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Summary of National Surveillance Data on Vaccine Preventable Diseases in Australia, 2016-2018 Final Report

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Two tables within this report, as originally published, contained errors which are notified and corrected here. In Table 1, an incorrect rate ratio was reported for pneumococcal disease hospitalisations. In Table 3.10.1, the reported statistics for pneumococcal disease hospitalisations were for hospitalisation where pneumococcal disease was noted as the principal cause of hospitalisation. For consistency with previous surveillance reports and with reporting on the length of stay for hospitalisations in this table, the hospitalisation statistics have now been corrected to report hospitalisation numbers where pneumococcal disease was coded as any cause of hospitalisation during the reporting period. The corrected versions of these two tables are now shown overleaf.

****Table 1: Notifications, hospitalisations and deaths for 16 vaccine preventable diseases, current versus previous reporting periods (2016–18 vs 2012–15)a****

| Disease | Notifications | | | Hospitalisations Principal diagnosis | | | Deaths Underlying cause | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Average annual rateb 2012–2015 | Average annual rateb 2016–2018 | Rate ratio (95% CI)c | Average annual rateb 2012–2015 | Average annual rateb 2016–2018 | Rate ratio (95% CI)c | Average annual rateb 2012–2015 | Average annual rateb 2016–2018 | Rate ratio (95% CI)c |
| Diphtheria | < 0.01 | 0.04 | 4.87 (2.07–13.26) | 0.01 | 0.01 | 0.88 (0.29–2.57) | < 0.01 | < 0.01 | 1.26 (0.02–99.21) |
| *Haemophilus influenzae* type b | 0.08 | 0.07 | 0.88 (0.61–1.28) | naf | naf | – | naf | naf | – |
| Hepatitis A | 0.83 | 1.08 | 1.31 (1.19–1.45) | 0.43 | 0.61 | 1.41 (1.23–1.62) | 0.01 | 0 | 0 (0–1.38) |
| Hepatitis B | 0.73 | 0.62 | 0.86 (0.76–0.97) | 0.49 | 0.37 | 0.75 (0.65–0.88) | 0.09 | 0.07 | 0.82 (0.57–1.18) |
| Influenza d | 258.65 | 543.42 | 2.10 (2.09–2.11) | 34.68 | 73.92 | 2.13 (2.11–2.16) | 0.84 | 2.51 | 3.01 (2.77–3.28) |
| Measles | 0.83 | 0.38 | 0.46 (0.40–0.53) | 0.31 | 0.19 | 0.62 (0.50–0.76) | < 0.01 | 0 | 0 (0–49.29) |
| Meningococcal disease | 0.77 | 1.24 | 1.60 (1.45–1.77) | 1.00 | 1.37 | 1.38 (1.26–1.51) | 0.04 | 0.06 | 1.61 (1.02–2.57) |
| Mumps | 1.34 | 3.05 | 2.28 (2.13–2.44) | 0.31 | 0.44 | 1.45 (1.23–1.71) | < 0.01 | < 0.01 | 2.53 (0.13–149.13) |
| Pertussis | 75.96 | 60.91 | 0.80 (0.79–0.81) | 2.15 | 1.40 | 0.66 (0.61–0.71) | 0.01 | < 0.01 | 0.53 (0.15–1.61) |
| Pneumococcal diseasee | 6.91 | 7.78 | 1.13 (1.09–1.17) | 1.74 | 2.23 | 1.29 (1.23–1.35) | 0.09 | 0.11 | 1.18 (0.86–1.61) |
| Q fever | 2.08 | 2.10 | 1.01 (0.95–1.08) | 0.66 | 0.74 | 1.12 (1.00–1.26) | 0.01 | < 0.01 | 0.76 (0.12–3.90) |
| Rotavirus | naf | 11.63g | – | 3.83 | 3.03 | 0.79 (0.75–0.84) | < 0.01 | < 0.01 | 1.26 (0.09–17.44) |
| Rubella | 0.10 | 0.05 | 0.49 (0.32–0.73) | 0.01 | < 0.01 | 0.63 (0.19–1.82) | < 0.01 | 0.01 | 7.58 (0.92–348.81) |
| Tetanus | 0.02 | 0.02 | 1.11 (0.50–2.42) | 0.05 | 0.05 | 1.10 (0.70–1.72) | < 0.01 | 0.01 | 2.53 (0.36–27.94) |
| Varicella | naf | naf | – | 1.82 | 1.82 | 1.00 (0.93–1.07) | 0.02 | 0.02 | 0.77 (0.37–1.56) |
| Zoster | naf | naf | – | 11.21 | 13.14 | 1.17 (1.14–1.21) | 0.12 | 0.12 | 1.05 (0.78–1.39) |

