



Vaccine preventable disease among Aboriginal and Torres Strait Islander people

Quick facts

Compared with non-Indigenous children, vaccination rates are higher among Indigenous 5 year olds, but slightly lower among Indigenous 1 year olds.

The number of deaths caused by vaccine preventable diseases is relatively low among Indigenous Australians, however hospitalisation rates are generally higher among Indigenous Australians compared to other Australians.

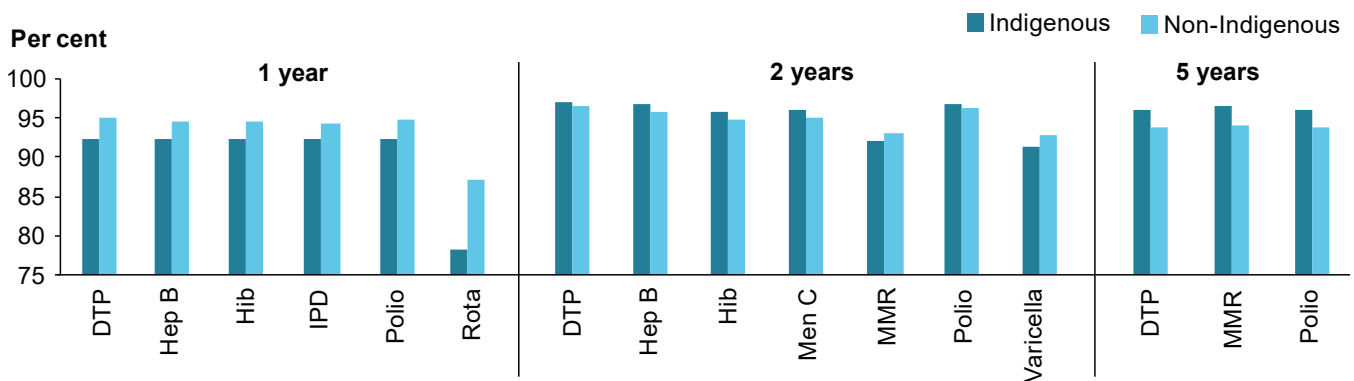
Aboriginal and Torres Strait Islander people are often affected by vaccine preventable diseases (VPDs) at a higher rate than non-Indigenous Australians. The National Immunisation Program (NIP) recognises this by providing extra doses of some vaccines and one additional vaccine for Indigenous Australians living in high-risk areas.

In 2011, 13% of the infectious disease burden among Indigenous Australians was caused by vaccine preventable diseases.

This fact sheet presents summary data about the impact of specific VPDs on Indigenous Australians.

Vaccination rates

In 2016, vaccination rates for vaccines included in the NIP were lower among Indigenous 1 year olds compared to non-Indigenous 1 year olds. However, among 5 year olds, vaccination rates were generally higher among Indigenous children.



Note: DTP = diphtheria/tetanus/whooping cough (pertussis); IPD = invasive pneumococcal disease; Rota = rotavirus; MMR = measles/mumps/rubella. Sources: NCIRS Annual immunisation coverage report 2016.

The NIP recommends additional vaccines for Indigenous Australians, including: hepatitis A at 12 and 18 months in high risk areas; additional vaccination against invasive pneumococcal disease at 12–18 months in high risk areas and for those aged 50 years and over; and influenza vaccination for children aged 6 months to less than 5 years, and those aged 15 years and over.

In late 2016, the vaccination rates among eligible Indigenous children were 71% for hepatitis A, 74% for the 12–18 month pneumococcal dose and 12% for influenza.



Selected vaccine preventable disease notifications

In 2016, Indigenous people represented 3.3% of the total Australian population, but accounted for over 10% of invasive meningococcal disease notifications, 12% of invasive pneumococcal disease notifications and over half (58%) of mumps notifications in 2014–2016.

