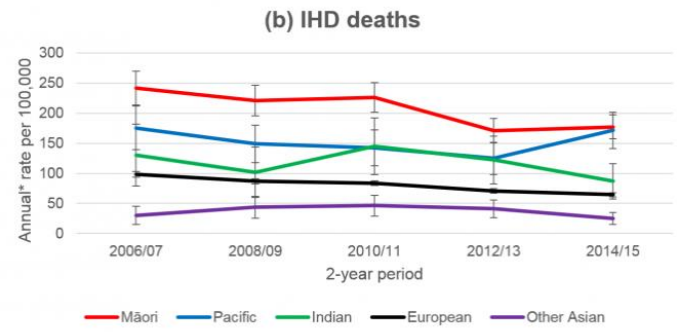
“Prevention is back in the spotlight” …did it ever go away?

Andy Mclachlan NP

CMDHB

Cardiovascular disease (CVD)

- Leading cause of death in New Zealand, accounting for 35% of deaths annually.
- One in 20 adults have been diagnosed with CVD –280,000 people.
- IHD death and hospitalisation rates continue to decline in all ethnic groups in New Zealand, but the decline in mortality was slowest in Pacific people, particularly Pacific women. Māori and Pacific people also have disproportionately high rates of IHD mortality compared to hospitalisations, suggesting poor access to care.
- More effective strategies are required to improve both access to CVD prevention and to acute care for these population groups.



Grey et al (2018) Trends in ischaemic heart disease: patterns of hospitalisation and mortality rates differ by ethnicity (ANZACS-QI 21)

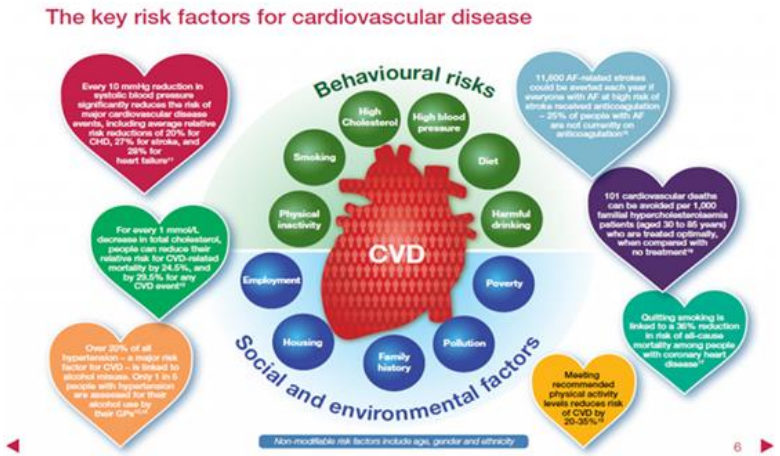
CVD

Much of the CVD burden and mortality can be traced back to four adverse health behaviours:

- smoking,
- poor diet,
- elevated body mass index,
- sedentary lifestyle

and three major risk factors

- hypercholesterolemia,
- hypertension,
- diabetes



- Ideal cardiovascular health defined as having all seven factors at goal is very rare among US adults.

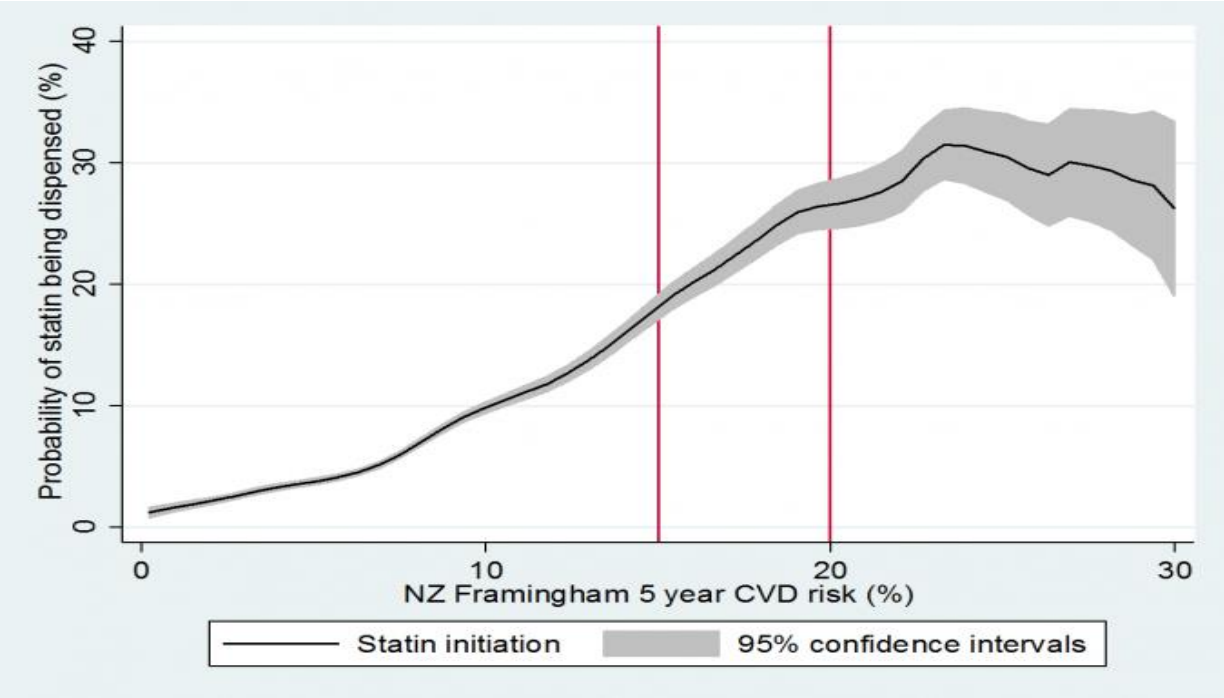
- ~87% of middle-aged US adults and ~ 95% ≥60 years old meet ≤4 of these health metrics.

