

Information topic	Details
Indicator name	<b>Non-occupational/unknown source of lead absorption notifications in New Zealand</b>
Domain and topic	Hazardous Substances domain: Non-occupational/unknown source lead notifications
Indicator definition and units	The number and rate of non-occupational and unknown source lead notifications entered into the HSDIRT reporting tool in New Zealand, where the blood lead level is greater than or equal to 0.48µmol/l before 09/04/2021 and greater than or equal to 0.24µmol/l from 09/04/2021 onwards.
Data source	The Hazardous Substances Disease and Injury Reporting Tool (HSDIRT); 2013 – present.  Episurv: 2001 – 2013.
Numerator	Number of non-occupational and unknown source lead absorption notifications.
Denominator	Population estimates (2018 and prior) and projections (after 2018) from Statistics New Zealand and the 2018 denominator population by NZDep2018 deciles, age group and sex has been used.
Methodology	<p>Due to the health effects associated with lead exposure, lead absorption is a notifiable condition if the blood levels are greater than or equal to 0.24µmol/l as of 09/04/2021.</p> <p>GPs or local Public Health Services notify cases of hazardous substance exposures, including lead, to the HSDIRT which is administered by Environmental Health Intelligence NZ.</p> <p>The date of lead notifications is approximated using the lab lead results date. In the event this is not available, the date of assessment recorded by the PHU is used for analysis. If both dates are not available, then the created date of the HSDIRT notification is used.</p> <p>Lead notifications are classified as non-occupational if “Exposure Place” is listed as “PUBLIC PLACE”, “HOME”, “SCHOOL” or “OTHER”, or if “Exposure Lead source” is recorded as “NON-OCCUPATIONAL”.</p> <p>Lead notifications classified as unknown have not been classified as either occupational or non-occupational.</p> <p>Where a person has had a repeat blood lead level taken within 366 days of the original test, the repeat blood test is not included as a second notification unless further investigation or public health action has resulted. NHI number is used to identify individuals with repeat tests.</p>

## Metadata

	<p>A lead level must be provided for the case to be included in analysis.</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><b>Confidence intervals</b> 95% confidence intervals were calculated based on the methodology outlined in APHO (2008). Confidence intervals are presented as error bars on graphs.</p>
Time period and time scale	<p>The HSDIRT was rolled out progressively to all districts throughout 2013; therefore 2013 data were not complete. Consequently, notification data is reported from 2014 onwards.</p> <p>For the national time series, 2013 notifications are a combination of EpiSurv and HSDIRT data.</p>
Population coverage	All people in New Zealand
Spatial Coverage	National
Measures of frequency	Results are presented by year, sex, age group, median blood lead levels, ethnic group, occupation and NZDep2018 (Atkinson et al 2021), and Public Health Services.
Limitations of indicator	Lead absorption is challenging to detect based on symptoms alone as many cases are asymptomatic and will therefore not be seen by a doctor and/or have a blood lead test. In some instances, a blood lead test will occur because of awareness of the person's occupation.
Limitations of data source	<p>This data source only includes cases that were notified and will be underestimating the total burden of disease and injury caused by lead 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 to the Public Health Service or the laboratory does not directly notify the blood lead result to EpiSurv.</p>
Created by	Environmental Health Intelligence NZ, Massey University, Wellington.
Related indicators	<p><a href="#">Hazardous substances notifications in New Zealand</a></p> <p><a href="#">Occupational lead absorption notifications in New Zealand</a></p> <p><a href="#">Hazardous substances-related deaths reported to the coroner in New Zealand</a></p> <p><a href="#">Hazardous substances-related deaths registered in New Zealand</a></p>

## Metadata

	<p><a href="#">Unintentional hazardous substances-related hospitalisations</a></p> <p><a href="#">Unintentional hazardous substances exposures in children (0–14 years)</a></p>
For more information	HSDIRT notification tool. <a href="https://www.ehinz.ac.nz/indicators/hazardous-substances/resources-for-health-professionals/">https://www.ehinz.ac.nz/indicators/hazardous-substances/resources-for-health-professionals/</a>
References	<p>Atkinson J, Salmond C, Crampton P. 2021. NZDep2018 analysis of Census 2018 variables. Wellington: Department of Public Health, University of Otago, Wellington. URL: <a href="https://www.otago.ac.nz/wellington/departments/publichealth/otago830998.html">https://www.otago.ac.nz/wellington/departments/publichealth/otago830998.html</a></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>