

## Standard 6

*People with diabetes should be offered blood pressure, blood lipid and anti-platelet therapy to lower cardiovascular risk when required in accordance with current recommendations.*

### Key practice points

- In addition to glycaemic control, people with diabetes should be offered medication to address their other cardiovascular risk factors.
- Cardiovascular risk assessment should be calculated annually from time of diagnosis for adults with type 1 or type 2 diabetes.
- People with diabetes with a cardiovascular risk >20% should be on a statin.

Read this standard in conjunction with the equality and diversity section in the Introduction to the Toolkit.

### What the quality statement means for each audience

**Service providers** ensure that in addition to glycaemic management, people with diabetes are offered blood pressure, blood lipid and anti-platelet therapy as required to lower cardiovascular risk in accordance with New Zealand guidelines.

**Health care professionals** ensure that in addition to glycaemic management, the person with diabetes is offered blood pressure, blood lipid and anti-platelet therapy as required to lower cardiovascular risk in accordance with New Zealand guidelines.

**Planners and funders** commission services that, in addition to glycaemic management, ensure the person with diabetes is offered blood pressure, blood lipid and anti-platelet therapy as required to lower cardiovascular risk in accordance with New Zealand guidelines.

**People with diabetes** in addition to glycaemic management, are offered blood pressure, blood lipid and anti-platelet therapy as required to lower cardiovascular risk in accordance with New Zealand guidelines.



### Introduction

Most patients with diabetes are at high risk for developing cardiovascular disease (Buse et al 2007), which is responsible for close to 50% of diabetes-related deaths (Robinson et al 2012). This risk is greater for Māori and people of Pacific and Southeast Asian origin. While the current New Zealand guidelines for cardiovascular risk assessment are based on those developed from the Framingham Heart Study in the United States, Robinson et al (2012) note that the application of the Framingham predictive risk equation to the New Zealand context has several disadvantages: the Framingham cohort did not include the ethnic groups relevant to New Zealand and included few people with diabetes; and the equation excludes a number of diabetes-specific variables known to predict cardiovascular disease, namely duration of diabetes, glycaemic control and albuminuria. In response to these concerns, a New Zealand adaptation has been developed which accommodates these requirements and has been tested

(Elley et al 2010) and validated (Robinson et al 2012) using a diabetes-specific sample in the Diabetes Cohort Study (DCS). The results of these studies suggest that application of the DCS model would require more people with diabetes to be treated with medication than the Framingham model would suggest, but that more cardiovascular events would potentially be avoided. The cardiovascular disease (CVD) risk calculator for people with diabetes can be found on the NZSSD website ([www.nzssd.org.nz/cvd/](http://www.nzssd.org.nz/cvd/)) and requires the following information:

- age
- duration of diabetes
- sex
- smoking status
- systolic blood pressure
- ethnicity
- total cholesterol
- HDL
- albuminuria
- BP medication status.

The output provides a combined cardiovascular risk assessment incorporating known risk factors including diabetes. 'By knowing the combined risk, the clinician and patient can make decisions on more effective prevention and treatment of cardiovascular disease (CVD). These decisions include making choices about appropriate lifestyle change (principally diet, exercise and smoking), lipid-lowering and blood pressure (BP) lowering medication, antiplatelet medication, diabetes care, and medication after myocardial infarction (MI), stroke and other cardiovascular events' (NZ Primary Care Handbook Cardiovascular Update 2013, p 3).



## Guidelines

The 2013 update to the 2012 **New Zealand Primary Care Handbook** guidelines on cardiovascular and diabetes risk assessment can be found here: [www.health.govt.nz/system/files/documents/publications/cardiovascular-disease-risk-assessment-updated-2013-dec13.pdf](http://www.health.govt.nz/system/files/documents/publications/cardiovascular-disease-risk-assessment-updated-2013-dec13.pdf).

Specific advice for people with diabetes is outlined in the **New Zealand Primary Care Handbook** (NZGG, 2012) here: [www.health.govt.nz/system/files/documents/publications/nz-primary-care-handbook-2012.pdf](http://www.health.govt.nz/system/files/documents/publications/nz-primary-care-handbook-2012.pdf).