a Data from 2012–2015 are in the previous report.12

b Rate per 100,000 population.

c Rate ratio = (average annual rate in 2016–2018) / (average annual rate in 2012–2015). Please note the following when interpreting rate ratios:

Rate ratio > 1: the average annual rate ratio was higher in the current reporting period (2016–2018) than in the previous reporting period (2012–2015)

Rate ratio < 1: the average annual rate ratio was lower in the current reporting period than in the previous reporting period

Rate ratio =1: the average annual rate ratio was the same in the current reporting period as in the previous reporting period

A rate ratio with a 95% confidence interval (95% CI) that overlaps with 1 is considered not statistically significant.

d Minimum estimates as notifications, hospitalisations and deaths grossly underestimate influenza-related cases.

e Pneumococcal hospitalisations and deaths septicaemia and meningitis only.

f na: not applicable, because data are unavailable for one or both periods.

g Rotavirus notifications for the period 2016–2018 are reported for notifications where the month of diagnosis was between 1 July 2018 and 31 December 2018 only.

**Table 3.10.1: Pneumococcal disease notifications, hospitalisations and deaths, Australia, 2016 to 2018,a by age group**

| Age group (years) | Notifications | | Hospitalisations | | | | LOSb per admission | | Deathsc | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Pneumococcal meningitis or septicaemia | | Pneumococcal pneumonia (without meningitis or septicaemia) | | Pneumococcal meningitis or septicaemia | Pneumococcal pneumonia  (without meningitis or septicaemia) |  | |
| n | Rated | ne | Rated,e | nf | Rated,f | Median days | | n | Rated |
| < 1 | 222 | 23.89 | 114 | 12.27 | 62 | 6.67 | 6 | 6 | 1–5 | 0.22 |
| 1–4 | 618 | 16.28 | 144 | 3.79 | 386 | 10.17 | 6 | 6 | 1–5 | 0.08 |
| 5–14 | 241 | 2.63 | 85 | 0.93 | 194 | 2.11 | 5 | 7 | 1–5 | 0.01 |
| 15–24 | 149 | 1.55 | 74 | 0.77 | 228 | 2.37 | 5 | 3 | 1–5 | 0.02 |
| 25–49 | 1,025 | 3.98 | 572 | 2.22 | 1,955 | 7.59 | 6 | 4 | 22 | 0.09 |
| 50–64 | 1,299 | 9.90 | 763 | 5.82 | 2,459 | 18.74 | 8 | 5 | 40 | 0.30 |
| ≥ 65 | 2,188 | 19.23 | 1,329 | 11.68 | 4,932 | 43.35 | 8 | 6 | 89 | 0.78 |
| **All ages** | **5,742** | **7.78** | **3,081** | **4.18** | **10,216** | **13.85** | **7** | **5** | **159** | **0.22** |

a Notifications where the month of diagnosis was between 1 January 2016 and 31 December 2018; hospitalisations where the month of admission was between 1 January 2016 and 31 December 2018.

b LOS: length of stay in hospital.

c Deaths sourced from the Causes of Death database from the Australian Coordinating Registry. Deaths include underlying and associated causes of deaths.

d Average annual age-specific rate per 100,000 population.

e Pneumococcal meningitis or septicaemia (proxy for invasive pneumococcal disease).

f Pneumococcal pneumonia.

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