.2 per 100,000), Walgett (n=5, 84.0 per 100,000) and Lachlan (n=5, 82.3 per 100,000) local government areas (LGAs).

Figure 5: Q fever incidence rate by age, gender and Aboriginal and Torres Strait Islander status, NSW, 2019

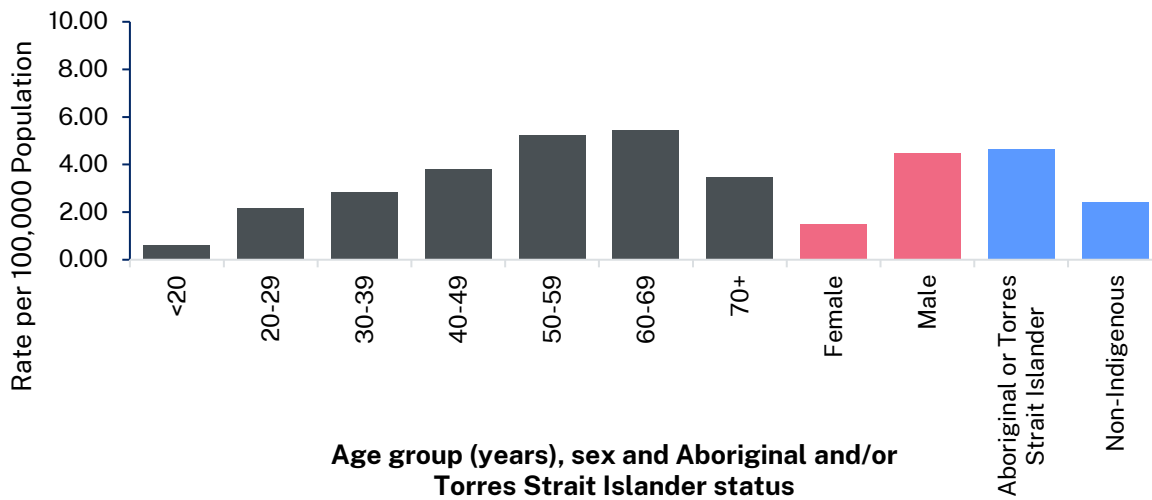
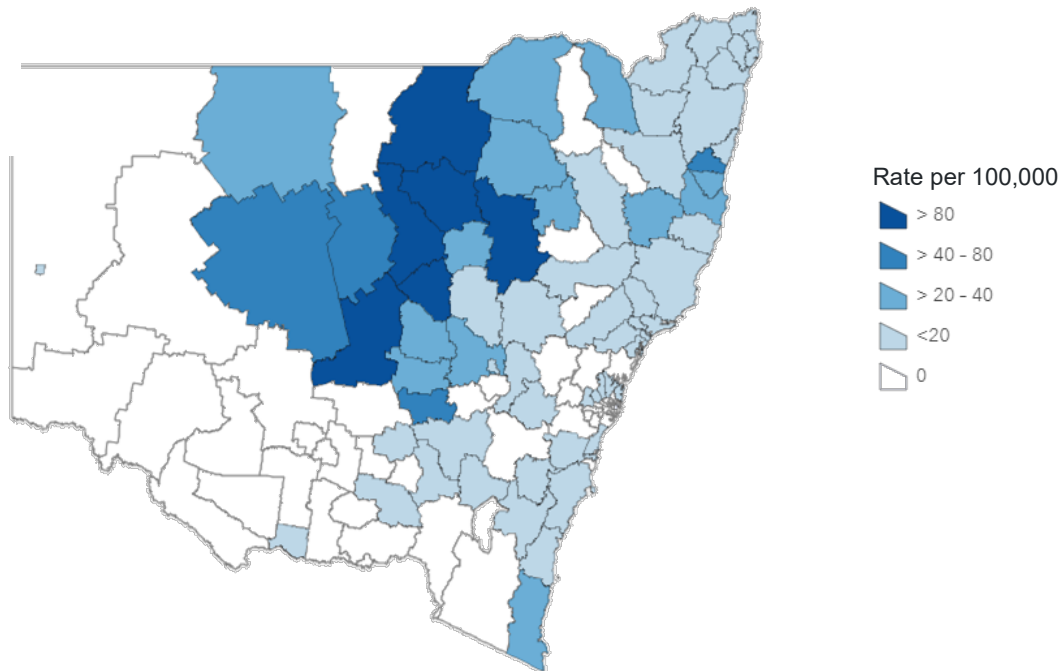


