

CARDIOVASCULAR DISEASE

What is this?

Cardiovascular disease (CVD) is a general term that includes diseases of the heart and circulatory system.¹ These include ischaemic heart disease, stroke, rheumatic heart disease, and other forms of vascular and heart disease.



- Ischaemic heart disease occurs when arteries that supply blood to the heart become narrow or blocked and prevent sufficient oxygen being delivered to the heart, which in turn damages the heart muscle.
- Stroke is a sudden interruption of blood flow to a part of the brain, causing damage to the brain cells.
- Heart failure occurs when the heart fails to pump enough blood, causing fluid retention, shortness of breath, and congestion.

Why is it important?

Cardiovascular diseases as a group are the leading cause of death in New Zealand, causing around 40% of all deaths. Of the individual diseases, coronary heart disease, including myocardial infarction (heart attack), is the second most common cause of death after cancer, and stroke is the third.

Data

There is good evidence that cigarette smoking is associated with up to three times the risk of coronary artery disease, stroke and peripheral vascular disease compared to people who do not smoke. Other important risk factors for cardiovascular disease are high alcohol intake, hypertension, high cholesterol levels, diabetes, obesity, poor nutrition, and a sedentary lifestyle. Ethnicity, gender, and age also have an impact on the risk of cardiovascular disease, with older men of Maori, Pacific island or Indian descent being most at risk.² The cumulative effect of more than one of the risk factors results in a higher risk than any of these factors on their own, as shown in Figure 1, overleaf.

These charts show the comparative risk for women and men, with and without diabetes and according to smoking status. Pacific people and people of Indian descent move up one risk level, i.e. one coloured square.

¹ Information in this section unless otherwise stated is from Ministry of Health. 2003. DHB Toolkit: cardiovascular disease. Wellington: Ministry of Health. [http://www.moh.govt.nz/moh.nsf/pagesmh/5504/\\$File/cardiovascular-toolkit.pdf](http://www.moh.govt.nz/moh.nsf/pagesmh/5504/$File/cardiovascular-toolkit.pdf) Accessed 16.8.10.

² New Zealand Guidelines Group. 2003. Assessment and management of cardiovascular risk. Wellington, New Zealand Guidelines Group. http://www.nzgg.org.nz/guidelines/0035/CVD_Risk_Full.pdf Accessed 27.5.11.

