

Information topic	Details
Indicator name	Hazardous substances notifications in New Zealand
Domain and topic	Hazardous Substances domain: Health effects of hazardous substances
Indicator definition and units	<p>The number of annual hazardous substances* notifications in New Zealand, excluding cases that were assigned as ‘not a case’ by the Public Health Units.</p> <p>* A hazardous substance is anything that can explode, catch fire, oxidise, corrode or be toxic to humans, as defined in the Hazardous Substances and New Organisms Act 1996. Substances that are covered by the HSNO Act, and the Health Act’s “poisoning arising from chemical contamination of the environment”, in particular carbon monoxide, are included.</p>
Data source	The Hazardous Substances Disease and Injury Reporting Tool (HSDIRT).
Numerator	Number of hazardous substances notifications.
Denominator	All people in New Zealand using the estimated resident population for the corresponding year (StatsNZ 2020) and NZDep 2018 (Atkinson et al 2019).
Methodology	<p>Diseases or injuries due to exposure to hazardous substances are 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 for further investigation.</p> <p>GPs or local Public Health Units notify the cases to the Hazardous Substances Disease and Injury Reporting Tool (HSDIRT) which is administered by the Environmental Health Indicators Programme.</p> <p>The Public Health Units will assign a case status based on their investigation. Cases are not included in the analysis if they are assigned as ‘not a case’.</p> <p>Prioritised ethnic group has been used, in the following prioritisation order: Māori, Pacific peoples, Asian, European/Other.</p> <p>Crude rates are suppressed for counts less than 5 or populations less than 30, due to unreliability of the estimate with small numbers.</p> <p>Interpreting graphs (including DHB graphs) Crude rates are suppressed for counts less than 5 or populations</p>

	<p>less than 30, due to unreliability of the estimate with small numbers.</p> <p>When comparing groups of varying population sizes, differences that involve small groups may not be statistically significantly different, compared with similar differences for larger groups. This is due to a higher variability associated with the rate of the small group. For a more detailed explanation of this issue, see Appendix 2 – EHINZ Analytical Toolkit & Glossary.</p> <p>For DHB graphs, tests for statistical significance with the national rate have used adjustments for multiple comparisons. All comparisons made are conservative (ie, the p value is slightly overstated) because the New Zealand estimate contains the DHBs, so the New Zealand and every DHB estimate are positively correlated. This means that in some instances, we might be slightly less likely to find a significant difference that exists.</p>
Time period and time scale	Annual, from 2014 onwards.
Population coverage	All people in New Zealand
Spatial Coverage	National
Measures of frequency	Results are presented by year, sex, age group, ethnicity, substance, intent of exposure, NZDep2018 (Atkinson et al 2019), DHB and place of occurrence.
Confidence interval methodology	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	In most cases, diseases or injuries due to hazardous substances exposure will not have been confirmed by a diagnostic test.
Limitations of data source	<p>This data source, only includes cases that were notified and will be underestimating the total burden of diseases or injuries that were caused by hazardous substances exposures.</p> <p>Also, a case will not be included in the analysis if the GP is unaware of the tool and does not use it to notify cases.</p>
Created by	Environmental Health Intelligence NZ, Massey University, Wellington.
Related indicators	<p>Unintentional hazardous substances exposures in children (0–14 years)</p> <p>Occupational lead absorption notifications in New Zealand</p>

	Non-occupational lead absorption notifications in New Zealand
For more information	HSDIRT notification tool. https://www.ehinz.ac.nz/our-projects/hazardous-substances/hsdirt-notification-tool/
References	<p>Atkinson J, Salmond C, Crampton P. 2019. NZDep2018 Index of Deprivation. Interim Research Report, December 2019. Wellington: Department of Public Health, University of Otago, Wellington. URL: https://www.otago.ac.nz/wellington/otago730394.pdf</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>StatsNZ. 2020. Estimated resident population (2018-based): At 30 June 2018. URL: https://www.stats.govt.nz/information-releases/estimated-resident-population-2018-base-at-30-june-2018#new (Accessed August 2021)</p>