Figure 6: Q fever incidence rate by LGA, NSW, 2019



Occupations were reported for 180 cases aged 16 years or over in 2019. Of these, 75% (n=135) worked in high-risk occupations, including: farmers, farm hands or property managers (n=70), shearers (n=16), graziers (n=8), stockyard workers (n=7), abattoir and other meat industry workers (n=5), animal transporters (n=4), veterinarians or vet nurses (n=2), and dairy and or other high-risk occupations. The remainder of adult cases (25%, n=45) were retired, unemployed or worked in a non-animal related occupation. Eight infections were reported in children under 16 years of age.

Exposure history was available for 201 cases in 2019. Of these, most (94%, n=189) reported one or more types of exposure to animals or animal products, including exposures to livestock or their products (71%, n=134), exposures to native wildlife (32%, n=61), direct contact with animal tissues or discharges (16%, n=31), exposure to other animals or animal product (12%, n=23), or exposure to animal faeces or other products (7%, n=13). The remainder reported no discernible exposure to livestock or wildlife (6%, n=12).

In 2019 NSW Health launched a campaign to increase awareness about Q fever in the community and amongst GPs, including advertising in mass media and development of an [online learning module](#) hosted on the Australian College of Rural and Remote Medicine website. Further information and resources can be downloaded from the [NSW Health Q fever webpage](#).

6. Rabies and other lyssaviruses (including Australian Bat Lyssavirus)

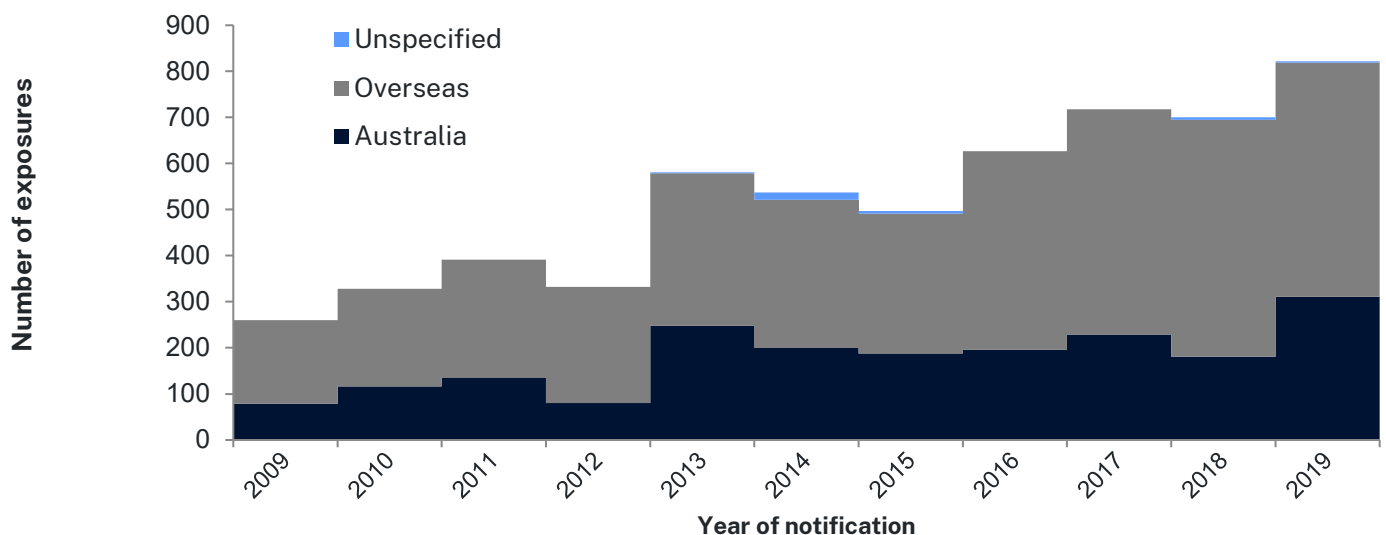
Lyssaviruses are a group of viruses that includes rabies and bat lyssavirus. Lyssavirus is carried by bats in Australia and worldwide. Rabies is carried by terrestrial mammals in many overseas countries. Both viruses are spread by bites and scratches from infected animals. Infections affect the central nervous system and are usually fatal. These diseases can be prevented by rapid and thorough cleaning of the wound and post-exposure prophylaxis (PEP).

