Invasive pneumococcal disease surveillance Australia, 1 January to 31 March 2015

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Summary

The number of notified cases of invasive pneumococcal disease (IPD) in the 1st quarter of 2015 was less than the previous quarter and less than the number of notified cases in the 1st quarter of 2014. Overall, the decline in disease due to the serotypes targeted by the 13-valent pneumococcal conjugate vaccine (13vPCV), across all age groups, has been maintained since the 13vPCV replaced the 7-valent pneumococcal conjugate vaccine (7vPCV) in the childhood immunisation program from July 2011.

Key points

In the 1st quarter of 2015, there were 188 cases of IPD reported to the NNDSS. This was a 13% reduction on the number of cases reported for the same period in 2014 (n=215) (Table 1). Most serotypes affect all age groups, with serotype 19A being the most common cause of IPD overall (Table 2).

In non-Indigenous Australians, the number of notified cases was highest in the under 5 years age group followed by the 65–69 years age group. In Aboriginal and Torres Strait Islander people, the number of notified cases was highest in the under 5 years age group followed by the 50–54 years age group (Table 3). The distribution of IPD cases across age groups and by Indigenous status was similar to the 1st quarter of 2014 (http://www.health.gov.au/internet/main/publishing.nsf/Content/cda-cdi3802n.htm).

There were 30 cases of IPD reported in children under 5 years of age, of which 39% (n=11) were due to a serotype included in either the 7vPCV or the 13vPCV (Figure 1). The most common serotypes affecting this age group were 19A and 19F, both of which are included in the 13vPCV (Table 2). The number of cases in this age group and serotype distribution is similar to the 1st quarter of 2014.

There were 10 cases of IPD reported in Indigenous Australians aged 50 years or over. Of those cases with a reported serotype, 44% (n=4) were due to a serotype included in the 23-valent polysaccharide pneumococcal vaccine (23vPPV) (Figure 2). The number of notified cases of IPD in this age group was similar to the 1st quarter of 2014 (n=9) and a small reduction from the previous quarter (n=14). The proportion of 23vPPV serotypes also remained stable (2014 quarter 4, 38%).

There were 55 cases of IPD reported in non-Indigenous Australians aged 65 years or over. Of

Table 1: Notified cases of invasive pneumococcal disease, Australia, 1 January to 31 March 2015, by Indigenous status, serotype completeness and state or territory

Indigenous status	ACT	NSW	NT	Qld	SA	Tas.	Vic.	WA	Total Q1 2015	Total Q4 2014	Total Q1 2014	Year to date 2015
Indigenous	0	6	10	7	2	0	0	8	33	40	45	33
Non-Indigenous	1	29	2	21	14	4	44	11	126	272	148	126
Not stated/ unknown	0	14	0	2	0	0	13	0	29	41	22	29
Total	1	49	12	30	16	4	57	19	188	353	215	188
Indigenous status completeness* (%)	100	71	100	93	100	100	77	100	85			–
Serotype completeness† (%)	100	94	100	93	95	100	98	98	96			–

* Indigenous status completeness is defined as the reporting of a known Indigenous status, excluding the reporting of not stated or unknown Indigenous status.

† Serotype completeness is the proportion of all cases of invasive pneumococcal disease that were reported with a serotype or reported as non-typable. Serotype incompleteness may include when no isolate was available as diagnosis was by polymerase chain reaction and molecular typing was not attempted or was not possible due to insufficient genetic material; the isolate was not referred to the reference laboratory or was not viable; typing was pending at the time of reporting, or no serotype was reported by the notifying jurisdiction to the National Notifiable Diseases Surveillance System.

Table 2: Frequently notified serotypes of invasive pneumococcal disease, Australia, 1 January to 31 March 2015, by age group

Serotype	Age group			Serotype total*
	Under 5 years	5 to 64 years	Over 65 years	
19A	5	6	6	17
23B	3	5	5	13
19F	4	5	3	12
6C	0	4	8	12
3	2	6	1	9
9N	2	6	1	9
16F	0	5	3	8
8	1	6	1	8
11A	0	5	2	7
15A	0	2	4	6
22F	0	2	4	6
23A	0	2	4	6
15B	2	2	1	5
33F	0	3	2	5
7F	0	5	0	5
Other	8	18	17	43
Serotype unknown†	3	10	4	17
Total	30	92	66	188

* Serotypes that only occur in less than 5 cases per quarter are grouped as 'Other' and include 'non-typable' samples this quarter.

† 'Serotype unknown' includes those serotypes reported as 'no isolate', 'not referred', 'not viable', 'typing pending' and 'untyped'.