Disease	Notifications 2014–2016 ^(a)			
	Total number of notifications	Indigenous		
		Number of notifications	% of notifications	Notification rate ratio ^(b)
Influenza ^(c)	129,172	5,782	4.5	1.0
Mumps	1,636	955	58.4	39.5
Invasive pneumococcal disease	4,727	581	12.3	6.1
Whooping cough (pertussis) ^(c)	28,167	572	2.0	0.6
Invasive meningococcal disease	602	63	10.5	3.1

(a) Notifications data only included for selected diseases. See online supplementary table for information on all VPDs.

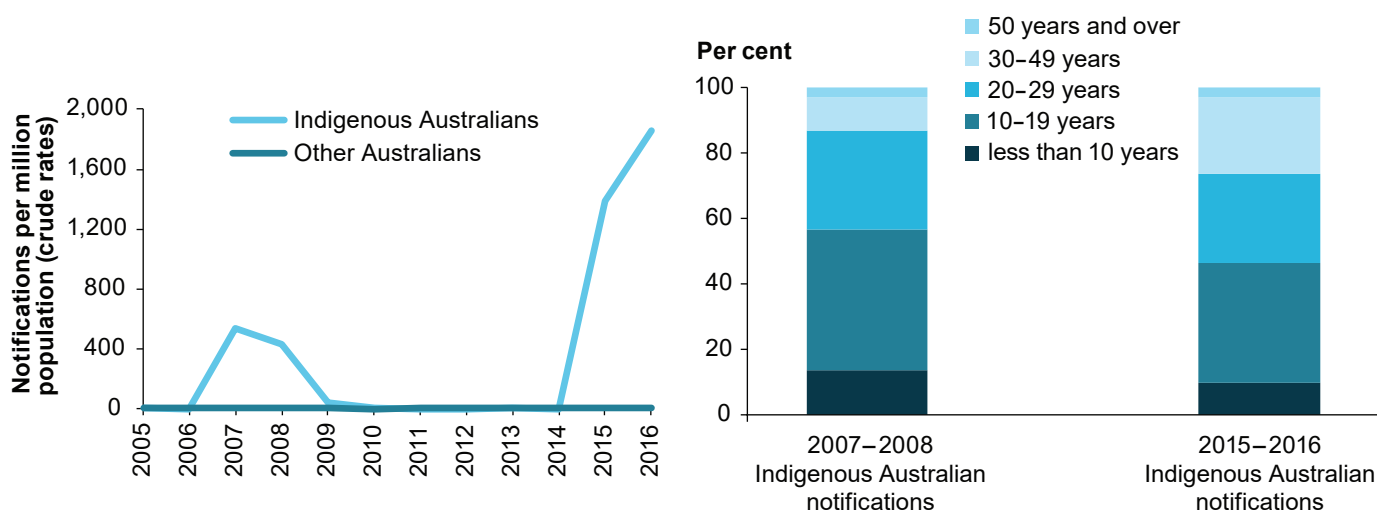
(b) Ratio derived using indirect standardisation with other Australians as the reference population. Ratio is the number of observed notifications among Indigenous Australians divided by the number of expected notifications if the Indigenous population had the same notification rate as other Australians. A ratio of more than 1.0 suggests that Indigenous Australians have more notifications than would be expected if they had the same notification rate as other Australians.

(c) Notification data included only states/territories with Indigenous status recorded on least 50% of records in the three-year period 2014–2016.

Source: AIHW analysis of NNDSS data extracted on 16 January 2018.

Mumps cases and hospitalisations

Over the three-year period 2014–2016, there were over 39 times as many mumps notifications among Indigenous Australians than would be expected if Indigenous Australians had the same notification rate as other Australians. The notification rate for mumps has been low among both Indigenous and other Australians since 2005, apart from two outbreaks which mainly affected Indigenous Australians (left figure). The majority of notifications among Indigenous Australians during the outbreak years were among those aged between 10 and 29 years (right figure).



Note: Analysis limited to states/territories with Indigenous completeness of at least 50% for all time periods.

Source: AIHW analysis of NNDSS data extracted on 16 January 2018.

There were 240 hospitalisations for mumps over the three-year period 2014–2016, 16% of which were among Indigenous Australians. Over this period, there were 5 times as many mumps hospitalisations among Indigenous Australians than would be expected if they had the same hospitalisation rate as other Australians.