Key points:

- No human cases notified in 2019
- 822 exposures to potentially infected animals, of which 97% were assessed as requiring PEP to prevent infection
- 498 exposures requiring PEP occurred overseas, of which 71% were in Southeast Asia and 41% were from dog bites/scratches
- 297 local exposures to bats requiring PEP occurred, of which 73% were from flying foxes. Six bats were positive for ABLV
- 2,491 doses of vaccine and 2,404 vials of human rabies immunoglobulin (HRIG) were distributed for the purpose of PEP

During 2019, while there were no human infections of classical rabies or ABLV, a total of 822 potential exposures to lyssaviruses were notified to public health units. The increase in reported exposure events this year was driven by local bat exposures (Figure 7).

Figure 7: Exposures to rabies and other lyssaviruses by location, NSW 2009–2019



Of all exposures, 797 (97%) required PEP with either rabies vaccine or HRIG.

Overseas exposures

Of 508 exposures overseas (62%), PEP was initiated or continued for 498 people exposed to potentially infected animals (98%). Of these, over half occurred in females (n=285, 57%) and travellers aged 18–34 years accounted for the greatest proportion (n=226, 45%) – mean age: 32 years. The vast majority of overseas exposures requiring prophylaxis occurred in Southeast Asia (n=354, 71%); predominantly Indonesia or Thailand (Table 2). Most incidents involved bites or scratches from dogs (n=198, 40%), followed by monkeys (n=195, 39%) and cats (n=73, 15%).

Table 2: Potential overseas exposures to rabies and other lyssaviruses by location, NSW, 2019

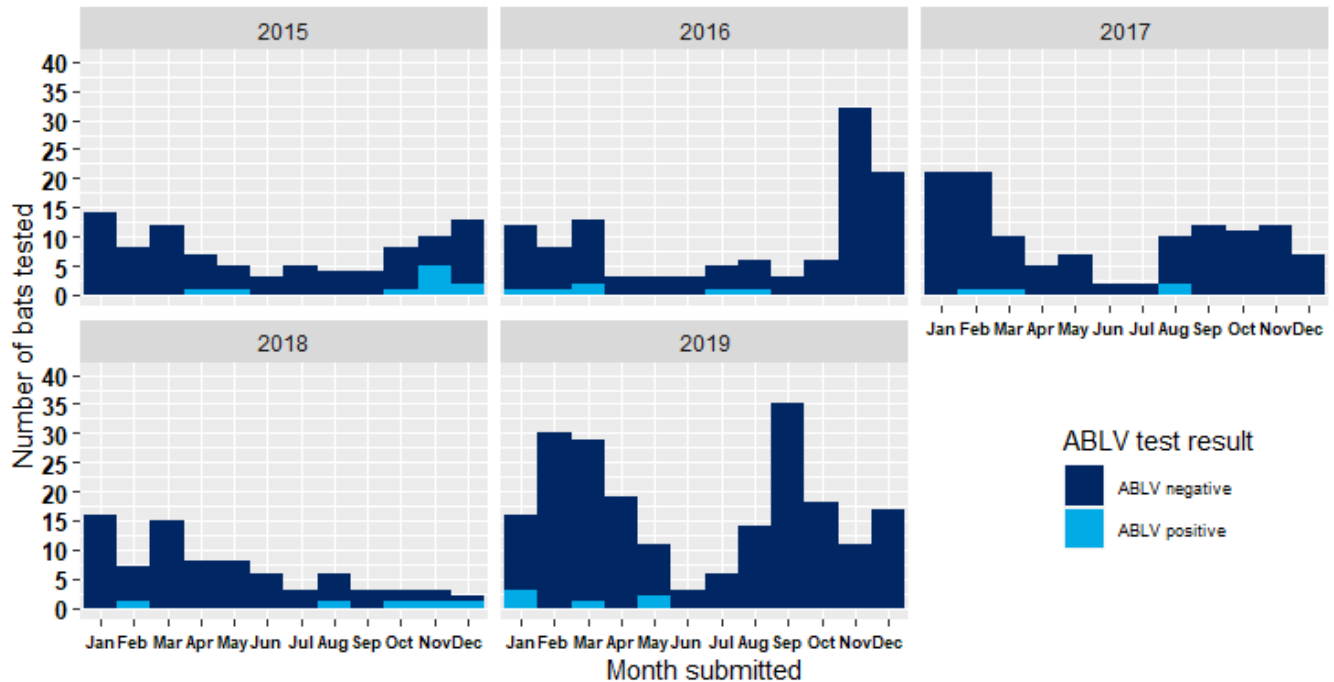
Location	n	%
Southeast Asia:	354	71
Indonesia (including Bali)	182	37
Thailand	102	20
Philippines	25	5
Vietnam	25	5
Other ^b	20	4
South Asia ^c	59	12
China or Taiwan	44	9
Americas	12	2
Africa	10	2
Europe (including Eastern and Southern)	7	1.4
Oceania	4	0.8
Other or unknown	7	1.8
Total	498	100