The Cardiovascular and Diabetes Risk Assessment guidelines (2013) can be found here: [www.health.govt.nz/system/files/documents/publications/cardiodiabetesriskassessment6dec13.pdf](http://www.health.govt.nz/system/files/documents/publications/cardiodiabetesriskassessment6dec13.pdf) and state the following:

'Relative risk reductions are more or less constant across the spectrum of combined risk. The higher the combined risk, the larger the absolute benefit of treating one or more risk factors. The majority of patients with:

- an estimated five-year combined CVD risk below 10 percent can generally be well-managed without drug treatment
- an estimated five-year combined CVD risk between 10 percent and 20 percent will benefit from shared decision-making about the benefits and harms of blood pressure (BP) and lipid lowering drugs

- a combined CVD risk over 20 percent, including patients with a personal history of CVD, are likely to benefit significantly from blood pressure lowering, lipid-lowering and antiplatelet medication, over and above intensive non-pharmacological interventions.’



## Implementation advice

The Cardiovascular Assessment risk calculator for people with diabetes can be found on the NZSSD website here: [www.nzssd.org.nz/cvd/](http://www.nzssd.org.nz/cvd/)

Based on the current New Zealand guidelines, the following actions need to be performed to meet the Standard requirements:

- cardiovascular risk assessment has been done for all men aged 45 and over
- for men with known risk factors risk assessment has been done at age 35
- cardiovascular risk assessment has been done for all women aged 55 and over
- for women with known risk factors, risk assessment has been done at age 45
- cardiovascular risk assessment has been done for Māori men at 35 years and women at 45 years
- fasting lipids, HbA1c and two-seated blood pressure measurements are included in the comprehensive risk assessment
- those with an HbA1c of 41 to 49 mmol/mol have been advised about reducing their risk of diabetes.

Following cardiovascular risk assessment:

- those with a five-year risk <10% have been advised to be smoke-free, eat a healthy heart diet and be physically active
- risk assessment for this group has been recalculated every 5 to 10 years
- those with a five-year risk of 10% to 20% have received individualised support to stop smoking, eat a cardio-protective diet and be physically active using motivational interviewing and involving relevant support programmes, eg, smoking cessation
- advantages and disadvantages of BP lowering and lipid medication have been discussed and a shared decision about starting medication has been made
- risk assessment for this group has been recalculated as clinically indicated. For those not on BP and lipid medication CVD risk has been assessed annually (risk 15–20%) or two-yearly (risk 10–15%)
- those with a five-year risk >20% have received intensive lifestyle intervention and drug treatment (BP lowering, statins and antiplatelet therapy)
- risk assessment for this group has been recalculated annually or as clinically indicated
- those with established cardiovascular disease have received intensive lifestyle intervention and drug treatment (BP lowering, statins and antiplatelet therapy)
- risk assessment for this group has been recalculated initially at three months and then as clinically indicated.

**NB:** Clinical judgment and informed patient preferences (shared decision-making) should feature in decisions about treatment for all people, and particularly for those in the ‘intermediate’ range of risk and for younger or older people. Shared treatment decisions should take into account an individual’s estimated five-year combined CVD risk and the magnitude of absolute benefits and the harms of interventions. Individuals will vary in the way they interpret these risk estimates and in their desire and willingness to act on them.



## Implementation examples / innovations



### Nursing Initiative in Primary Care

A nursing innovation was funded by the Ministry of Health 2005 to 2007 to implement models of nursing service delivery with care pathways for risk reduction of cardiovascular disease and diabetes. It was based on national guidelines and incorporated quality assurance, audit and nurse leadership. Findings suggested the need for strong leadership, commitment, and collaboration through teamwork and the authors clarify the competencies required by primary health care nurses working in CVD risk assessment and management (<https://www.rnzcgp.org.nz/assets/documents/Publications/Archive-NZFP/June-2008-NZFP-Vol-35-No-3/HorsburghNURSINGJune08.pdf>).



### Ngāti and Healthy

In 2004, a community-based diabetes prevention programme was established in Te Tairāwhiti, a rural Māori community where around half of the Ngāti Porou community have a glucose metabolism disorder. The aim of the programme is ‘to reduce the prevalence of insulin resistance in the short term and therefore reduce type II diabetes and associated complications in the long term’ (Best Practice Advocacy Centre 2008).

The programme, called Ngāti and Healthy, has been evaluated by Tipene-Leach and colleagues (2013). Programme development followed discussion about diabetes concerns between the community and a local Māori nurse, in consultation with a locally-raised academic. The planned intervention consisted of: community-wide health promotion initiatives conveying healthy lifestyle messages; community education and monitoring for identified high-risk individuals and their extended families/whānau; and a structural strategy aimed at adapting local environments to support lifestyle changes.