Its more than that, of course

We need to also….

- Reduce socioeconomic inequities and mitigate the effects of poverty
- Address CVD risk factors & the obesogenic environment
- Improve access & quality of care along entire CVD pathway
- Encourage regular monitoring of progress through up-to-date reporting of trends by ethnicity
- Take advantage of the strengths of communities

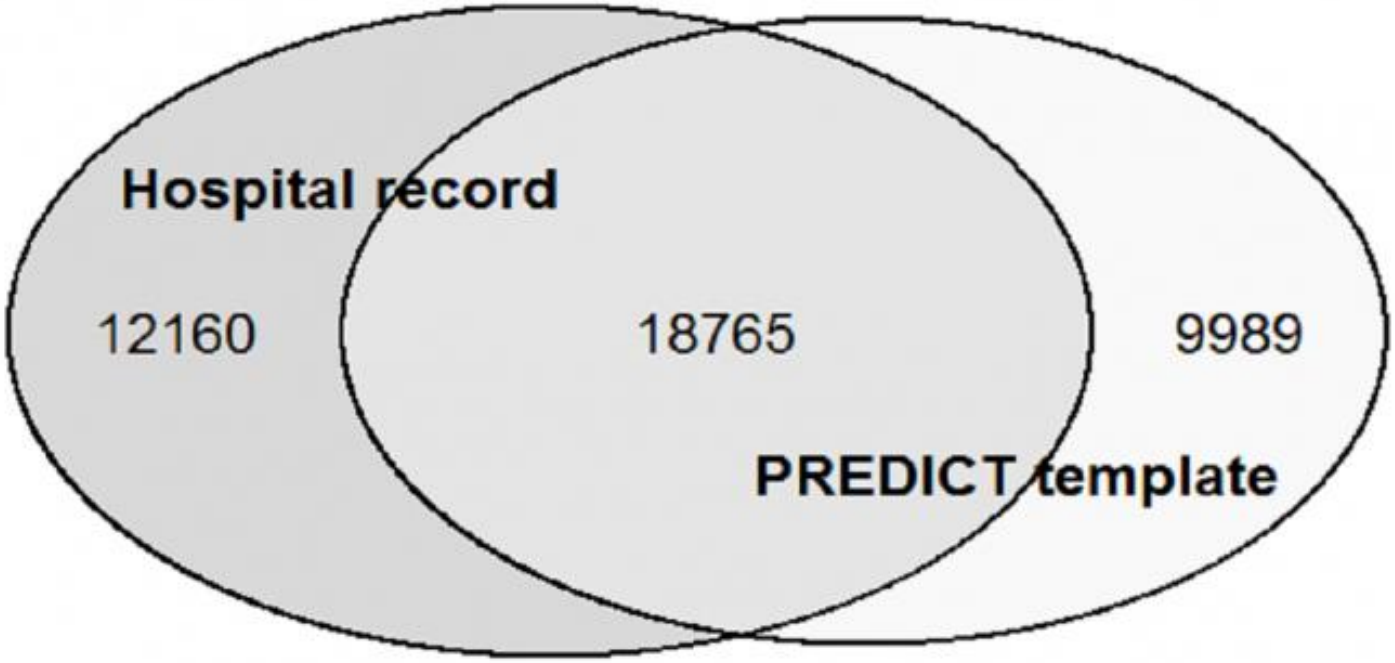
90 % of New Zealanders who are in the NZ Guidelines target group have had a CVD risk assessment.



The relationship between the New Zealand-adjusted Framingham CVD risk score and statin dispensing in the six months after the CVD risk assessment. Statin use increases with estimated CVD risk, however, but even among the highest risk patients the majority are not treated. There is no apparent sudden stepwise increase initiation of a statin at either 15% or 20% CVD risk thresholds, as might be expected from guideline recommendations.

Robinson et al 2017, NZMJ. An observational study of how clinicians use cardiovascular risk assessment to inform statin prescribing decisions

