

Focus 1. Changing social inequalities in cancer mortality: the value of linking census and health data

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The monitoring of trends in social inequalities over time by the New Zealand Census Mortality Study and Cancer Trends project has informed policy, research, and prioritization agendas for more than a decade, including work that explicitly evaluates the cost-effectiveness of cancer-related interventions and their effect on inequalities (BODE3, 2018). Three decades of cancer trends by income and ethnicity have been analysed by linking mortality and registry data with census data for six national population cohorts from 1981 to 2011.

Cancer mortality has declined over time; however, improvements have been greater for European/Other populations (non-Māori, non-Pacific, and non-Asian ethnicities) and for the highest-income groups (Fig. F1.1) than for groups of other ethnicity and income. By 2006–2011, Māori (Indigenous) populations were twice as likely to die from cancer than European/Other populations, and cancer had overtaken cardiovascular disease as the largest contributor to the excess mortality experienced by Māori women and low-income women (Teng et al., 2016).

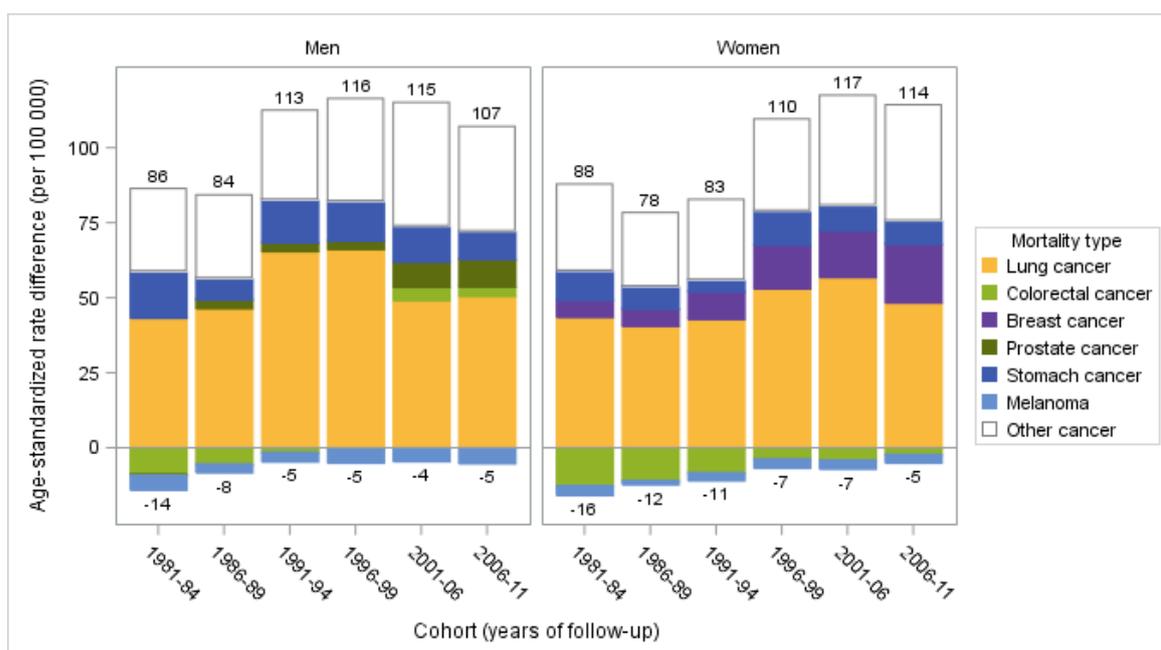


Fig. F1.1. Difference in cause-specific cancer mortality rates between Māori (Indigenous) populations and European/Other populations for both men and women aged 1–74 years during 1981–2011. Results are age-standardized to the WHO world population. Source: Teng et al. (2016). © Teng et al. 2016. Distributed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>).

Results suggest that the drivers of social inequalities in cancer are changing, with obesity-related cancers making an increasing contribution. This is a sentinel warning of the increasing relevance of obesity- and nutrition-related cancers in social inequalities. From 1981–1984 to 2006–2011, absolute inequalities more than tripled for breast cancer mortality in Māori women (rate difference, 6–20 per 100 000; $P < 0.01$) and for endometrial cancer incidence in Pacific women (rate difference, 11–37 per 100 000; $P < 0.01$) compared with women of European/Other ethnicity (Teng et al., 2016). Over the same period, absolute inequalities in cancer for Māori populations were observed to significantly increase in terms of colorectal, male prostate, and female breast cancer mortality rates and colorectal, male liver, and female breast cancer incidence rates (Teng et al., 2016).