The evaluators concluded that: ‘community-wide lifestyle interventions have the potential to reduce rates of type 2 diabetes and other chronic diseases in high-risk communities, but require a high level of commitment from the health sector and buy-in from the community. Adequate commitment, leadership, planning and resources are essential’.



## One Heart Many Lives

The PHARMAC One Heart Many Lives (OHML) initiative ([www.oneheartmanylives.co.nz/](http://www.oneheartmanylives.co.nz/)) started as a social marketing programme aimed at those at high risk of cardiovascular disease, such as Māori and Pacific men over 35 years. The key messages are:

- get your heart checked
- get more active
- eat better
- stop smoking.

It includes information about what is described as a ‘six pack’ consisting of blood pressure, nutrition, diabetes, cholesterol, being active and smoking.

In 2009, OHML was introduced in Hawkes Bay as a general practice initiative (Best Practice Advocacy Centre 2009) involving:

- clinical facilitator visits to all primary health organisations (PHOs) and practices
- providing the ability to do point-of-care testing
- developing practice and patient information including a handbook and patient information cards.

The One Heart Many Lives handbook presented ideas on how practices could:

- encourage Māori and Pacific men to attend general practice
- assess their risk when they do present
- identify manageable interventions
- encourage them to return
- gradually increase the amount of care they receive.

What happened in practice:

- Obtained funding for free CVD/health checks. The PHO assisted in making the One Heart Many Lives project reach its full potential by using Services to Increase Access funding to make the CVD/Health assessment free to the patient. The PHO also funded follow-up consultations.
- Developed practice specific interventions to encourage the target population to attend a free CVD/health check. One practice phoned patients in the target group to offer free assessment. Another practice sent out invitations to those in the target group. Both reported an overwhelming response and had very few patients decline the free check.
- CVD assessments were conducted by practice nurses using point-of-care testing, to obtain non-fasting total cholesterol, HDL and glucose. These results were used to calculate an initial estimate of CVD risk. Patients preferred to have the result at the time of consultation and outcomes could be discussed immediately or referred to the GP.

Outcomes were:

- increased number of cardiovascular risk assessments
- increased patient involvement and satisfaction with health care
- increased health professional satisfaction (Best Practice Advocacy Centre 2009).

Additional information is available on the HIIRC website: [www.hiirc.org.nz/page/17701/one-heart-many-lives/?contentType=111&tab=4189&section=10536](http://www.hiirc.org.nz/page/17701/one-heart-many-lives/?contentType=111&tab=4189&section=10536).



## Assessment tools

The Ministry of Health target ‘more heart and diabetes checks’ requires quarterly reporting of assessments and DHBs are ranked on their performance. Ranking from 1 to 20 is based on the percentage of completed cardiovascular risk assessments for all eligible persons within the last five years with a goal of 90 percent. Quality measures based on the New Zealand guidelines are as follows.

### Process

The proportion of people with diabetes who have received a cardiovascular risk assessment in line with recommendations.

Numerator	The number of people in the denominator receiving a cardiovascular risk assessment in line with recommendations
Denominator	The number of people with diabetes

The proportion of people with diabetes with a combined risk >20% who are on a statin.

Numerator	The number of people in the denominator who are on a statin
Denominator	The number of people with diabetes with a combined risk factor >20%



## Resources

- A **National Institute for Health and Care Excellence (NICE)** audit tool including cardiovascular risk assessment and treatment: [www.nice.org.uk/Guidance/CG181](http://www.nice.org.uk/Guidance/CG181).
- Patient information regarding diabetes and cardiovascular risk based on information provided by **Diabetes New Zealand** and the **Heart Foundation** can be found at the Everybody health information site: [www.everybody.co.nz/page-3b4d08e0-ea93-4e79-babf-13d4cc72de41.aspx](http://www.everybody.co.nz/page-3b4d08e0-ea93-4e79-babf-13d4cc72de41.aspx).
- The **Ministry of Health** in conjunction with the Heart Foundation provide an online course Improve Heart Health to support health professionals successfully design and deliver CVD risk assessment and management services: <http://learnonline.health.nz/course/category.php?id=63>.
- The **New Zealand Heart Foundation** provides an online risk assessment to determine the age of your heart and your risk of heart attack/stroke based on age, sex, ethnicity, smoking status, presence/absence of diabetes and cholesterol ratio. The ‘know your numbers’ tool can be found at: [www.knowyournumbers.co.nz/](http://www.knowyournumbers.co.nz/).



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