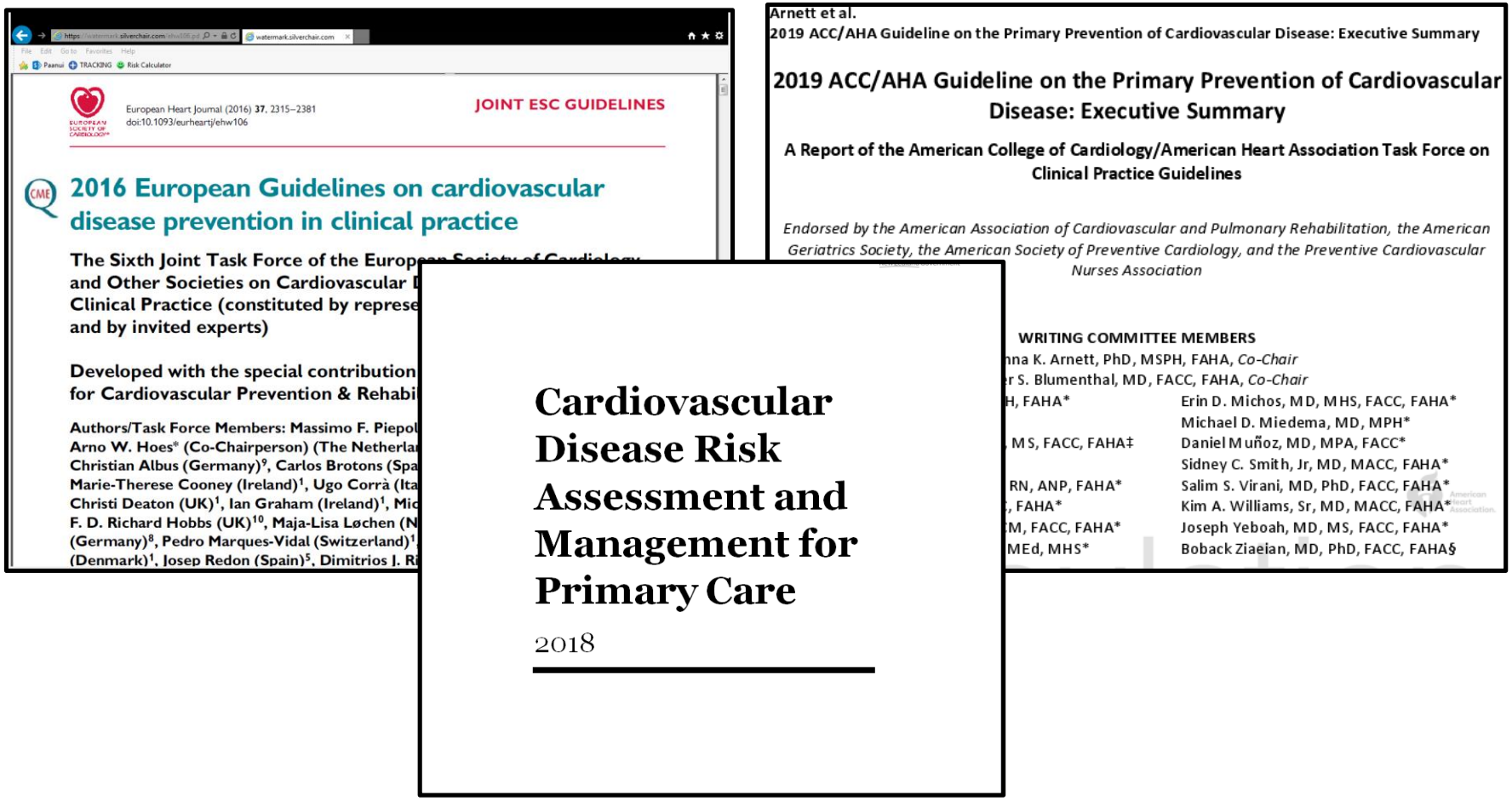
39% of people with prior CVD hospitalisations were not recorded as such



- 39% of people with prior publicly-funded CVD hospitalisations were not recorded as such (ie, had discordant recording) at the time of their first CVD risk assessment in general practice. This discordance worsened over time and was associated with markedly lower dispensing of evidence-based medications. People aged less than 55 years, women and those of non-European ethnicities were more likely to have discordant recording whereas smokers and people with diabetes were more likely to have their prior CVD hospitalisations accurately recorded in the primary care risk assessment

Wells et al (2017) NZMJ. Is general practice identification of prior cardiovascular disease at the time of CVD risk assessment accurate and does it matter?

Not short on guidance



New CVD Guidelines

- Identify high, intermediate and low-risk individuals.
- Encouraging a healthy lifestyle (smoking cessation, healthy diet, regular physical activity, optimal weight) remains a key foundation to the management of everyone regardless of CVD risk.
- Communicating risk to individuals as part of shared decision making and CVD risk management is recommended.
- Start screening earlier for high-risk people (i.e. Māori, Pacific and South-Asian individuals, and individuals with severe mental illness)
- Annual reviews are recommended for high-risk people
- There are some new clinical high-risk groups who require intensive management (individuals with Heart Failure, an eGFR less than 30 ml/min, diagnosis of asymptomatic carotid disease or coronary disease)
- Treatment to target of elevated cholesterol and BP is recommended for high risk groups
- The benefits of the use of aspirin need to be carefully weighed up against the risks of bleeding.

Population subgroup	Men	Women
Individuals without known risk factors	Age 45 years	Age 55 years
Maori, Pacific peoples or South-Asian* peoples	Age 30 years	Age 40 years
People with other known cardiovascular risk factors or at high risk of developing diabetes. 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 realative 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	Age 35 years	Age 45 years
People with diabetes (type 1 or 2)	From the time of diagnosis	From the time of diagnosis
People with severe mental illness	From age 25 years	From age 25 years

