

# AUSTRALIAN CHILDHOOD IMMUNISATION COVERAGE, 1 JANUARY TO 31 DECEMBER COHORT, ASSESSED AS AT 31 MARCH 2016

Alexandra Hendry for the National Centre for Immunisation Research and Surveillance of Vaccine Preventable Diseases

## Introduction

The National Centre for Immunisation Research and Surveillance of Vaccine Preventable Diseases (NCIRS) provides commentary on the trends in ACIR data. For further information please contact NCIRS at: telephone +61 2 9845 1423, email: alexandra.hendry@health.nsw.gov.au

Tables 1, 2 and 3 provide the latest rolling annualised quarterly report on childhood immunisation coverage from the Australian Childhood Immunisation Register (ACIR) for all children.

The data show the percentage of all children 'fully immunised' at 12 months, 24 months and 60 months of age, for four 3-month birth cohorts of children assessed at the stated ages between 1 January 2015 and 31 December 2015 using ACIR data up to 31 March 2016. 'Fully immunised' refers to vaccines on the National Immunisation Program Schedule, but excludes rotavirus, and is outlined in more detail below.

'Fully immunised' at 12 months of age is defined as a child having a record on the ACIR of 3 doses of a diphtheria (D), tetanus (T) and pertussis-containing (P) vaccine, 3 doses of polio vaccine, 2 or 3 doses of *Haemophilus B* conjugate (PRP-OMP) containing *Haemophilus influenzae* type b (Hib) vaccine or 3 doses of any other Hib vaccine, 3 doses of hepatitis B vaccine, and 3 doses of 13-valent pneumococcal conjugate vaccine. 'Fully immunised' at 24 months of age is defined as a child having a record on the ACIR of 3 doses of a DTP-containing vaccine, 3 doses of polio vac-

cine, 3 or 4 doses of PRP-OMP Hib, Infanrix Hexa or Hiberix vaccine (3 doses only of Infanrix Hexa or Hiberix if given after 11.5 months of age), or 4 doses of any other Hib vaccine, 3 doses of hepatitis B vaccine, 2 doses of a measles-mumps-rubella-containing (MMR) vaccine, 1 dose of meningococcal C vaccine, and 1 dose of varicella vaccine. 'Fully immunised' at 60 months of age is defined as a child having a record on the ACIR of 4 doses of a DTP-containing vaccine, 4 doses of polio vaccine, and 2 doses of an MMR-containing vaccine.

A full description of the basic methodology used can be found in *Commun Dis Intell* 1998;22(3):36–37.

## Results

The rolling annualised percentage of all children 'fully immunised' by 12 months of age for Australia increased marginally from the previous report by 0.4 of a percentage point to 92.7% (Table 1). All jurisdictions experienced small increases in the percentage of children 'fully immunised' by 12 months of age. For individual vaccines due by 12 months of age all jurisdictions achieved coverage greater than 92%.

The rolling annualised percentage of all children 'fully immunised' by 24 months of age for Australia increased by 0.8 percentage points for the 2nd consecutive report to reach 90.1% (Table 2). All jurisdictions experienced increases of more than 0.6 percentage points in fully immunised coverage for this age group. Coverage for individual vaccines due by 24 months of age remains above 93% in all

**Table 1. Percentage of children immunised at 12 months of age for the birth cohort 1 January to 31 December 2014, preliminary results, by disease and state or territory; assessment date 31 March 2016**

Vaccine	State or territory								Aust.
	ACT	NSW	NT	Qld	SA	Tas.	Vic.	WA	
Total number of children	5,698	99,224	3,695	62,926	20,295	5,846	77,189	34,555	309,428
Diphtheria, tetanus, pertussis (%)	95.0	93.6	93.5	93.4	93.4	93.3	93.7	93.2	93.5
Poliomyelitis (%)	95.0	93.5	93.5	93.4	93.4	93.2	93.7	93.2	93.5
<i>Haemophilus influenzae</i> type b (%)	94.5	93.3	93.4	93.2	93.2	93.2	93.3	93.0	93.3
Hepatitis B (%)	94.8	93.3	93.8	93.3	93.2	93.2	93.4	92.9	93.3
Pneumococcal	94.6	93.2	93.5	93.1	93.1	93.2	93.3	92.9	93.2
Fully immunised (%)	94.0	92.7	93.0	92.8	92.7	92.9	92.7	92.4	92.7