Hospitalisations and deaths due to vaccine preventable disease

Hospitalisations and deaths are an indication of the more severe cases of VPDs.

Over the three-year period 2014–2016, the top three causes of VPD hospital admissions among Indigenous Australians were influenza (1,548 hospital admissions), pneumococcal disease (774 hospital admissions) and rotavirus (217 hospital admissions). For pneumococcal disease and mumps, Indigenous Australians had more than five times as many hospitalisations as would be expected if they had the same hospitalisation rate as other Australians. Indigenous Australians also had more than double the number of expected hospitalisations for rotavirus, meningococcal disease and influenza.

Between 2000 and 2016, the number of deaths caused by VPDs was relatively low among Indigenous and other Australians. Influenza and pneumococcal disease caused the highest number of deaths among Indigenous and other Australians over the period.

Disease	Hospitalisations 2014–2016 ^(a)				Deaths 2000–2016 ^{(b) (c)}			
	Total no. of hosp.	Indigenous			Total no. of deaths	Indigenous		
		No. of hosp.	% of hosp.	Hosp. rate ratio ^(d)		No. of deaths	% of deaths	Mortality rate ratio ^(d)
Influenza	31,838	1,548	4.9	2.1	1,513	52	3.4	3.0
Shingles (herpes zoster)	7,418	145	2.0	1.7	226	2	0.9	..
Pneumococcal disease	6,657	774	11.6	7.3	417	47	11.3	6.1
Rotavirus	1,942	217	11.2	2.7	13	0	0.0	..
Whooping cough (pertussis)	1,246	73	5.9	1.5	30	1	3.3	..
Chickenpox (varicella)	1,138	37	3.3	1.1	75	0	0.0	..
Meningococcal disease	591	51	8.6	2.3	222	20	9.0	2.1
Mumps	240	38	15.8	5.2	7	0	0.0	..

(a) Hospitalisation data only included for VPDs with at least 20 Indigenous hospitalisations in three year period 2014–2016. See online supplementary table for hospitals data on all VPDs.

(b) Deaths data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only, which are considered to have adequate levels of Indigenous identification in mortality data. Data for these jurisdictions over-represent Indigenous populations in less urbanised and more remote locations, and should not be assumed to represent the experience in the other jurisdictions.

(c) Deaths data only included for VPDs with at least 20 Indigenous hospitalisations in 2014–2016 and 20 Indigenous deaths in 2000–2016. See online supplementary table for mortality data on all VPDs.

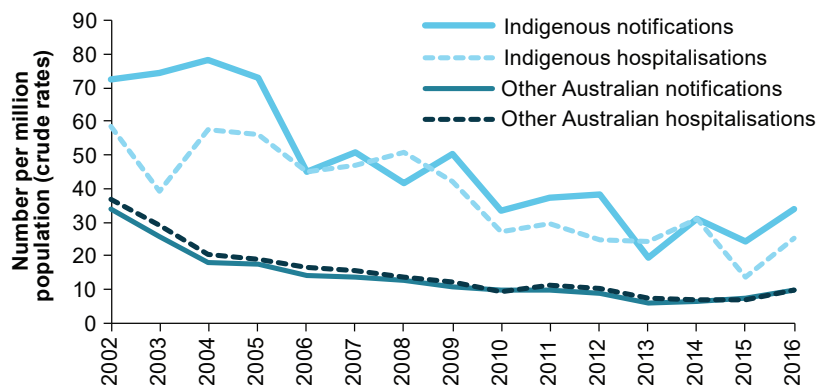
(d) Ratio derived using indirect standardisation with other Australians as the reference population. Ratio is the number of observed hospitalisations/deaths among Indigenous Australians divided by the number of expected hospitalisations/deaths if the Indigenous population had the same hospitalisation/death rate as other Australians. A ratio of more than 1.0 suggests that Indigenous Australians have more hospitalisations/deaths than would be expected if they had the same hospitalisations/deaths rate as other Australians. Mortality rate ratio only calculated for VPDs with at least 20 Indigenous deaths in 2000–2016.