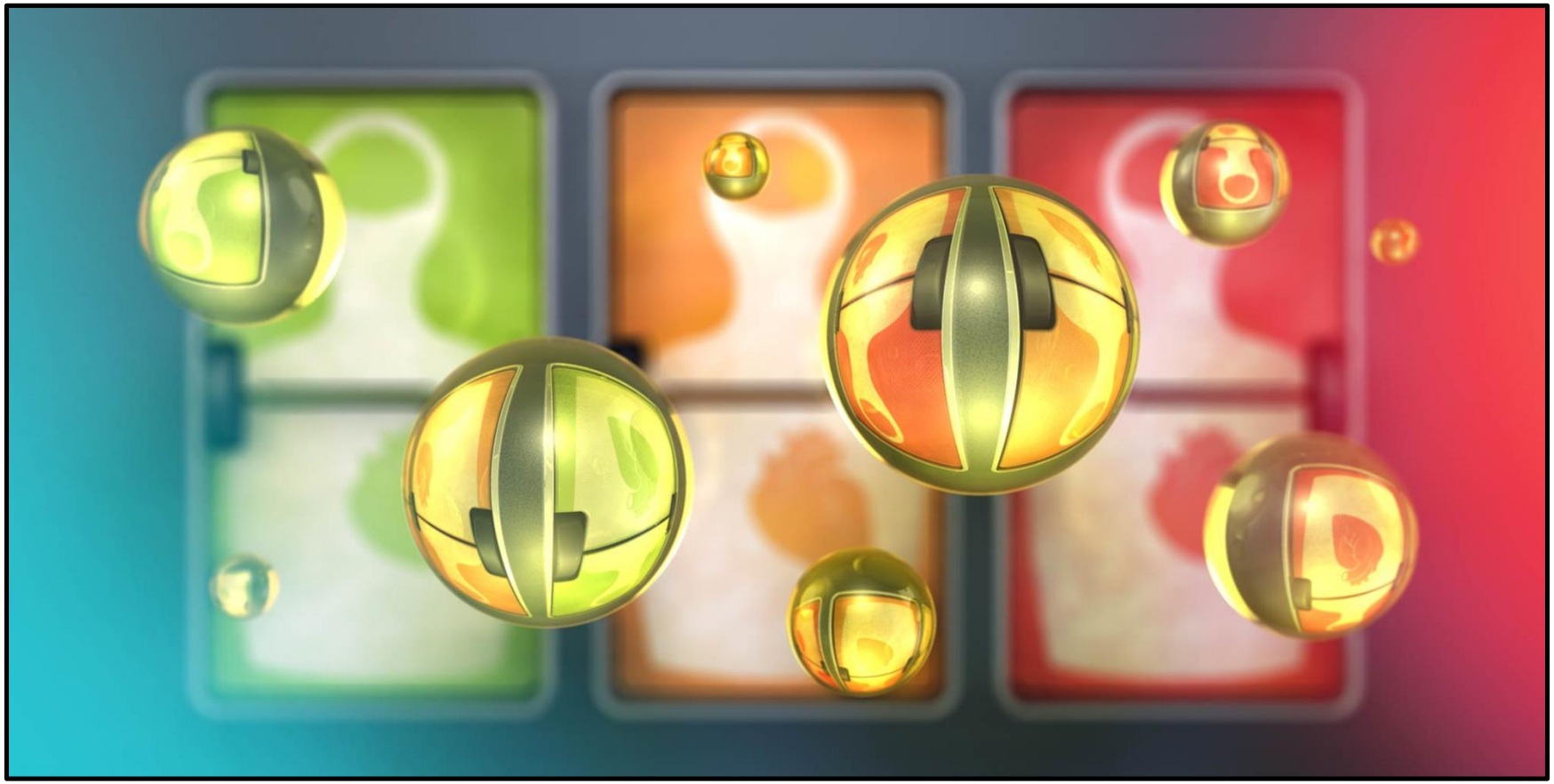
Hypertension

BPAC

Key practice points: BP

- Lifestyle interventions are recommended for every patient with a blood pressure ≥ 130/80 mmHg
- Calculate the patient's five-year cardiovascular risk to inform decisions about blood pressure-lowering medicines:
  - Blood pressure-lowering medicines are not recommended in patients with a risk < 5%
  - Discussions with patients about the benefits and harms of blood pressure-lowering medicines are appropriate in those with a risk 5% - 15% and a blood pressure ≥ 140/90 mmHg
  - Blood pressure-lowering medicines are strongly recommended for patients with a risk ≥ 15% and blood pressure ≥ 130/80 mmHg
  - Blood pressure-lowering medicines are recommended for patients with a blood pressure ≥ 160/100 mmHg regardless of cardiovascular risk
- If blood pressure-lowering medicines are initiated, a target ≤ 130/80 mmHg is recommended, however, this target should be approached with caution in older frail patients
- Angiotensin converting enzyme (ACE) inhibitors, angiotensin II receptor blockers (ARBs), calcium channel blockers and thiazide diuretics are all first-line blood pressure-lowering medicines