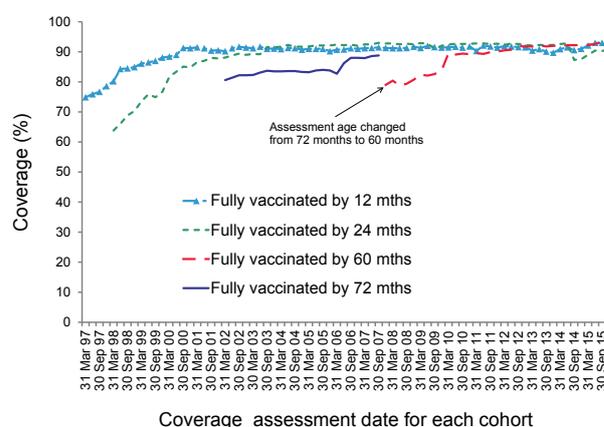
jurisdictions, except for varicella and the MMR vaccine. Coverage for these antigens at 24 months of age have however, continued to improve with varicella coverage increasing from the previous report by 0.3 of a percentage point to 92.1% and MMR increasing by 0.6 of a percentage point to 91.8%.

The rolling annualised percentage of all children ‘fully immunised’ by 60 months of age for Australia increased from the previous report by only 0.1 of a percentage point to 92.7% (Table 3). Coverage for individual vaccines due by 60 months of age remains greater than 91% in all jurisdictions.

The Figure shows the trends in vaccination coverage from the 1st ACIR-derived published coverage estimates in 1997 to the current estimates. Overall, there is a clear trend of increasing vaccination coverage over time for children aged 12 months, 24 months and 60 months (from December 2007). Coverage by 24 months did fall below the 12 and 60 month coverage estimates following the change in the 24 month coverage assessment algorithm to include meningococcal dose 1, varicella dose 1, and MMR dose 2 instead of MMR dose 1. However, ‘fully immunised’ coverage by 24 months has been steadily increasing since this change and as at 31 December 2015 reached 90.8%. In the last quarter of 2015 there have been marginal decreases in the coverage estimates by 12 and 60 months to 92.8% for both milestones.

The National Centre for Immunisation Research and Surveillance of Vaccine Preventable Diseases is supported by the Australian Government Department of Health, the NSW Ministry of Health and The Children’s Hospital at Westmead. The opinions expressed in this paper are those of the authors, and do not necessarily represent the views of these agencies.

**Figure: Trends in vaccination coverage, Australia, 1997 to 31 December 2015, by age cohorts**



**Table 2. Percentage of children immunised at 24 months of age for the birth cohort 1 January to 31 December 2013, preliminary results, by disease and state or territory; assessment date 31 March 2016**

Vaccine	State or territory								Aust.
	ACT	NSW	NT	Qld	SA	Tas.	Vic.	WA	
Total number of children	5,632	99,150	3,560	62,164	19,764	5,950	76,598	33,989	306,807
Diphtheria, tetanus, pertussis (%)	96.9	95.5	95.3	95.6	95.6	95.7	96.1	95.6	95.7
Poliomyelitis (%)	96.8	95.5	95.3	95.6	95.5	95.7	96.1	95.6	95.7
<i>Haemophilus influenzae</i> type b (%)	95.9	94.6	94.3	94.9	94.5	94.5	95.1	94.5	94.8
Measles, mumps, rubella (%)	93.4	91.8	91.2	92.2	91.6	92.0	92.1	90.8	91.8
Hepatitis B (%)	96.6	95.3	95.5	95.4	95.3	95.5	95.8	95.2	95.5
Meningococcal C (%)	95.5	94.5	94.4	94.8	93.8	94.6	94.7	93.6	94.5
Varicella (%)	93.9	92.1	90.3	92.2	91.9	91.7	92.6	91.1	92.1
Fully immunised (%)	91.7	89.9	88.5	90.9	89.2	89.7	90.5	88.7	90.1

**Table 3. Percentage of children immunised at 60 months of age for the birth cohort 1 January to 31 December 2010, preliminary results, by disease and state or territory; assessment date 31 March 2016**

Vaccine	State or territory								Aust.
	ACT	NSW	NT	Qld	SA	Tas.	Vic.	WA	
Total number of children	5,442	100,916	3,490	64,983	20,184	6,130	76,176	34,257	311,578
Diphtheria, tetanus, pertussis (%)	94.3	93.8	93.1	93.1	92.4	94.4	93.7	91.9	93.3
Poliomyelitis (%)	94.2	93.8	93.1	93.1	92.4	94.3	93.7	91.9	93.3
Measles, mumps, rubella (%)	94.2	93.8	93.3	93.0	92.4	94.4	93.7	91.9	93.3
Fully immunised (%)	93.7	93.2	92.1	92.5	91.7	93.7	93.1	91.2	92.7