^b Cambodia, Malaysia, Laos, Myanmar
^c India, Sri Lanka, Nepal, Bangladesh, Bhutan, Pakistan

Local exposures:

Of 311 exposures to bats in Australia reported during 2019 (38%), 297 required PEP (95%). The average age of persons exposed was 48 years. A higher proportion were in males (n=161, 54%). Occupation was reported for 265 exposures, of which 25% (n=66) were considered high-risk occupations (including wildlife workers/volunteers, veterinarians, etc.) and the remainder were members of the general public. The majority of bat exposures were megabats, which includes flying foxes (n=218, 73%).

Figure 8: Number of bats tested for ABLV by month, NSW, 2015-2019



Of 209 bats submitted for testing during 2019, six tested positive (3%). Submissions for testing peaked in February and September (Figure 8). The first positive bat was reported in January, followed by March and then May.

Post-exposure prophylaxis

NSW Health provides PEP, including vaccination and rabies immunoglobulin, free of charge to people potentially exposed to rabies and ABLV following a risk assessment with their medical professional (see [NSW Rabies and other lyssavirus infections control guidelines](#)). During 2019, NSW Health distributed 2,491 doses of rabies vaccine and 2,404 vials of HRIG to prevent infections, at a cost of approximately AUD 980,680.

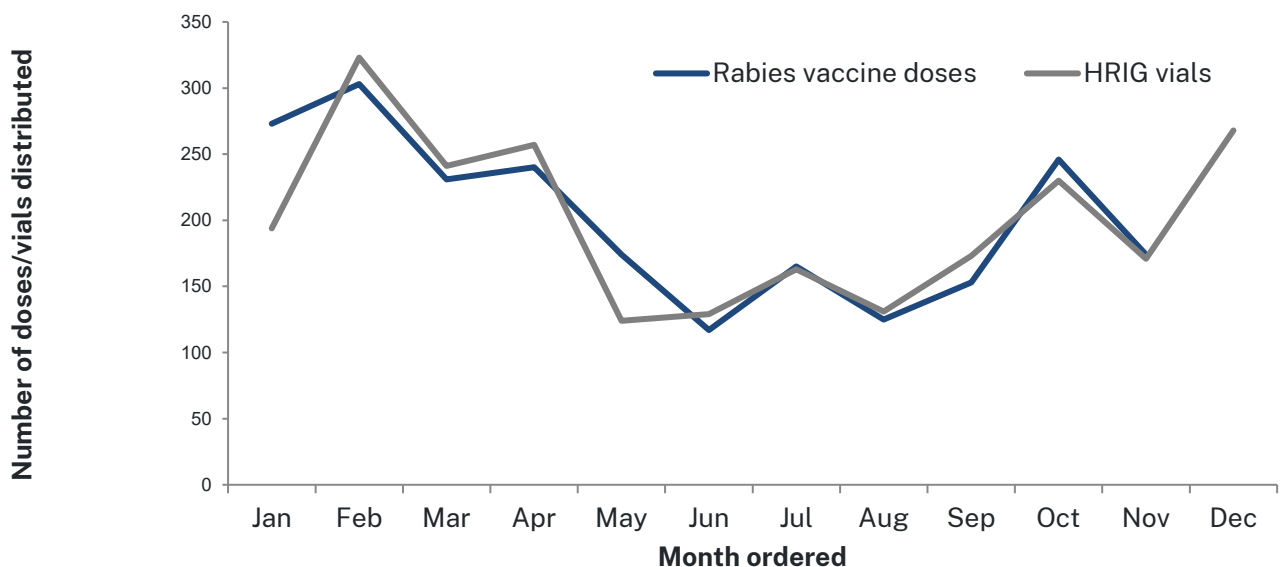
Most overseas exposures requiring PEP occurred among residents of metropolitan Sydney, particularly South Eastern Sydney and Northern Sydney LHDs. The highest number of local exposures requiring PEP occurred among residents of Hunter New England (Table 3).