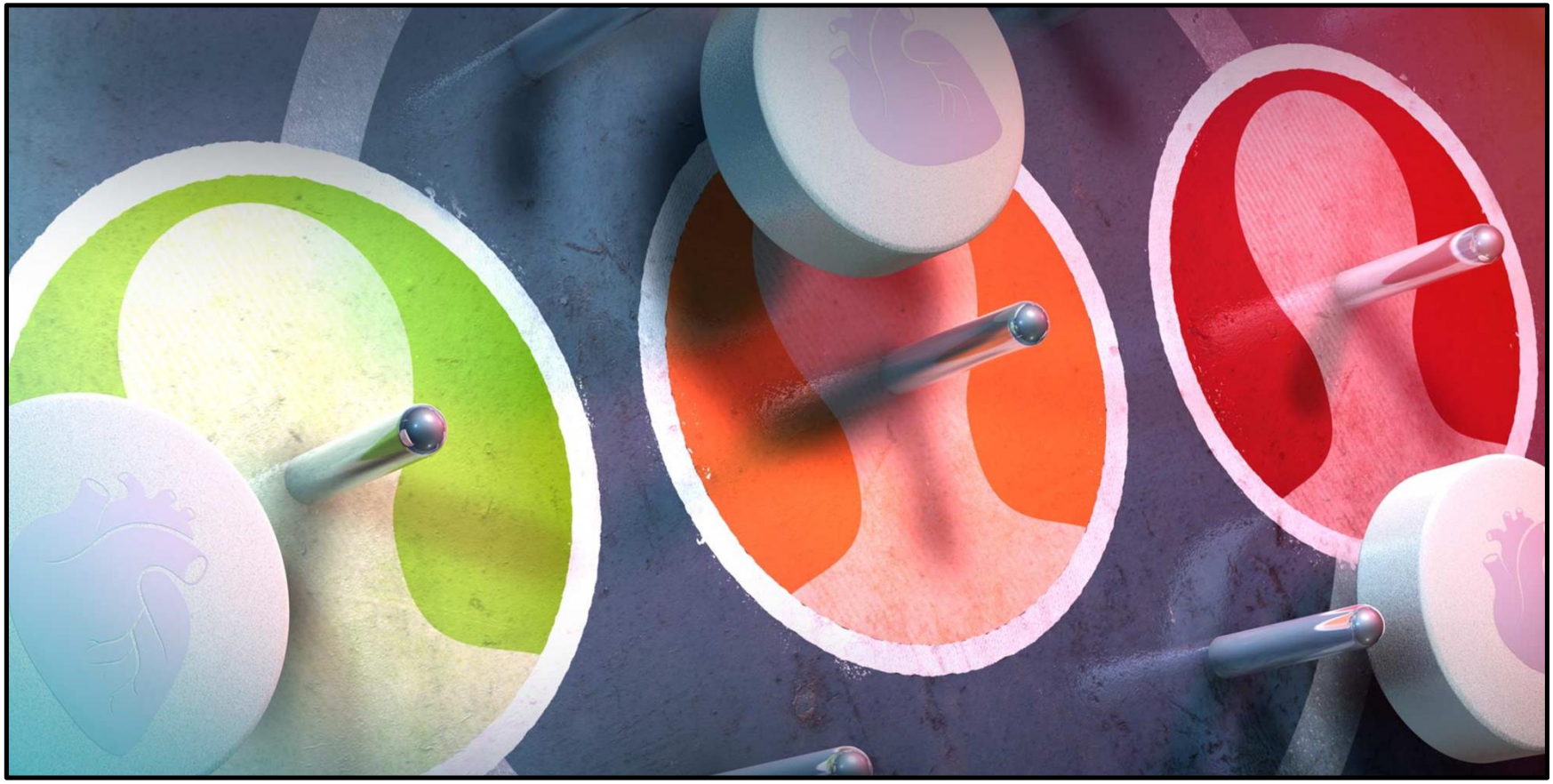
Dyslipidaemia



Key practice points:

- A healthy lifestyle focusing on smoking cessation, a balanced diet, regular physical activity and maintenance of an optimal weight should be encouraged for everyone
- For the majority of people, the estimated five-year CVD risk should be used to inform decisions about the use of lipid-lowering medicines
- Lipid-lowering medicines are recommended regardless of predicted risk in all patients with prior CVD or those with a five-year risk ≥ 15% and for people who have a total cholesterol to HDL-cholesterol (TC/HDL-C) ratio ≥ 8
- The benefits and harms associated with lipid-lowering medicines should be discussed to allow an individualised decision in people with intermediate risk (5–15%)
- Once lipid-lowering treatment is started, a new LDL-C target of ≤ 1.8 mmol/L is recommended for people at high risk and a 40% or greater reduction in LDL-C is recommended for intermediate risk groups
- Statins remain the first-line pharmacological treatment to lower lipids

Aspirin



Key practice points: Aspirin

- Aspirin is not recommended in patients aged ≥ 70 years for primary prevention, regardless of their CVD risk level
- In patients aged < 70 years, aspirin should only be considered for primary prevention when their five-year CVD risk is ≥ 15%
- Aspirin is recommended in all patients with established CVD for secondary prevention
- The benefits and risks associated with aspirin use should be carefully discussed with patients to facilitate an individualised decision on treatment

Key practice points: Diabetes

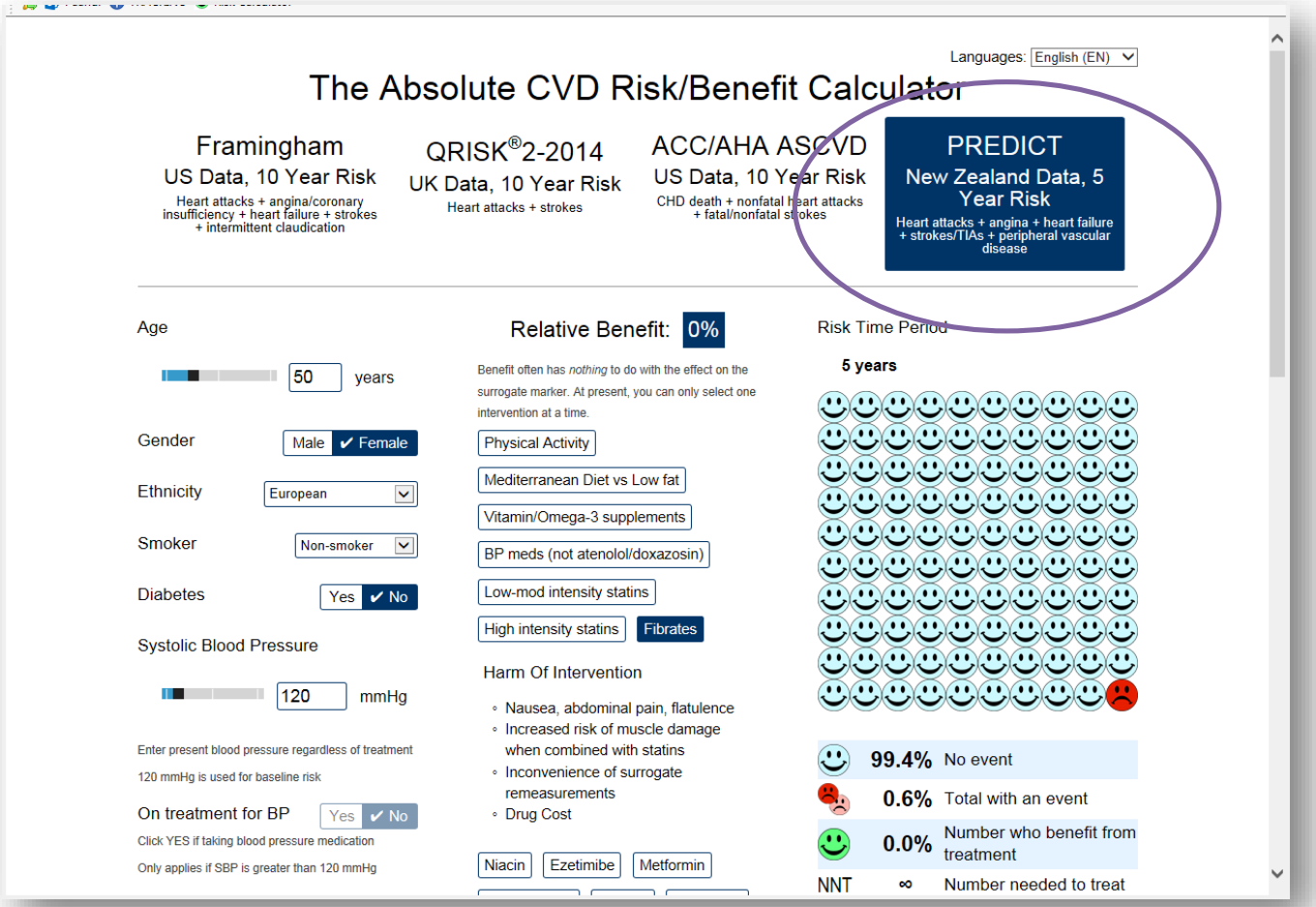
- Healthy lifestyle measures (smoking cessation, healthy diet, regular physical activity, optimal weight) should be strongly encouraged for people with diabetes.
- All people with diabetes, especially the newly diagnosed, should be offered training in self- management.
- Optimise glycaemic control to an appropriate level in consultation with the individual patient.
- The target range agreed will generally be more stringent in younger and fitter patients (eg, 50–55 mmol/mol or lower) than older, co-morbid or frail patients and those prone to hypoglycaemia (eg, 55–64 mmol/mol or higher).
- Remember the risk of hypoglycaemia from sulphonylureas and insulin (including combination therapy), especially in older people.