Figure 1: Notifications (2004 to 31 March 2015) and annual rates (2004 to 2014) of invasive pneumococcal disease in children aged less than 5 years, Australia, by vaccine serotype group

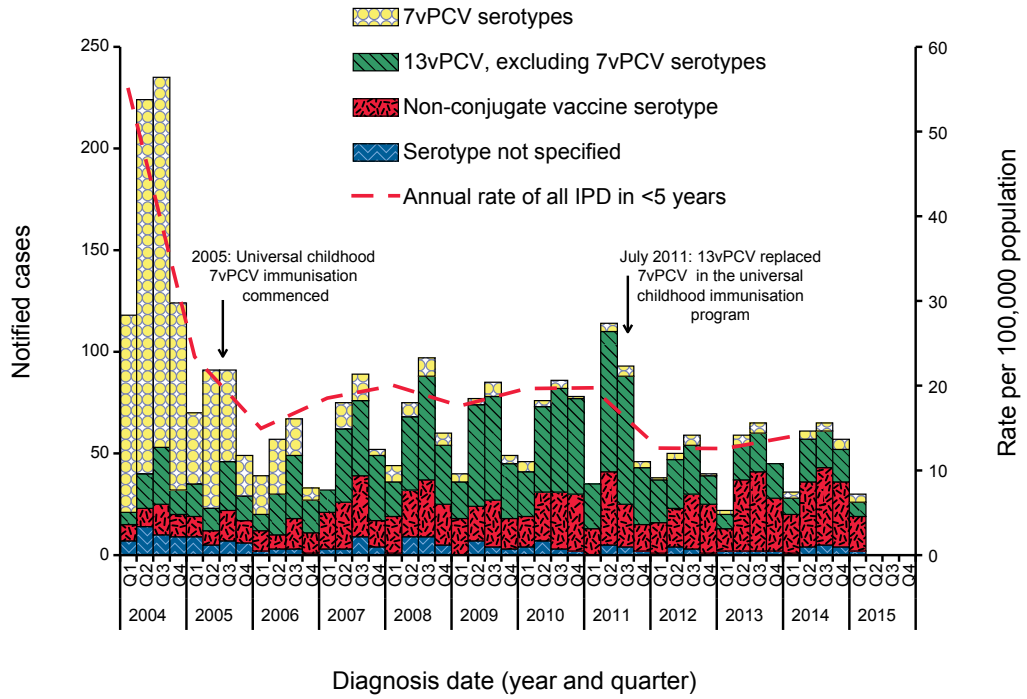


Table 3 Notified cases of invasive pneumococcal disease, Australia, 1 January to 31 March 2015, by Indigenous status and age group

Age group	Indigenous status			
	Indigenous	Non-Indigenous	Not reported	Total
0–4	8	20	2	30
5–9	2	4	2	8
10–14	2	2	1	5
15–19	1	1	2	4
20–24	1	0	0	1
25–29	0	0	0	0
30–34	1	5	0	6
35–39	1	2	2	5
40–44	4	2	2	8
45–49	3	2	5	10
50–54	5	13	2	20
55–59	2	10	0	12
60–64	1	10	2	13
65–69	0	14	4	18
70–74	1	10	1	12
75–79	0	13	1	14
80–84	1	6	0	7
85+	0	12	3	15
Total	33 (18%)	126 (67%)	29 (15%)	188

those cases with a reported serotype, 40% (n=21) were due to a serotype included in the 23vPPV (Figure 3). The number of cases in this age group was similar to the same quarter of the previous 5 years however the proportion of vaccine serotypes has steadily decreased over the same period.

In this quarter there were 12 deaths attributed to 11 different IPD serotypes. No deaths in children aged under 5 years were reported.

Notes

The data in this report are provisional and subject to change as laboratory results and additional case information become available. More detailed data analysis of IPD in Australia and surveillance methodology are described in the IPD annual report series published in *Communicable Diseases Intelligence* (CDI).

In Australia, pneumococcal vaccination is recommended as part of routine immunisation for children, the medically at risk and older Australians. More information on the scheduling of the pneumococcal vaccination can be found on the Immunise Australia Program website (www.immunise.health.gov.au).

