



Vaccine preventable disease in Australia

Worldwide, vaccination is a very successful and cost-effective population health intervention. It is a safe and effective way to protect individuals from harmful infections, and to prevent the spread of these diseases in the community. In Australia, widespread vaccination began in 1932. Major immunisation campaigns carried out in the 1950s, 1960s and 1970s led to big reductions in the number of cases of vaccine preventable diseases (VPDs), and in the number of VPD-related deaths.

Vaccines work by training the immune system to recognise and fight off invading organisms. Although often used interchangeably, the terms vaccination and immunisation are not the same; vaccination is the process of receiving a vaccine, while immunisation is the process of receiving a vaccine and becoming immune to a disease as a result of being vaccinated.

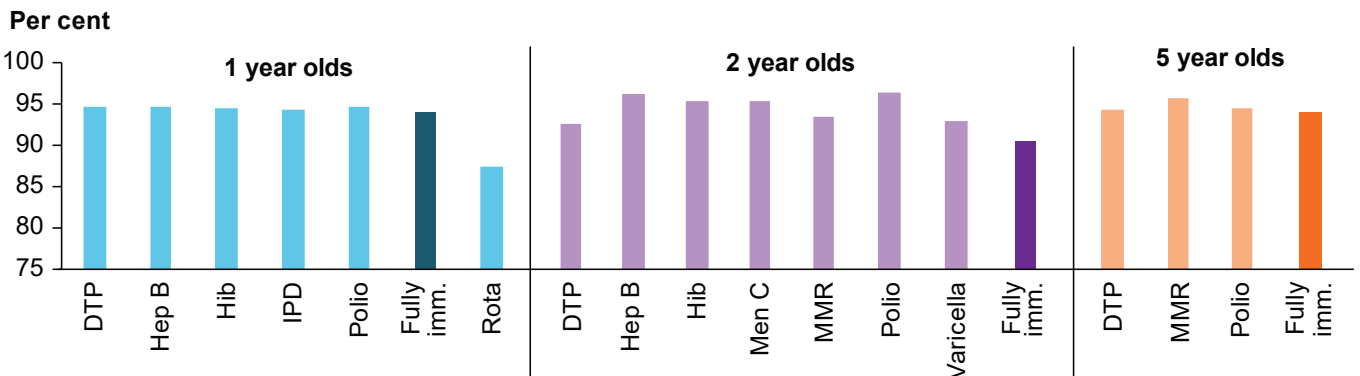
The Australian Government provides free vaccines to eligible people, including young children, older Australians, Aboriginal and Torres Strait Islander Australians, and others who are at greater risk of serious harm from VPDs, such as pregnant women. The National Immunisation Program (NIP) provides vaccines against 17 diseases, including measles, mumps and whooping cough.

This fact sheet presents national summary data about specific VPDs. More detailed data are available in disease-specific fact sheets.

Vaccination rates among Australian children

The NIP schedule recommends the vaccinations that a child needs and when they should receive them. For immunisation to have the greatest benefit, a large proportion of the community must be fully immunised. This helps to protect vulnerable groups in the community, such as those who are too young or too sick to be vaccinated.

Nationally, 94.0% of 1 and 5 year olds were fully immunised in 2017, compared with 90.5% of 2 year olds. Vaccination coverage rates varied by vaccine type and age, ranging from 87.5% for rotavirus vaccination among 1 year olds to 96.4% for polio vaccination among 2 year olds.



Notes:

1. DTP = diphtheria/tetanus/whooping cough (pertussis); IPD = invasive pneumococcal disease; Rota = rotavirus; MMR = measles/mumps/rubella. See online supplementary table for information on 'fully immunised'.
2. Rotavirus data are from December 2016. Rotavirus is not included in the 'fully immunised' definition due to strict upper age limits for administration.

Sources: NCIRS online coverage estimates for 2017, viewed 5 June 2018; NCIRS Annual immunisation coverage report 2016.

Notifications, hospitalisations and deaths

Collecting information about the number of notifications, hospitalisations and deaths attributed to VPDs can help to reveal the overall impact of these conditions in Australia. The table below shows information for 16 VPDs which have funded vaccination programs under the NIP. Data on cases of human papillomavirus (HPV) are not available; the HPV fact sheet in this series presents data relating to cervical cancer.

Disease	Notifications ^(a)		Hospitalisations in 2016	Deaths in 2016
	2016	2017		
Influenza	90,839	250,720	12,105	464
Whooping cough (pertussis)	20,106	12,192	445	1
Shingles (herpes zoster)	..(b)	..(b)	2,677	27
Pneumococcal disease	1,666	2,049	2,434	27
Mumps	804	811	97	1
Rotavirus	..(c)	..(c)	426	0
Chickenpox (varicella)	..(b)	..(b)	395	6
Meningococcal disease	252	381	245	13
Hepatitis A	145	216	74	0
Hepatitis B (acute/newly acquired)	162	141	76	20
Measles	99	81	50	0
HiB	17	16	17	0
Tetanus	7	4	14	1
Polio	0	0	<5	14
Rubella	15	10	<5	5
Diphtheria	8	8	<5	0

(a) Notifications data included for two years to show most recent data (2017), as well as comparison data (2016) for hospitalisations and deaths.

(b) The number of notifications have not been reported for these diseases as the ability to categorise infections such as chickenpox or shingles depends on follow-up to determine the clinical presentation of the case and this does not occur in the majority of cases notified.

(c) Rotavirus has not been notifiable for long enough to give a reliable estimate of the number of cases occurring.

Sources: AIHW analysis of NNDSS data extracted on 13 August 2018; AIHW analysis of National Hospital Morbidity Database; AIHW analysis of National Mortality Database.

Several of these diseases, such as rubella and diphtheria, are now rare in Australia as a result of Australia's high immunisation rates. It is important to maintain high immunisation rates to ensure that these diseases cannot spread through the community.

While immunisation is important for everyone, the greatest impact is the reduction in the number of hospitalisations and deaths, particularly in the most vulnerable (the very young and very old).

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

© Australian Institute of Health and Welfare 2018 

Vaccine-preventable diseases fact sheets. Cat no. PHE 236. Any enquiries about copyright and/or this fact sheet should be directed to: Australian Institute of Health and Welfare, GPO Box 570, Canberra ACT 2601, Tel: (02) 6244 1000, Email: <info@aihw.gov.au>.