CVD Risk Assessment

Introduction and Background

Improving the accuracy and consistency of cardiovascular disease risk assessment (CVDRA) and management (CVDRM), is an opportunity for significantly improving equity in health outcomes for New Zealanders.

Cardiovascular disease remains responsible for 40% of deaths in New Zealand but research shows a substantial decline in ischaemic heart disease hospitalisations and mortality since systematic CVDRA and primary/secondary prevention was embedded into primary care.

In February 2018, Te Whatu Ora released new locally developed, (for the NZ population) cardiovascular assessment and management Consensus statement. https://www.health.govt.nz/publication/cardiovascular-disease-risk-assessment-and-management-primary-care

Following this, new risk equations called the "NZ Primary Prevention Equations" were developed based on New Zealand data from the New Zealand PREDICT Study, generated by the HRC-VIEW Research Group, and published in May 2019. New Zealand will continue to use a 5-year CVD risk prediction model.

Te Whatu Ora supported the implementation of the risk equations into primary care patient management system enablers including Mōhio, which was externally verified, tested and quality assured against the HISO 10071:2019 Cardiovascular Disease Risk Assessment Data Standard. This Standard supports the implementation of cardiovascular disease risk assessment using the agreed primary prevention equations. It provides a data set specification for the inputs to the calculation and the algorithms used.

The old New Zealand adjusted Framingham equation overestimated risk (by approximately 5%) and CVDRA scores under the new equations will be generally be lower for many patients.

Purpose

Auckland PHO aims to improve cardiovascular health in our enrolled and eligible population that supports evidence based best practice by funding screening and managing the “at risk” population identified by the Te Whatu Ora 2018 Consensus Statement in order to maintain/achieve the Te Whatu Ora CVD Risk Assessment Health Target of 90%.

Population Subgroups for Screening

Population Subgroup	Age	
	Men	Women
Individuals without known risk factors	45	55
Maori, Pacific or South Asian peoples	30	40
People with other known cardiovascular risk factors or at high risk of developing diabetes.	35	45

Population Subgroup	Age	
	Men	Women
Family history risk factors: • diabetes in first-degree relative (parent, brother or sister) • hospitalisation for or death from heart attack or stroke in a first-degree relative before the age of 50 years (father or brother, mother or sister) • familial hypercholesterolaemia Personal history risk factors: • people who smoke • gestational diabetes • HbA1c 41-49 mmol/mol • BMI more than 30 or truncal obesity (waist circumference more than 102 cm in men or > 88 cm in women) • eGFR <60 but >45 ml/min/1.73 m2 • atrial fibrillation		
People with diabetes (type 1 or 2)	From the time of diagnosis	From the time of diagnosis
People with severe mental illness	25	25

Heart Rate and Rhythm

To improve the detection of atrial fibrillation, and in line with the Australian and New Zealand Guidelines, 2018, two additional fields are included in the Risk Assessment template:

- Resting heart rate (non-mandatory field):
  - Numeric answer – units of bpm
- Resting heart rhythm (mandatory field):
  - Regular
  - Irregular
  - Not examined

Pulse checks that are recorded as "irregular" should be followed up with appropriate investigations and subsequent management.

Equity

The Auckland PHO CVD Risk Assessment Programme ensures that:

- There is a system/funding that aims to mobilise screening efforts and is targeted at patients who have never been screened or not had a screen in 5 years, particularly for Māori males
- Practices are encouraged to opportunistically test for lipids, HbA1c, eGFR, BP etc prior to an eligible screening age to have all the requirements for a valid CVD risk assessment.

Frequency of CVD Risk Assessments

Five Year Risk Level	Repeat CVD Risk Assessment every:
<3 %	10 years
3 – 9%	5 years
10- 14%	2 years
15+%	1 year as part of annual management review

For people with severe mental illness (schizophrenia, major depressive disorder, bipolar disorder, schizoaffective disorder), CVD risk assessment is recommended from age 25 years. Repeat assessments should follow every two years, unless the risk is 15 percent or more, when it should be repeated every year.

Recommended interventions, goals and follow-up based on cardiovascular risk assessment for clinicians

Cardiovascular risk	Lifestyle	Drug therapy*	Follow-up
Established CVD	Lifestyle advice (diet, weight management, physical activity smoking cessation).	Strong evidence supports pharmacotherapy for modifiable risk factors, and antiplatelet therapy for secondary prevention.	Review annually
> 15 percent CVD risk	Lifestyle advice (diet, weight management, physical activity, smoking cessation).	Strong evidence supports using statins and blood pressure lowering to prevent CVD events and deaths.	Review annually Repeat risk assessment annually.
5–15 percent CVD risk	Lifestyle advice (diet, weight management, physical activity, smoking cessation).	Discuss the magnitude of the benefits of statins or blood pressure lowering with the patient, based on the evidence that the higher the risk for the patient, the more likely they are to benefit.	For risk level 5–9 percent, repeat risk assessment at five years. For risk level 10–14 percent, repeat risk assessment at two years.
< 5 percent CVD risk	Lifestyle advice (diet, weight management, physical activity, smoking cessation).	Evidence indicates medication management has limited benefit.	For risk level < 3 percent, repeat risk assessment at 10 years. For risk level 3–5 percent, repeat risk assessment at five years.