In the most recent cohorts, the difference in lung cancer mortality rates between the quintiles of lowest and highest income and between Māori and European/Other populations declined (Figs. F1.1 and F1.2). However, lung cancer was the largest contributor to the inequalities in cancer mortality experienced by Māori populations (which accounted for 47% of excess cancer deaths) and by low-income households

(which accounted for 33% of excess deaths) during 2006–2011 (Teng et al., 2017). Ongoing social disparities in smoking prevalence must continue to be addressed.

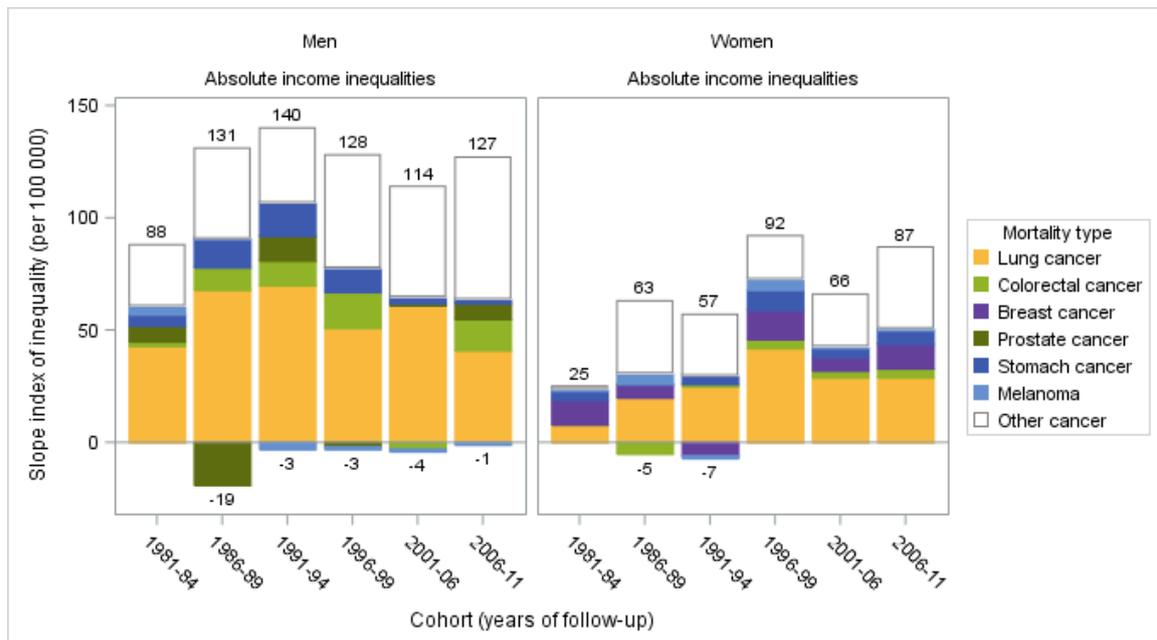


Fig. F1.2. Difference in cause-specific cancer mortality rates between the quintiles of lowest and highest income for men and women aged 25–74 years during 1981–2011. Results are age-standardized to the WHO world population. Source: Teng et al. (2017), with permission from John Wiley & Sons Inc.

The New Zealand Census Mortality Study and Cancer Trends team has developed a tool for the simultaneous depiction of trends in cancer mortality and absolute and relative inequalities in cancer, for monitoring inequalities and setting goals (Blakely et al., 2017); data are freely available via the interactive Population Data Explorer (available from: nzcms-ct-data-explorer.shinyapps.io/version8/).

Monitoring social inequalities in cancer informs priorities for cancer prevention programmes and can enable progress towards equality to be evaluated. The trends observed during this study highlight the types of cancer that contribute to inequalities and the pathways over which inequalities take effect. Positive trends in equality in cancer are more likely to be achieved if effective tobacco control and obesity prevention measures benefit the social groups with the greatest prevalence of smoking and obesity.

References

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