Calculating CVD risk

The NZ Primary Prevention equations are not yet available for clinicians to use in practice, but the recommendations in the 2018 CVD risk assessment consensus statement based on these equations can be applied now.

It is no longer possible to use paper charts to estimate CVD risk due to the increased number of predictors in the new equations. Risk assessment and communication will now require access to an electronic decision support system that should be integrated within primary care patient management systems.

http://chd.bestsciencemedicine.com/calc2.html



- https://staging11.predict.co.nz/enigma_cvddm/

DEMOGRAPHICS | CVD RISK ASSESSMENT | MANAGEMENT

Practitioners Details

NZMC / NZNC number *	

Demographics (All to be prepopulated from PMS)

Clinic *	ENIGMA CLINIC
First name *	Andy
Last name *	Presley Mclachlan
Find Placeholder NHI?	Yes (●) No ( )
NHI *	___0369
DHB Catchment	AUCKLAND
Quintile of deprivation	?
Meshblock geocode	?
Date of birth *	30/05/1964 dd/mm/yyyy ?
Age *	54 Years
Gender *	MALE
Ethnic Group (1 or more self-identified ethnic group may be chosen) *	NEW ZEALAND MAORI ?
Ethnic Group 2	NOT STATED
Ethnic Group 3	NOT STATED

NEXT ...

ASSUME NEGATIVE DEFAULTS ?

Clinical History

Family History of CVD (<50yrs) *	Yes ◉ No ○	?
Angina *	Yes ◉ No ○	?
MI *	Yes ◉ No ○	?
PCI/CABG *	Yes ◉ No ○	?
Ischaemic Stroke *	Yes ◉ No ○	?
Transient Ischaemic Attack (TIA) *	Yes ◉ No ○	?
PVD *	Yes ◉ No ○	?
Diabetes *	TYPE 2 (INCL TYPE 2 ON INSULIN)	?
Diabetes; year of diagnosis *	1996	?
ECG confirmed Atrial Fibrillation *	Yes ◉ No ○	?
Heart Failure *	Yes ◉ No ○	?
Diagnosed Genetic Lipid Disorder *	NONE	?
Smoking History *	YES - 11 - 19 / DAY	?
Severe Mental Illness (SMI) *	Yes ◉ No ○	?

Examination

Most recent BP (Sitting) *	150 ?	/	90	mmHg
Previous BP (Sitting) *	158 ?	/	100	mmHg ?

USE POINT OF CARE TEST RESULTS (?)

TC/HDL ratio *	5 ?	- Date:		dd/mm/yyyy
Height *	157			cm
Weight *	100 kg	- Date:		dd/mm/yyyy
BMI (Auto-calculated) *	40.6			kg/m² ?
Waist circumference	126			cm ?

Most recent BP (Sitting) *	150	?	/	90	mmHg	
Previous BP (Sitting) *	158	?	/	100	mmHg	?

USE POINT OF CARE TEST RESULTS (?)

TC/HDL ratio *	5	?	- Date:	dd/mm/yyyy
Height *	157	cm		
Weight *	100	kg	- Date:	dd/mm/yyyy
BMI (Auto-calculated) *	40.6	kg/m²	?	
Waist circumference	126	cm	?	

Renal

Serum creatinine *	150	umol/l	?	- Date: dd/mm/yyyy
Estimated GFR *	45	ml/min/1.73 m2	?	
ACR	67	mg/mmol	?	- Date: dd/mm/yyyy
Renal disease *	OVERT DIABETIC NEPHROPATHY		?	

Current CVD Medications

CAUTION: Please note that all medications default to "No". Please review carefully before proceeding.

