

Information topic	Details
Indicator name	Melanoma deaths
Domain and topic	UV Exposure: Melanoma
Indicator definition and units	Mortality rates for melanoma, per 100,000. Melanoma is defined as melanoma of the skin (ICD-10 AM C43).
Data source	New Zealand Mortality Collection, Ministry of Health
Numerator	Number of melanoma deaths (ICD-10-AM C43). Non-residents have been excluded from the analysis.
Denominator	Population estimates (mid-year), prepared by Statistics New Zealand.
Methodology	<p>Confidence interval: 95% confidence intervals were calculated based on the methodology outlined in APHO (2008). Confidence intervals are presented as error bars on graphs.</p> <p>Interpreting graphs (including DHB graphs): Results are presented by year, sex, age group, ethnic group, NZDep2018, urban/rural 2013 (UR) classification, and district health board (DHB). Prioritised ethnicity has been used, in the following order: Māori, Pacific, Asian, European/Other. Rates are per 100,000 people and have been age-standardised to the WHO world standard population (Ahmad et al 2001), to account for different age structures of populations.</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. Age-standardised rates are suppressed for overall counts less than 20, or if any age-band of the calculation has a population 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</p>

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	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.
Time period and time scale	<p>Annual from 2001–2018. Time trend: 1–10 years.</p> <ul style="list-style-type: none"> ○ Trends from 2001 onwards for total age standardised rates (ASRs) of melanoma mortality and ASRs by sex and 10-year age group. ○ Trends over 2 years for subgroup analysis by NZDep2018 (Atkinson et al 2014) and 10-year age groups. ○ Trends over 3 years for subgroup analysis by UR. ○ Trends over 5 years for subgroup analysis by DHB. ○ Trends over 10 years for subgroup analysis by prioritised ethnicity.
Population coverage	New Zealand usually resident population of all ages.
Spatial Coverage	National
Measures of frequency	Results are presented by year, sex, ethnic group, age group, NZDep2018, UR and DHB.
Limitations of indicator	<p>The reported year of death is the year of death registration, not necessarily the actual year of death. Information surrounding survival rates compared to mortality are not readily available.</p>
Limitations of data source	As above
Created by	New Zealand Ministry of Health
Related indicators	<p>Daily UV levels Melanoma cancer registrations Non-melanoma skin cancer deaths</p>
For more information	See references
References	<p>Ahmad O B, et al. 2001. <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>

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	Atkinson J, Salmond C, & Crampton P. 2014. NZDep2013 index of deprivation. Wellington: Department of Public Health, University of Otago.
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