Table 3: Distribution of rabies vaccine and human rabies immunoglobulin by LHD, NSW, 2019

LHD	n		Total (%)
	Overseas	Local	
Central Coast	12	15	27 (3.4%)
Far West	0	0	0
Hunter New England	42	65	107 (13.4%)
Illawarra Shoalhaven	24	20	44 (5.5%)
Mid North Coast	11	24	35 (4.4%)
Murrumbidgee	6	5	11 (1.4%)
Nepean Blue Mountains	18	13	31 (3.9%)
Northern NSW	17	53	72 (9.0%)
Northern Sydney	91	20	111 (13.9%)
South Eastern Sydney	114	15	129 (16.2%)
South Western Sydney	30	10	40 (5.0%)
Southern NSW	6	15	21 (2.6%)
Sydney	67	14	81 (10.2%)
Western NSW	3	8	11 (1.4%)
Western Sydney	57	20	77 (9.7%)
NSW total	498	297	797

Distribution rates peaked in January and July 2019; corresponding with peak periods of overseas travel and bat testing (Figure 9).

Figure 9: Distribution of rabies vaccine and human rabies immunoglobulin by month, NSW, 2019



7. Animal health events notified to NSW Health

Key points:

- Sporadic cases of ABLV, anthrax, brucellosis, psittacosis, and Hendra virus infection were reported in animal populations in 2019

Notifications of significant zoonotic animal health events to the Department of Primary Industries (DPI) or Local Land Services (LLS) are rapidly communicated to NSW public health authorities. Depending on the disease and nature of the event, public health units (in collaboration with DPI, LLS and other relevant parties) will investigate human exposures and advise appropriate actions, which may include monitoring for symptoms and referral for laboratory testing and treatment. While animal health authorities work to confirm the diagnosis through laboratory tests at the Elizabeth Macarthur Agriculture Institute (EMAI) and the Australian Centre for Disease Preparedness (ACDP) and control spread in animal populations, public health authorities take steps to prevent human infections, such as providing education to reduce risk and post-exposure treatment, where indicated.

There were no incidents or clusters of highly pathogenic avian influenza, avian psittacosis, leptospirosis, terrestrial rabies or tularaemia reported in NSW animal populations during 2019.

During 2019, NSW authorities collectively responded to the following animal health events:

ABLV - 209 bats were submitted for testing following human exposures, exposure of a pet, or exhibiting signs suggestive of ABLV infection.

Six bats tested positive for ABLV. All 6 were flying foxes and had clinical signs consistent with ABLV; 4/6 of the positive bats were tested due to potential human exposures. All of the people who had contact with the bats were bat carers and were previously vaccinated against lyssavirus and had recent evidence of high titres (see also [Rabies and other lyssaviruses](#)).

Anthrax – was investigated on 209 occasions as the cause of death of stock, of which five incidents were confirmed. These occurred in February, October and December 2019 in sheep (4) and cattle (1). All incidents occurred in the anthrax belt of NSW. Shortly after infection was confirmed, all affected properties and livestock were managed in accordance with biosecurity directions issued under the Biosecurity Act (2015) (e.g. tracing, movement restrictions and vaccination of at-risk livestock, carcass disposal, equipment decontamination, etc.).

Brucellosis – samples from 212 dogs were submitted for *Brucella suis* testing during 2019, a 16% increase from 2018. Of these, 37 were serologically positive. The majority of positive cases originated from the north west of NSW and had reported either contact with feral pigs or were fed raw feral pig meat. NSW DPI assists private veterinarians in assessing and managing the risks posed by *Brucella suis* infection in dogs, providing advice on infection control to prevent transmission to humans and other animals. All infections were reported to the local public health unit for human health assessment and advice.

Equine Chlamydiosis – was investigated on 149 occasions in horses in NSW during 2019. *Chlamydia psittaci* was detected in 2 cases. Although the zoonotic potential of psittacosis from non-avian sources is not currently well understood, the case definition in the NSW psittacosis control guideline was updated from 1 July 2019, to include epidemiological links to any animal with confirmed chlamydiosis.

