

Information topic	Details
Indicator name	Melanoma cancer registrations
Domain and topic	UV exposure domain: Melanoma
Indicator definition and units	Registration rates for melanoma, per 100,000. Melanoma is defined as melanoma of the skin (ICD-10 AM C43).
Data source	New Zealand Cancer Registry, Health New Zealand
Numerator	Number of new melanoma registrations (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, NZDep2023, urban/rural 2023 (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.</p> <p>For graphs by health district (formerly District Health Boards), 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</p>

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	<p>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>
Melanoma thickness categories	<p>Melanoma thickness categories are based on survival rates:</p> <ul style="list-style-type: none"> • ≤ 1 mm thick: 92% ten-year survival rate • >1–2mm thick: 80% ten-year survival rate • >2–4mm thick: 63% ten-year survival rate • > 4mm thick: 50% ten-year survival rate (BPAC 2020)
Time period and time scale	<p>From 2001–2023. Data for each year is recorded in the original source. Some breakdowns use moving averages for a range of years to provide sufficient data for analysis.</p>
Population coverage	<p>New Zealand usually resident population of all ages.</p>
Spatial Coverage	<p>All New Zealand</p>
Measures of frequency	<p>Results are presented by year, sex, ethnic group, age group, NZDep2023, Urban-Rural category and district. Urban/rural classification uses the IUR2023, with the categories ‘major urban areas’, ‘large urban areas’, ‘medium urban areas’, ‘small urban areas’, and ‘rural/other’.</p>
Limitations of indicator	<p>The reported year of registration is the year the cancer was formally recorded, not necessarily the actual year it was developed.</p>
Related indicators	<p>Daily UV levels Melanoma cancer deaths Non-melanoma skin cancer deaths Vitamin D deficiency</p>
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> <p>BPAC. 2020. <i>Reducing the burden of melanoma in New Zealand. Part 2: Early detection of melanoma</i>. Accessed 03/05/2021. URL: https://bpac.org.nz/2020/docs/melanoma-part2.pdf</p>