Aspirin	NO	?
Clopidogrel	NO	?
Other antiplatelet	NO	?
Warfarin	NO	
Other anticoagulant	NO	?
HAS-BLED Score	?	- Date: dd/mm/yyyy

ACE Inhibitor	NO ?
Angiotensin II Receptor Blocker	NO ?
Beta Blocker	NO ?
Thiazide	NO ?
Calcium Antagonist	NO ?
Other drug therapy for Hypertension	NO ?
Statin	NO ?
Fibrate	NO ?
Other Lipid lowering drugs	NO ?
Verified medications list is current	TODAY

Diabetes Glycaemic Control

HbA1c * 100 mmol/mol ? - Date: dd/mm/yyyy

CAUTION: Please note that all medication-related questions in this section default to "No". Please review carefully before proceeding.

Diet therapy only	YES ?
Metformin	NO ?
Sulphonylurea	NO ?
Glitazone	NO ?
Acarbose	NO
Other antidiabetics	NO ?
Insulin	NO
Verified medications list is current	05/04/2019 TODAY

This data is the patient's real clinical information — Yes (●) No ( ) ?

SUBMIT RISK ASSESSMENT ? Or PARK ONLY

'WHAT IF' / DEMONSTRATION STYLE RISK ASSESSMENT ?

RISK ASSESSMENT INFO

PROVIDE PATIENT ACCESS

Annual Review

Is this an Annual Review? *	Yes ○	◉ No

Other Blood Tests

HbA1c *	100	mmol/mol	?	- Date:	dd/mm/yyyy
Total Cholesterol *	5	mmol/L	?	- Date:	dd/mm/yyyy
LDL Cholesterol (fasting) *	3	mmol/L	?	- Date:	dd/mm/yyyy
Triglyceride (fasting) *	2	mmol/L	?	- Date:	dd/mm/yyyy
HDL Cholesterol *	1	mmol/L	?	- Date:	dd/mm/yyyy

Diabetic Feet (required for Annual Review)

Do you want to complete the foot section?	NO	?

Diabetic Eyes (required for Annual Review)

Blind in both eyes?	Yes ○	◉ No
Do you want to complete the eye section?	NO	?

Mental Health and Wellness (recommended for those within management plans)

Over the past 2 weeks, have you often been bothered by

Little interest or pleasure in doing things	Yes ◉	○ No
Feeling down, depressed or hopeless	Yes ◉	○ No

Severe mental illness (SMI)

Patient has SMI: uplift CVR by x1.5? *	Yes ◉	○ No ?

Lifestyle Management

Smoke Quit Advice given today?	Yes ◉	○ No	?
Physically active?	Yes ○	◉ No	?
Green Prescription given	Yes ○	◉ No	?

Provide Patient Information

- Please ensure you give your patient their printout information to take home either by printing it for them, or by emailing it to them.

Lifestyle

- Reassess dietary pattern and physical activity today.
- Refer to dietitian.
- Give Green Prescription.
- Offer smoking cessation support.
- Discuss weight management.

Renal

- Refer for specialist advice on renal management.
- See recommendations.

Glycaemic Control

- Undertake 3-month trial of intensive lifestyle interventions.
- Clinical review in 4 weeks (see recommendations).
- Consider starting sulphonylurea (see recommendations).
- Refer for diabetes self-management education.
- Check HbA1c in 3 months.

Blood Pressure

- BP management - see recommendations.
- Recheck BP in 6 to 12 months.

Antiplatelet/Anticoagulant

- Review antiplatelet/anticoagulant medications - see recommendations.
- Decision support has been given in the absence of or is based on an old HAS-BLED score. Consider updating HAS-BLED score on CVD Risk Management page.

Feet

- Assess 3-6 monthly (if have 'high risk' foot), otherwise annually.

Eyes

- Ensure retinal review at least 2-yearly

- Target HbA1c:

	Target	Your Patient
HbA1c	50-55mmol/mol, or as individually agreed	**100mmol/mol** * (**11.3%** *)

NZSSD - Changes to HbA1c units of measurement - (% to mmol/mol)

- HbA1c of 100mmol/mol (11.3%) reflects sub-optimal glycaemic control. Unless symptomatic (eg, dehydrated, very tired, significant nocturia, thrush) a trial of 3-months' intensive lifestyle advice is recommended. Lifestyle interventions for most patients are more effective than any single oral agent and often more effective than two oral agents. Continue with lifestyle interventions alone for as long as measures are improving. However, if control remains indifferent (HbA1c 58-65mmol/mol) and/or approaching steady state after this trial, consider starting a sulphonylurea (such as glipizide or gliclazide).

  NZF – Management of glycaemic control (External link)

- When selecting a sulphonylurea, consider prescribing an agent such as glipizide or gliclazide (hepatic metabolism) as the half-life of older drugs such as glibenclamide (renal metabolism) may be prolonged, resulting in severe hypoglycaemia.
- Acarbose, glitazone and the newer antidiabetics may be considered as alternatives to sulphonylureas. Insulin is also an option, especially if HbA1c greater than 65mmol/mol.
- Review in 4 weeks for symptomatic deterioration and/or substantial changes in glucose control. Consider asking patient to undertake Self-Monitoring of Blood Glucose (SMBG) 2-3 days per week for four weeks recording a fasting and 2hr post-prandial blood glucose.

  Patient glucose monitoring

- Newer antidiabetics include DPP4-inhibitors (e.g. saxagliptin, sitagliptin, vildagliptin), GLP -1 agonists (e.g. exenatide) and SGLT-2 inhibitors (e.g. dapagliflozin). Contra-indications include ketoacidosis, severe gastro-intestinal disease (exenatide) and history of serious hypersensitivity to DPP-4 inhibitors (saxagliptin). All newer antidiabetics should be used with caution in patients with renal impairment (see NZF). NB: Vildagliptin is the only agent funded by PHARMAC.