Avian chlamydiosis – 37 birds were tested for avian chlamydiosis in 2019. Two birds were confirmed positive from the north coast and greater Sydney regions.

Hendra virus infection – Of 285 reports of sick or dead horses where samples were submitted for Hendra virus testing in NSW during 2019, Hendra virus infection was confirmed on one property involving an unvaccinated horse. The event occurred in the Upper Hunter region in June 2019. The horse carcass was safely disposed of through burial and the property was managed in accordance with biosecurity directions issued under the *Biosecurity Act* (2015). The event was reported to the local public health unit for assessment. Seven people were assessed by an expert panel as having low risk exposure to the infected horse, for which prophylaxis with monoclonal antibodies was not indicated. (Table 4).

Table 4: Human assessment and treatment following exposure to horses infected with Hendra virus, NSW, 2019^a

Month	Council Area	Number of Horses	Number of Human contacts			Human Risk Assessment
			High Risk	Moderate Risk	Low/Neg Risk	
June	Upper Hunter Shire	1	0	0	7	7 people on the property were assessed and had minimal direct contact with sick horse during infectious period. Assessed as low or negligible risk.
Total		1	0	0	7	

^a Only lists humans deemed 'exposed'. The table does not include people who wore appropriate personal protective equipment (PPE).

8. Appendices

Appendix 1: Methods

Human disease notifications:

Under authority of the [NSW Public Health Act 2010](#), NSW Health receives notifications of communicable diseases from laboratories, doctors, and hospitals. Cases are recorded on the NSW Notifiable Conditions Information Management System (NCIMS) – a confidential, internet based system used by NSW public health units – and categorised based on the agreed national cases definitions.²

This report reflects notifications of anthrax, avian and other animal influenza virus infections, brucellosis, Hendra virus infections, leptospirosis, psittacosis, Q fever, and rabies and other lyssaviruses (including ABLV), recorded in NCIMS on or shortly after 31 May 2020. Unless specified otherwise, cases were categorised by calendar year based on notification date (i.e. the date of that public health were notified of the infection).

Incidence rates were calculated using mid-year estimated resident population (ERP) projections published by the Secure Analytics for Population Health Research and Intelligence (SAPHaRI) group, NSW Ministry of Health. This includes LGA based ERPs derived from estimates published by the NSW Department of Planning and Environment (prior to 2015)³ with projections from 2015 produced by using cubic spline interpolation, and Aboriginal/non-Aboriginal ERPs derived from estimates published by the Australian Bureau of Statistics.⁴

The degree to which notification data reflect the true incidence of disease varies between conditions, as many people with infectious disease will not be diagnosed with the disease or notified. For some conditions (e.g. Q fever), where infections may be asymptomatic or are not diagnosed, notifications likely underestimate the true incidence of disease. Notification data are also subject to retrospective changes – data are only accurate at the time of extraction.

Animal disease notifications:

Members of the public, veterinarians or animal owners or managers have a general biosecurity duty to notify certain suspected animal diseases under legislation. This report reflects selected conditions prone to infect humans, notified to the DPI during 2019, and conveyed to public health authorities. This information is not intended to reflect overall incidence of disease in the animal population, but rather an indication of the scope of diseases upon which the DPI and NSW Health collaborate to prevent transmission to the public.

Rabies post-exposure treatment:

Doctors contact public health units for advice on the management of potential exposures to lyssaviruses. Where indicated, public health units arrange for the ordering, urgent delivery and administration of rabies vaccine and HRIG to prevent infection – a service provided free of charge to NSW residents. These events are routinely captured in NCIMS, and records of rabies vaccine and HRIG distribution are maintained by the Immunisation Unit.

Costs estimates provided in this report were based on the total number and costs of treatments distributed and courier distribution costs. This does not take into account any salaries, consumables, consultation costs, other incidental costs borne by NSW Health or costs associated with testing bats.

