

Metadata: Meningococcal disease notifications

| Information topic | Details |
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| Indicator name | Meningococcal disease notifications in children aged 0–14 years |
| Domain and topic | Indoor environment |
| Rationale | Meningococcal disease is a serious bacterial infection, which can cause meningitis and septicaemia (blood poisoning), and even death. Although there are several different groups of meningococcal bacteria, groups B and C are more likely to cause disease in New Zealand (ESR, 2014). Household crowding increases the risk of meningococcal disease, particularly in those aged 0–16 years (Baker et al, 2013). Second-hand smoke exposure is also associated with an increased risk of invasive meningococcal disease in children (Lee et al, 2010; Murray et al, 2012). |
| Indicator definition and units | The number and rate of notifications of meningococcal disease. Rates are presented per 100,000 population. |
| Data source | National database of notifiable diseases (EpiSurv), from ESR (Institute of Environmental Science and Research Ltd). |
| Numerator | Annual number of notifications of meningococcal disease in children aged 0–14 years. |
| Denominator | Population estimates (2013 and prior) and projections (after 2013) from Statistics New Zealand. For the NZDep2013 analysis, the 2013 denominator population by NZDep2013 deciles, age group and sex has been used. |
| Methodology | <p>Meningococcal disease is notifiable in New Zealand. All cases diagnosed by doctors and/or laboratories are required to be notified to the Medical Officer of Health in the region, who notifies the case to the national data collection (EpiSurv) administered by ESR, or directly to EpiSurv for further investigation.</p> <p>Age-standardised rates have been calculated using the direct method, using the World Health Organization world population age distribution (Ahmad et al 2000). Prioritised ethnicity has been used, in the following prioritisation order: Māori, Pacific peoples, Asian, European/Other. We have used the variables provided on the dataset for the analysis, including prioritised ethnicity, sex, NZDep2013 decile and District Health Board (DHB).</p> |
| Time period and time scale | Annual data, from 2007 to the most recent data available. |
| Population coverage | National. |

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| Reporting variables | Results are presented by year, sex, age group, ethnic group, NZDep, urban/rural classification, and District Health Board (DHB). Results are also presented by serogroup. |
| Confidence intervals | 95% confidence intervals were calculated based on the methodology outlined in APHO (2008). Confidence intervals are presented as error bars on graphs. |
| Limitations of indicator and data source | Notifications only cover those people who visited a GP or hospital for treatment, and therefore may underestimate the true rate of disease in the population. |
| Related indicators | Household crowding Second-hand smoke exposure Lower respiratory tract infection hospitalisations |
| References | <p>Ahmad, O.B., et al. (2000). <i>Age Standardization of Rates: A New WHO Standard (Technical Report)</i>. GPE Discussion Paper Series: No. 31. Geneva: World Health Organization.</p> <p>APHO. (2008). <i>Technical Briefing 3: Commonly used public health statistics and their confidence intervals</i>. York, UK: Association of Public Health Observatories.</p> <p>Baker, M.G., McDonald, A., Zhang, J., Howden-Chapman, P. (2013). <i>Infectious diseases attributable to household crowding in New Zealand: A systematic review and burden of disease estimate</i>. Wellington: He Kainga Oranga/ Housing and Health Research Programme, University of Otago.</p> <p>ESR. (2014). <i>The epidemiology of meningococcal disease in New Zealand 2013</i>. Porirua, Wellington: ESR. Available online: https://surv.esr.cri.nz/PDF_surveillance/MeningococcalDisease/2013/2013AnnualReport.pdf (accessed 14 Mar 2018).</p> <p>Lee, C-C., Middaugh, N.A., Howie, S.R.C., Ezzati, M. (2010). Association of Secondhand Smoke Exposure with Pediatric Invasive Bacterial Disease and Bacterial Carriage: A Systematic Review and Meta-analysis. <i>PLoS Medicine</i> 7(12): e1000374. doi:10.1371/journal.pmed.1000374</p> <p>Murray, R.L., Britton, J., Leonardi-Bee, J. (2012). Second hand smoke exposure and the risk of invasive meningococcal disease in children: systematic review and meta-analysis. <i>BMC Public Health</i> 12:1062.</p> |