* For people with diabetes we recommend an annual review.

https://www.health.govt.nz/publication/cardiovascular-disease-risk-assessment-and-management-primary-care

Funding

$10.00 for a 5-yearly CVD Risk Assessment on eligible populations
$20.00 for Maori men 30 – 45 years
GST exclusive

Business Rules

The patient must be:

- Enrolled and;
- Never been screened and no screen in 5 years;
- Maori/Pasifika/Indo-Asian[1] Men ≥ 30 years and women ≥ 40 years & < 75 years, or
- People with other known cardiovascular risk factors or at high risk of developing diabetes men ≥ 35 years and women ≥ 40 years & < 75 years, or
- People with severe mental illness – all ethnicities ≥25 years & < 75 years, or
- Other ethnicities Men ≥ 45 years and women ≥ 55 years & < 75 years
- Diabetes – all types and all ages

All mandatory fields (yellow) must be completed for claim to be accepted.

Note: Patients who do not have diabetes and age range for funded CVD Risk Assessments
The Auckland PHO funding to support CVD Risk Assessment is aligned with current best practice and is funded for 15 – 74 years for patients who do not have diabetes. For patients outside this age range (>75 years) who do not have diabetes, completing a CVD risk assessment is a clinical decision.

Timing of measurements to complete a CVDRA

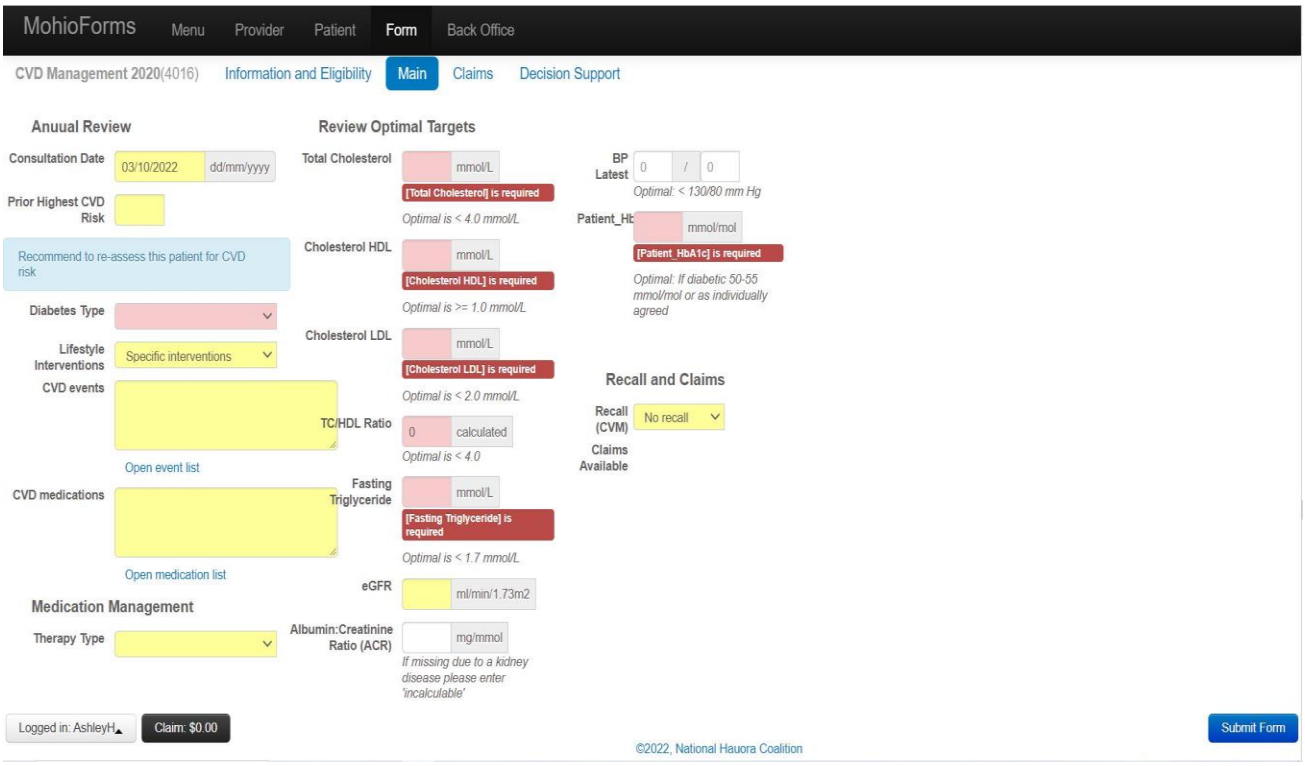
The interval for when measurements (such as bloods, BP, ACR etc) should be taken or repeated for an individual should be in accordance with the clinical guidance.
https://www.health.govt.nz/publication/cardiovascular-disease-risk-assessment-and-management-primary-care

However, the period of time between the recording of blood results, blood pressure and other categories required to complete a CVD risk assessment and the actual time of the CVD Risk Assessment should be less than 15 months

(Metro Auckland Clinical Governance Forum Diabetes and CVD Indicators).

Mōhio Form

Screenshot example; Mōhio CVD Risk Assessment 2022 advanced form



[1]Indo-Asian- Indian, Fijian Indian, Afghani, Bangladesh, Nepalese, Pakistani, Sinhalese, Tibetan, Sri Lankan, Tamil (Ref CVDRA Primary Care

References

https://www.health.govt.nz/publication/cardiovascular-disease-risk-assessment-and-management-primary-care
https://aucklandregion.communityhealthpathways.org/loginfiles/Landing.aspx?from=c51645078eb64657b4e657f663074990&page=25012.htm