Appendix 2: Zoonoses notifiable to NSW human and/or animal health authorities

Disease	Status in NSW	Human health notification	Animal health notification
Anaplasmosis	sporadic		✓
Anthrax	sporadic	✓	✓
Arboviral infections	varies by virus	✓	some
Babesiosis	sporadic		✓
Borna disease	exotic		✓
Brucellosis - <i>Brucella suis</i>	sporadic	✓	✓
Brucellosis - NEC	exotic	✓	✓
Camelpox	exotic		✓
Campylobacteriosis	endemic	*	
Crimean-Congo haemorrhagic fever	exotic	✓	✓
Cryptosporidiosis	endemic	✓	
Cysticercosis – porcine, bovine	exotic/sporadic		✓
Encephalitides (tick-borne)	exotic		✓
<i>Escherichia coli</i> - STEC and HUS	endemic	✓	
Getah virus infection	exotic		✓
Giardiasis	endemic	✓	
Glanders	exotic		✓
Hendra virus infection except in pteropid bats	sporadic	✓	✓
Hepatitis E	sporadic	✓	
Influenza - highly pathogenic avian influenza	exotic	✓	✓
Influenza - swine/equine influenza	exotic	✓	✓
Leishmaniasis	exotic		✓
Leptospirosis	endemic	✓	
Listeriosis	endemic	✓	
Louping ill	exotic		✓

Lyssavirus - ABLV	endemic	✓	✓
Lyssavirus - Rabies	exotic	✓	✓
Menangle virus infection	sporadic		✓
Nairobi sheep disease	exotic		✓
Newcastle disease	exotic		✓
Nipah virus infection	exotic	✓	✓
Pigeon paramyxovirus	sporadic		✓
Plague	exotic	✓	
Psittacosis (Ornithosis) / Chlamydiosis in birds	endemic	✓	✓
Q Fever	endemic	✓	
Rift Valley fever	exotic	✓	✓
Salmonellosis - NEC	endemic	✓	
Salmonellosis - <i>Salmonella</i> Enteritidis	sporadic	✓	✓
SARS CoV	exotic	✓	
Transmissible spongiform encephalopathy	exotic	✓	✓
Trichinellosis	exotic		✓
Trypanosomiasis / Chagas' disease	exotic		✓
Tuberculosis - Bovine (<i>Mycobacterium bovis</i>)	exotic		✓
Tuberculosis - other mammal or avian	sporadic	✓	✓
Tularaemia	Exotic/sporadic	✓	✓
Turkey rhinotracheitis (avian metapneumovirus)	exotic		✓
Vesicular stomatitis virus	exotic		✓
Viral haemorrhagic fever, human – NEC	exotic	✓	
Warble-fly myiasis	exotic		✓
Wesselsbron disease	exotic		✓

NEC: Not elsewhere classified. * *Campylobacter* notifications commenced in NSW on 7 April 2019
Table correct as at 24 May 2019

Appendix 3: Additional sources of information

See NSW Health's [Infectious Diseases website](#) for further information for the general public and health professionals on all human health conditions presented in this report, as well as other notifiable conditions.

This includes NSW-specific data and information, factsheets and control guidelines on:

- [Anthrax](#)
- [Avian influenza](#)
- [Brucellosis](#)
- [Hendra virus](#)
- [Leptospirosis](#)
- [Psittacosis](#)
- [Q fever](#)
- [Rabies and ABLV](#)
- [Tularaemia](#).

See the DPI's [Animal health and diseases](#) and [Animal Biosecurity Zoonoses](#) websites for further information for general public, veterinarians and animal health authorities about zoonoses in animals.

Appendix 4: List of acronyms

ABLV	Australian Bat Lyssavirus
ACDP	Australian Centre for Disease Preparedness
ACT	Australian Capital Territory
CDNA	Communicable Diseases Network Australia
DPI	Department of Primary Industries
EMAI	Elizabeth Macarthur Agriculture Institute
ERP	Estimated resident population
HRIG	Human rabies immunoglobulin
LGA	Local Government Area
LHD	Local Health District
LLS	Local Land Services
NCIMS	Notifiable Conditions Information Management System
NEC	Not elsewhere classified
NSW	New South Wales
NQFMP	National Q Fever Management Program
PCR	Polymerase chain reaction
PEP	Post-exposure prophylaxis
PPE	Personal protective equipment
SAPHaRI	Secure Analytics for Population Health Research and Intelligence
Yr	Year

9. Contributors and acknowledgements

This report was developed by staff of the One Health Branch and the Immunisation Unit, Communicable Diseases Branch, Health Protection NSW in collaboration with the NSW Department of Primary Industries.

Protecting the health of the community is a collaborative effort, involving public health units, clinicians, laboratory scientists, affected communities, and other government and community-based organisations. We sincerely thank all those involved for the role they played in NSW in 2019.

10. References

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