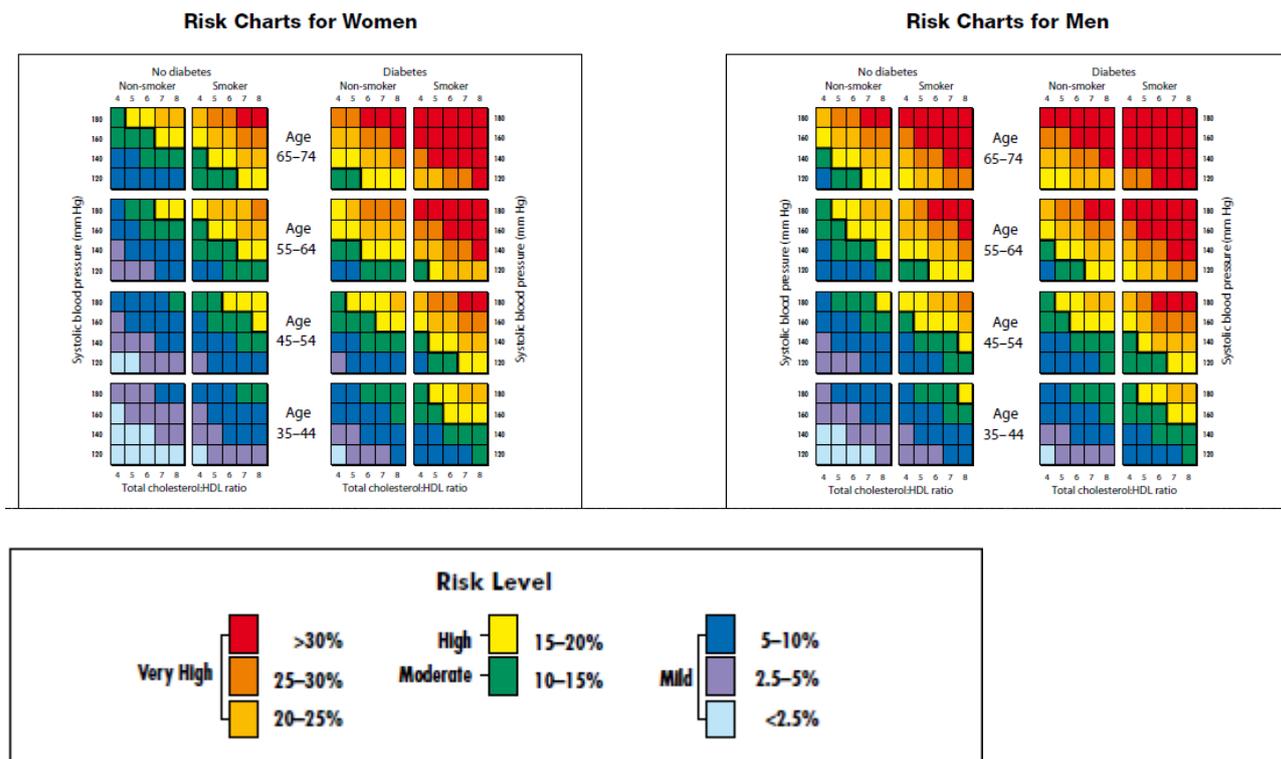


Figure 1 Risk of developing cardiovascular disease for women and men³

Impact on inequalities

Mortality from all cardiovascular diseases is significantly higher among Māori, Pacific people and people of Indian descent than the general population. A higher proportion of these peoples under the age of 65 die from ischaemic heart disease and they are also younger on average at the time of first stroke. Heart failure death rates for Māori from 2000 to 2004 were approximately 2.3 times the age and sex standardised rates for non-Māori.⁴ Mortality rates for Pacific peoples are lower than rates for Maori but higher than for other non-Maori, and they have higher rates of stroke than any other groups.

Mortality rates for coronary heart disease are higher among all people from lower socioeconomic groups.

Solutions

Prevention of cardiovascular disease involves addressing the key lifestyle risk factors through a combination of individual, group, and population based interventions. Programmes such as the Green Prescription that work with individuals and groups are one approach (see Green Prescriptions indicator sheet).⁵ Other approaches are evidence-based guidelines for general practitioners for reducing risk, increasing physical activity, and managing diabetes, high blood cholesterol and high blood pressure.⁶

³ Ibid., p.xxii.

⁴ Robson, B., Harris, R. (eds). 2007. Hauora: Māori standards of health IV. A study of the years 200-2005. Wellington: Te Ropu Rangahau Hauora a Eru Pomare.

⁵ Green Prescription (GRx) in Canterbury is run by Sport Canterbury (http://www.sportcanterbury.org.nz/content/e2smarty_category/1/68/49/) Accessed 27.5.11.

⁶ New Zealand Guidelines Group. 2009. New Zealand Cardiovascular Guidelines Handbook: a summary resource for primary care practitioners. Wellington: New Zealand Guidelines Group. http://www.nzgg.org.nz/guidelines/0154/CVD_handbook_june_2009_update.pdf Accessed 17.8.10.

There is also a range of New Zealand guidelines for the management of cardiovascular disease using medical and surgical treatments in secondary and tertiary care.⁷

Population-based approaches include those from the National Heart Foundation such as the Tick programme for food labeling, Healthy Heart Awards for early childhood education centres and schools, and Heartbeat Catering to promote healthier options in the catering and food service industries. The Heart Foundation website has details of these and other programmes that are offered nationally.⁸ Programmes for promoting healthy nutrition, preventing overweight and obesity, and for reducing smoking and excess alcohol consumption are also relevant to reducing cardiovascular disease.

Data limitations

While the data shows the relationship between cardiovascular disease, gender, smoking and diabetes, there are many other inter-relating health and lifestyle factors that have not been explicitly discussed.

Connections with other issues

Smoking, Alcohol, Food Security, Employment, Education, Diabetes, Access to Primary Healthcare, Obesity, Activity Levels/Exercise, Active Transport

Impact of the earthquakes

The Canterbury earthquake in September triggered a rise in heart attacks with some patients reporting that every major aftershock triggered more heart pains. Numbers of patients with heart attack rose from a usual two or three a day to eight or ten a day, and bed numbers from the usual 50 to a record 77 two days after the September 4 earthquake. The physiological explanation for the increase is the sudden surge of adrenaline which damages the inside arteries of the heart, creating blood clots that cause heart attacks.⁹ Official analysis of the data on heart attacks after the September and February earthquakes is currently in progress.¹⁰

The Ministry of Health has reported that the stress caused by the aftermath of the earthquakes has affected people's health, with people reporting less motivation to eat well, to exercise, to drink in moderation and to reduce smoking.¹¹

Prepared by Community and Public Health.

List of guidelines from the Heart Foundation of Australia, & the Cardiac Society of Australia and New Zealand available at http://www.heartfoundation.org.au/Professional_Information/General_Practice/Pages/Managinglifestylefactors.aspx Accessed 17.8.10.

⁷ New Zealand guidelines available (<http://www.nzgg.org.nz>) through the "publications" link.

⁸ <http://www.heartfoundation.org.nz>

⁹ <http://www.stuff.co.nz/national/health/4115792/Quake-Surge-in-heart-attacks> Accessed 27.5.11.

¹⁰ Rebecca Dell, Public Health Registrar, personal communication 27.5.11.

¹¹ <http://www.moh.govt.nz/moh.nsf/indexmh/coping-with-stress-factsheet2> Accessed 27.5.11.