Note: The identification of Indigenous status for hospitalisation and death records is incomplete, this means that the data are likely to be an underestimate of the true levels of hospitalisation and mortality among Indigenous Australians. The category 'other Australians' includes hospitalisation and death records where Indigenous status was not reported, as well as those reported as non-Indigenous. The proportion of records with Indigenous status not reported varied for the diseases included in this fact sheet, from 0.5% to 2.6%.

Sources: AIHW analysis of National Hospital Morbidity database; AIHW analysis of National Mortality database.

Meningococcal disease

Since 2002, notification and hospitalisation rates for meningococcal disease have decreased for both Indigenous and other Australians, although rates remained higher among Indigenous Australians in 2016 (see figure). In 2014–2016, there were twice as many meningococcal hospitalisations among Indigenous Australians than would be expected if Indigenous Australians had the same hospitalisation rate as other Australians.



Between 2000 and 2016, in the states and territories with adequate Indigenous identification in death records, Indigenous Australians accounted for 9.0% of meningococcal deaths (20 out of 222 deaths). This is twice as many deaths as would be expected if Indigenous Australians had the same death rate as other Australians.

Note: Notifications analysis limited to states/territories with Indigenous completeness of at least 50% for all time periods.

Sources: AIHW analysis of NNDSS data extracted on 16 January 2018; AIHW analysis of National Hospital Morbidity Database.

Whooping cough (pertussis)

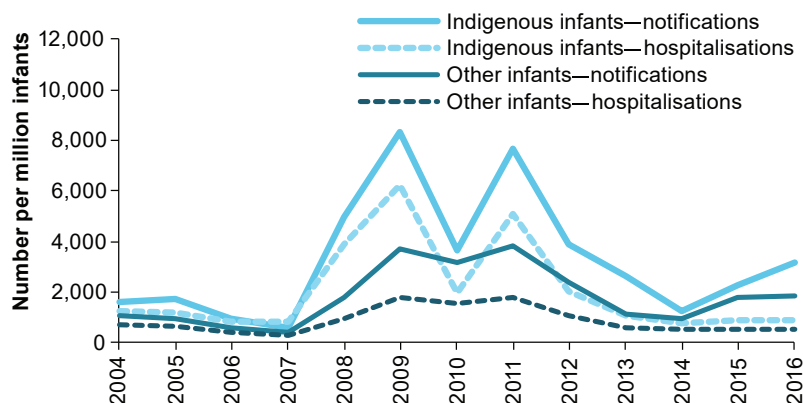
Over the three-year period 2014–2016, Indigenous Australians accounted for 2.0% of whooping cough notifications and 5.9% of whooping cough hospital admissions. However, among infants, Indigenous Australians accounted for 8.5% of whooping cough notifications and 9.5% of whooping cough hospital admissions.

	Notifications 2014–2016		Hospitalisations 2014–2016	
	All ages	Infants (less than 1 year)	All ages	Infants (less than 1 year)
Total number	28,167	1,464	1,246	496
Indigenous number	572	124	73	47
% Indigenous	2.0	8.5	5.9	9.5

Note: All ages notification data excludes notifications from New South Wales and Tasmania, due to Indigenous status recorded on less than 50% of records in the three-year period 2014–2016 for these jurisdictions.

Sources: AIHW analysis of NNDSS data extracted on 16 January 2018; AIHW analysis of National Hospital Morbidity database.

Between 2004 and 2016, annual notification and hospitalisation rates for whooping cough were higher among Indigenous infants compared to other Australian infants (see figure).



Death due to whooping cough is uncommon in Australia. Between 2000 and 2016, in the states and territories with adequate Indigenous identification in mortality data, there were 30 deaths due to whooping cough, almost half (47%) of which were infants. Over this period, there was one Indigenous Australian death due to whooping cough.

Note: Notifications analysis limited to states/territories with Indigenous completeness of at least 50% for all time periods.

Sources: AIHW analysis of NNDSS data extracted on 16 January 2018; AIHW analysis of National Hospital Morbidity Database.

This fact sheet is part of the [Vaccine-preventable diseases](#) release. For more information see [Immunisation](#) on the AIHW website.

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