  SGLT2 Inhibitors and Diabetic Ketoacidosis

  NZF - Antidiabetics (External link)

- The full effect of glitazone therapy may be delayed for months. Glitazones are contra-indicated in patients with cardiac failure.
- Diabetes self-management education (over 5yrs ago or date not recorded). Self-management education referral is recommended on diagnosis and then on an ongoing basis according to need.
- Self-monitoring of blood glucose is considered part of diabetes self-care in patients taking insulin or sulphonylureas, and can be used to guide dose titration.

  Patient glucose monitoring

Blood sugar control

Ideal HbA1c:

	Ideal	You
HbA1c	50-55mmol/mol, or as agreed with your doctor	**100mmol/mol * (11.3% *)**

NZSSD - Changes to HbA1c units of measurement - (% to mmol/mol)

Your HbA1c of 100mmol/mol (11.3%) is above the recommended range. HbA1c is a measure of diabetes control. The best ways to improve it are increasing physical activity and a healthy heart diet tailored just for you. Healthy eating and physical activity are more effective than any diabetes medication. Your doctor may ask you to measure and keep a diary of your blood sugar levels over the next 4 weeks. If your HbA1c remains raised, or you are very unwell, your doctor may need to start you on medication. Report any side effects.

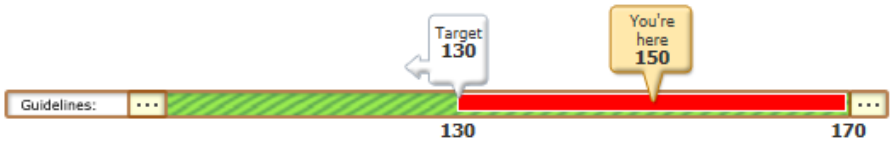
Target for HbA1c - measure of diabetes control (mmol/mol):

Blood Pressure

Ideal Blood Pressure:

	Ideal	You
BP	130/80mmHg	**150/90mmHg ***

Your ideal systolic blood pressure is (mmHg):



Your blood pressure of 150/90mmHg is above the recommended range. The best ways to improve it are increasing physical activity, a healthy heart diet, reducing alcohol consumption, losing weight and reducing the amount of salt you have in your food.

Tackling your risk factors - Blood pressure (www.nhf.org.nz)

Risk Assessment Info

Email to Patient Print Export to PDF

This page was made specifically for **Andy Presley Mclachlan *(___0369)***: 05-Apr-2019 13:37 hrs

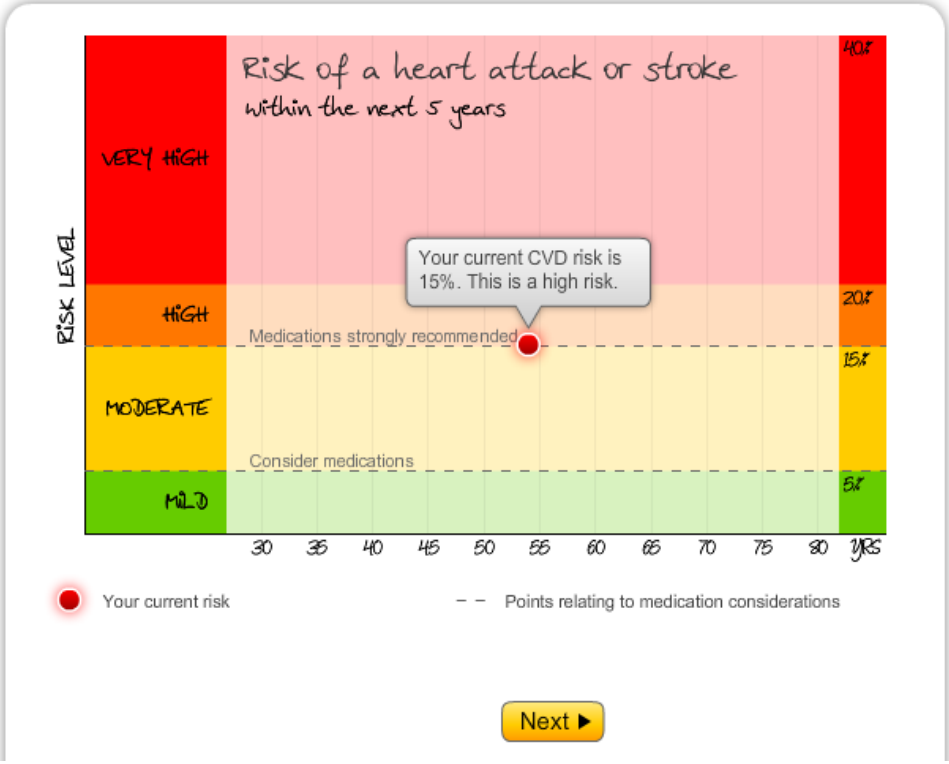
Estimated risk of having a CVD event in the next 5 years: 15%

This patient's estimated risk value has been calculated using the NZ Primary Prevention Equations (more info).

Frequency of CVD Risk Assessment:

Management and follow-up is appropriate with yearly (or more frequent) review.

CVD Risk Assessment supporting content:



"To salvage the acutely ischemic myocardium without addressing the underlying causes of the disease is futile;

we need to invest in prevention"

Kotseva K, Wood D, De Backer G, *et al*. On behalf of EUROASPIRE study Group Cardiovascular prevention guidelines - the clinical reality: a comparison of EUROASPIRE I, II and III surveys in 8 European countries. *Lancet* 2009; **372**:929–940.

Get a certificate

Questions?