Figure 2: Notifications (2004 to 31 March 2015) and annual rates of all invasive pneumococcal disease (2004 to 2014) in Indigenous Australians aged 50 years or over, Australia, by vaccine serotype group

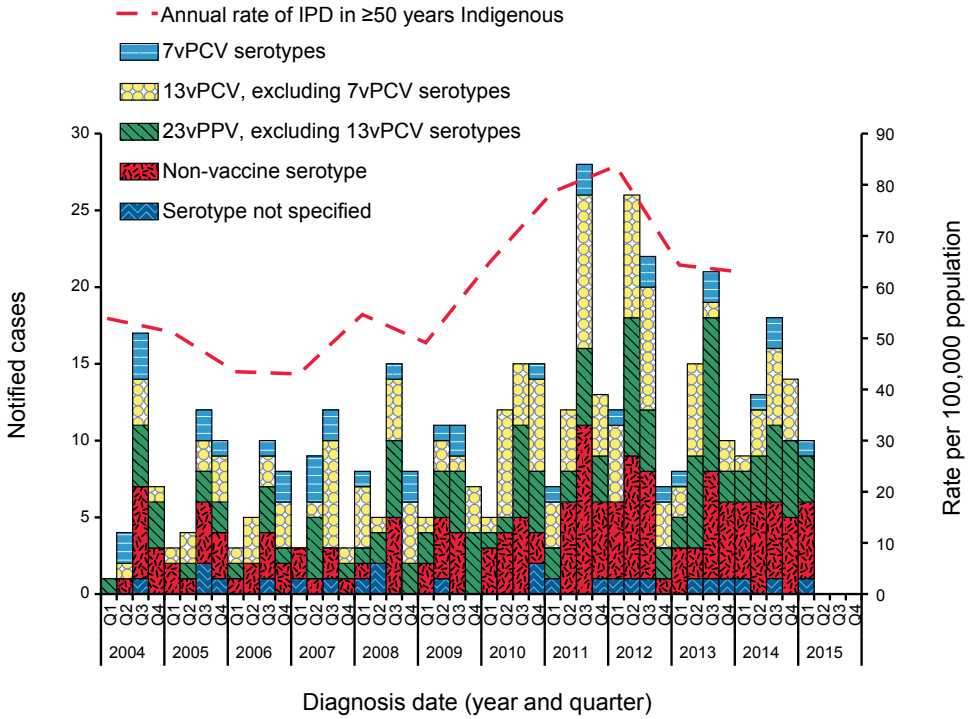
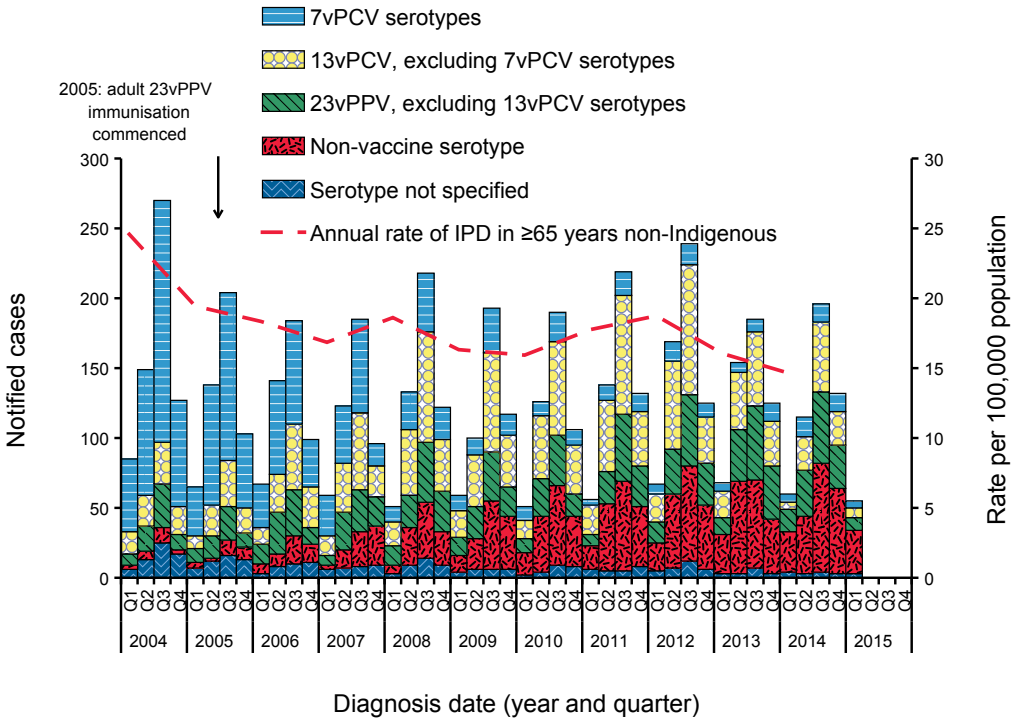


Figure 3: Notifications (2004 to 31 March 2015) and annual rates of all invasive pneumococcal disease (2004 to 2014) in non-Indigenous Australians aged 65 years or over, Australia, by vaccine serotype group



Acknowledgements

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