



Heart health has an adverse future forecast in New Zealand: an alarm call to action across the continuum

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Coronary heart disease death rates peaked for both men and women in all age groups in New Zealand in the late 1960s and have since fallen by about 60%.¹ This steep decline appears to have resulted entirely from a steadily increasing period effect, with incidence reduction (primary and secondary prevention) and case fatality reduction (medical and surgical treatment) contributing equally.

Despite this favourable change, cardiovascular disease (coronary heart disease, other heart disease, and stroke) still accounts for 40% of all deaths in New Zealand¹ and many of these deaths are premature and preventable. Furthermore, large and intolerable inequalities in cardiovascular risk, outcomes, and access to services still remain within our small country. These inequalities are socioeconomically and ethnically determined and are also, in part, geographical. Steep risk factor gradients are plainly evident, particularly in relation to obesity, diabetes, and smoking.

The most socioeconomically deprived men and women in New Zealand have a cardiovascular death rate two to three times that of the least deprived (NZ Deprivation Index 9 and 10 vs 1 and 2).² Middle-aged Māori men have a coronary heart disease death rate almost four times greater than non-Māori, non-Pacific men; Pacific men are intermediate.³ Coronary revascularisation rates as a measure of cardiovascular service access (or “dis-service”) vary two to three-fold across District Health Boards, being lowest in Northland, the Midland region (Tairāwhiti, Bay of Plenty, and Taranaki), and Mid-Central.⁴

Now, in this issue of the *Journal*, the lead article outlines a new and disturbing vision of the heart health future which can be added to the mix.⁵ Future projections for coronary heart disease mortality are provided which are of serious concern. These projections mandate that we urgently refocus and intensify our efforts across the heart health continuum for the benefit of all New Zealanders and to counter inequalities.

For the first time ever, the possible emergence of a substantive and adverse cohort effect is identified from the 1951 birth cohort onward. Put simply, coronary heart disease death rates for young and middle-aged adults for these recent birth cohorts are higher than previously. For young and middle-aged Māori men, the rates which have previously been very high, remain high, and those for non-Māori men and women and also Māori women are increasing.

Combining projected rates (based on extrapolation of the recent cohort and period effects) with projected demographic trends to 2015, the mortality burden is projected to decrease for non-Māori (albeit more slowly than before)—but it is projected to actually increase for Māori. Thus present inequalities may potentially increase during the next decade. Effective preventive measures and clinical care may be working differentially to reinforce the inverse care law—those most in need are least likely to receive these benefits.

The cohort data are even more concerning when coupled with recently published retrospective hospital admission data from 1989 to 2002/03 which testify to the increasing burden now placed on acute cardiac care services.⁶ During this period, hospitalisations for acute myocardial infarction (heart attack) in New Zealand doubled. While this increase could be attributed, in part, to changes in diagnostic criteria and coding, hospitalisations for acute coronary syndromes (acute myocardial infarction and unstable angina) increased by two-thirds—from 15,000 in 1989 to 24,000 in 2002/03. Hospitalisations for acute coronary syndromes doubled for Māori and Pacific men and women. These increases in admissions were evident across all age groups but particularly among younger adults.

The emerging cohort effect as well as (to some extent) the increasing hospital admissions related to coronary heart disease can speculatively but plausibly be related to the increased prevalence of obesity and diabetes. An epidemic of obesity and diabetes is leading to a new wave of coronary heart and vascular disease in ethnically predisposed populations and relatively younger people in both developed and developing countries around the World. This epidemic has been described as resulting from “a collision between ancient genes and the environment—Coca-colonisation” and as “the tsunami of metabolic syndrome, diabetes, and cardiovascular disease.”⁷ This tsunami could indeed inundate the clinical service arena—the long-term human and financial costs are scarcely calculable.

To achieve quality standards and equity of heart health outcomes for all New Zealanders in the foreseeable future, more urgent, intensive, and balanced actions are required nationally and regionally across the heart health continuum.⁸ *The New Zealand Health Strategy* (2000)⁹ lists 13 priority objectives, 6 of which are directly related to diabetes and heart health. This *Strategy* has been guiding providers in producing strategic heart health and diabetes action plans. It is urgent that these plans are now more vigorously prioritised, adequately resourced, and implemented.

Actions for improvement and priority recommendations can be referenced to the continuum which spans public and population health and clinical care and which also encompasses a life-course approach:

- A high-level strategic “task force” approach (environmental and regulatory) to obesity and diabetes action. The forthcoming Health Select Committee on Obesity and Diabetes provides a timely opportunity for this to be considered.
- Continuation and intensification of tobacco control measures coupled with widespread availability of effective smoking cessation support to achieve the vision of a truly smokefree New Zealand.
- Implementation of the *Healthy Eating, Healthy Action (Oranga Kai, Oranga Pumau) Plan*¹⁰ which has already gained widespread support. This is a collaborative multi-sector and multi-agency task which will require ongoing commitment and adequate resources from the respective Ministries and providers.
- Implementation of the *Cardiovascular Risk Assessment and Management Guideline* (2003),¹¹ the keystone between population health and clinical care, which should be a topmost priority for all providers. Systematic implementation through primary care can offer large benefits in a relatively short period of time. Appropriate resources with a particular focus on disadvantaged people and an

appropriate cultural fit are crucial if we are to see a reduction of current and future disparities..

- Acute coronary syndromes management. Modern management is potentially extremely effective, but current access to the investigative and intervention facilities in the five main centres in New Zealand is very uneven and often delayed or limited by transportation, staffing, and capacity issues. Coordinated forward planning nationally and regionally is urgently needed to ensure equitable management of patients to agreed national guideline standards.^{12,13} This requires a realistic review of regional service support and capability, workforce, and facilities, and provision of adequate national and equitable regional resources.
- Elective coronary revascularisation. Increasing demands for acute revascularisation have displaced more stable patients who have a high need, leaving these patients at risk and increasing overall long-term healthcare costs. Recent revision of national access and urgency priority scoring systems can now provide more reliable assessment of unmet needs, but waiting times will not change without an increase in funding of procedures. In some areas, unused private capacity has provided a temporary solution. Regional planning and solutions are required in tandem with improved management of acute services.
- Chronic disease management and cardiac rehabilitation. Guideline-based integrated care approaches to chronic disease management have led to improvements in the management of heart failure in some regions and should be extended. Cardiac rehabilitation guidelines likewise are being implemented and gradually extended to improve access and uptake of Phase 2 (post-discharge) programmes. A home-based approach to cardiac rehabilitation is also being developed and the role of Phase 3 long-term programmes currently evaluated. Service delivery models that meet the needs of Māori and Pacific people as well as low-income groups are urgently needed.

Cardiovascular disease, and coronary heart disease in particular, will continue to place increasing demands on clinical health and social support services in the decades ahead. Without a more concerted and balanced investment in both preventive and clinical care, present inequalities in heart disease risk, outcomes, and service delivery are likely to worsen. The task of turning back the oncoming new wave of heart disease will require leadership as well as sustained, coordinated, and effective action across a wide range of governmental and non-governmental agencies and providers. The need is urgent.

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