

## Metadata: Asthma prevalence

Information topic	Details
Indicator name	<b>Asthma prevalence</b>
Domain and topic	Indoor environment domain: Asthma
Rationale	Asthma affects a person's airways, and makes it difficult to breathe. Second-hand smoke exposure can increase the risk of asthma in children (US Department of Health and Human Services, 2007). Nitrogen dioxide exposure is also associated with asthma prevalence (Guarnieri & Balmes, 2014). Indoor dampness/mould is also associated with asthma onset and exacerbation in children (Jaakkola et al., 2011; Prezant & Douwes, 2011). Evidence also suggests that transport-related air pollution may increase the incidence of asthma (Orellano et al., 2017).
Indicator definition and units	Prevalence of medicated asthma, defined as having been diagnosed by doctor as having asthma and using inhalers, medicine, tablets, pills or other medication, in children aged 2–14 years.
Data source	New Zealand Health Survey, conducted by the Ministry of Health.
Numerator	Children aged 2–14 years who have been diagnosed by a doctor as having asthma, and currently use inhalers, medicine, tablets, pills or other medication.
Denominator	All children aged 2–14 years.
Survey question	<p>Asthma and asthma medication were asked about in the child questionnaire of the New Zealand Health Survey, for children aged 2–14 years (Ministry of Health, 2014). The questions asked were:</p> <ul style="list-style-type: none"> <li>• Have you ever been told by a doctor that [child's name] has asthma? <i>Yes / No / Don't know / Refused</i></li> <li>• (If yes above) What treatments does [child's name] <u>now</u> have for asthma? [Multiple responses possible] <i>No treatment / Inhaler / Medicines, tablets or pills / Something else / Don't know / Refused</i></li> </ul> <p>A primary caregiver answered the child questionnaire as a proxy for the child.</p>

Time period	<p>National data are available for 2006/07, 2011/12, 2012/13, 2013/14, 2014/15 and 2015/16 (and annually after this).</p> <p>DHB-level data were available for the three-year period July 2011–June 2014.</p> <p><i>Data collection:</i></p> <p>2011/12 data onwards: Survey data were collected for the 12-month period from 1 July to 30 June.</p> <p>2006/07: Survey data were collected from October 2006 to November 2007.</p>
Population coverage	<p>Since 2011, the New Zealand Health Survey results refer to the usually resident population of all ages, who are living in permanent dwellings, aged-care facilities and student accommodation. The following people were not included in the survey: people living in institutions, such as for long-term hospital care, hospital- and dementia-level care in aged-care facilities, and in prisons; the homeless; short-term visitors; and tourists.</p> <p>The child survey covers children aged 0–14 years, and the survey question about asthma was only asked for children aged 2–14 years.</p>
Time trend analysis	<p>Results between survey years have been compared, and statistically significant differences are noted (based on 95% confidence intervals not overlapping, or a <i>t</i>-test if required).</p>
Reporting variables	<p>Results are presented by sex, age group, ethnic group (total response), socioeconomic deprivation (NZDep2013 quintiles) and district health board (DHB).</p>
Confidence intervals	<p>95% confidence intervals were calculated by the Ministry of Health using jack-knife weights. Confidence intervals are presented in brackets in the text and tables, and as error bars on graphs.</p>
Limitations of indicator	<p>There is some uncertainty in the estimates due to taking a sample, reflected in the 95% confidence intervals.</p>
Limitations of data source	<p>The survey results may under- or over-estimate indicators due to the nature of self-reported information.</p>
Created by	<p>Ministry of Health New Zealand</p>
Related indicators	<p>Asthma hospitalisations  Second-hand smoke exposure  Maternal smoking at two weeks postnatal  Lower respiratory tract infections  Meningococcal disease</p>

	Sudden unexpected death in infancy (SUDI)
For more information	For more information on the New Zealand Health Survey, visit the New Zealand Health Survey website: <a href="http://www.health.govt.nz/nz-health-statistics/national-collections-and-surveys/surveys/current-recent-surveys/new-zealand-health-survey">http://www.health.govt.nz/nz-health-statistics/national-collections-and-surveys/surveys/current-recent-surveys/new-zealand-health-survey</a>
References	<p>Guarnieri, M., &amp; Balmes, J.R. (2014). Outdoor air pollution and asthma. <i>Lancet</i> 383(9928): 1581–1592.</p> <p>Jaakkola, M.S., Haverinen-Shaughnessy, U., Douwes, J., Nevalainen, A. (2011). Indoor dampness and mould problems in homes and asthma onset in children. In M. Braubach, D.E. Jacobs &amp; D. Ormandy (Eds.), <i>Environmental burden of disease associated with inadequate housing: A method guide to the quantification of health effects of selected housing risks in the WHO European Region</i> (pp. 5–31). Copenhagen: World Health Organization Regional Office for Europe.</p> <p>Ministry of Health. (2014). <i>Indicator Interpretation Guide 2013/14: New Zealand Health Survey</i>. Wellington: Ministry of Health.</p> <p>Orellano, P., Quaranta, N., Reynoso, J., Balbi, B., &amp; Vasquez, J. (2017). Effect of outdoor air pollution on asthma exacerbations in children and adults: Systematic review and multilevel meta-analysis. <i>PLoS ONE</i> 12(3): e0174050.</p> <p>Prezent, B., &amp; Douwes, J. (2011). <i>Calculating the burden of disease attributable to indoor dampness in New Zealand: Technical Report</i>. Wellington: Centre for Public Health Research.</p> <p>US Department of Health and Human Services. (2007). <i>Children and Secondhand Smoke Exposure. Excerpts from The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General</i>. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Coordinating Center for Health Promotion, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health.</p>