Cardio**V**ascular **D**isease **R**isk **A**ssessment by **P**harmacy in secondary care for high risk ethnicities (CVD RAP)

A Heart Health Check for Māori and Pacific People in Hospital

Waitaha Canterbury Pharmacy Services & Cardiology Department

E Tolerton, M Beattie, M Daly, R Turnbull, E Oh, S McCrostie, J Leggat & C Fredriks

NGĀ RATONGA KĒMIHI
Pharmacy Services

Cardiology Department
Peka Mātai Manawa

Health New Zealand
Te Whatu Ora

Disclosures + Ethics

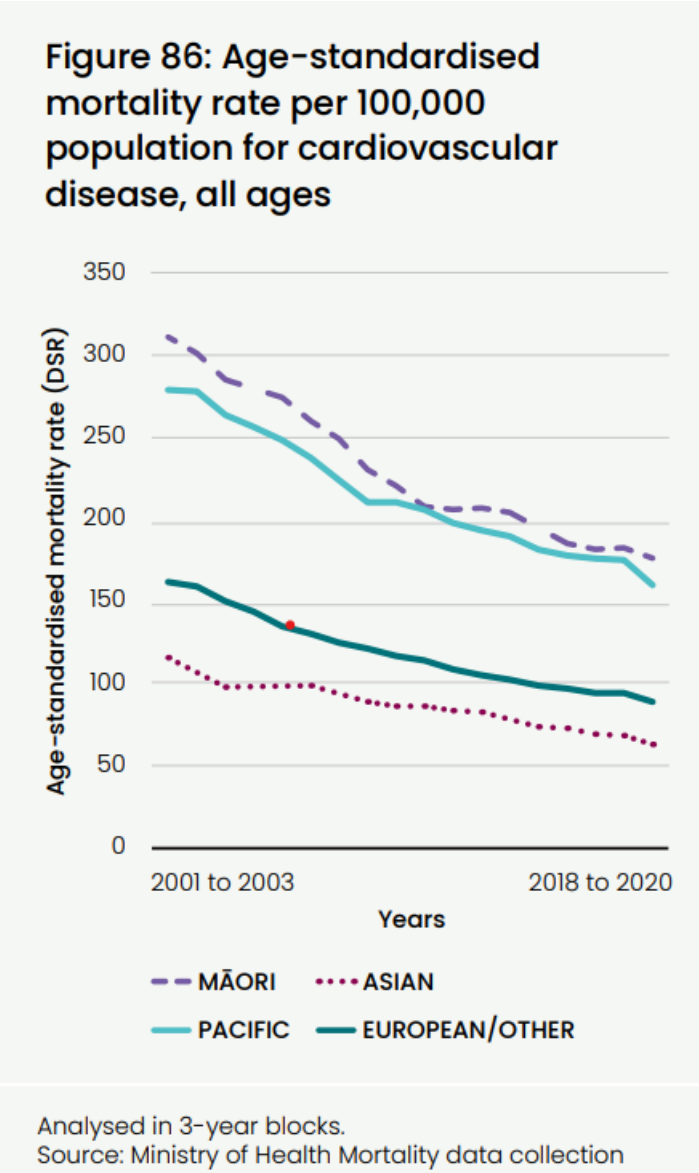
Speaker Disclosures:

Honoraria from Novartis

This study received ethics approval from the Health & Disability Ethics Committees 2024

Aotearoa CVD statistics

- Māori and Pacific people are still disproportionately affected by cardiovascular disease (CVD)
- Avoidable CVD death is considered the biggest contributor to differences in life expectancy
- Māori & Pacific people are recommended to start CVD screening 15 years earlier than other populations



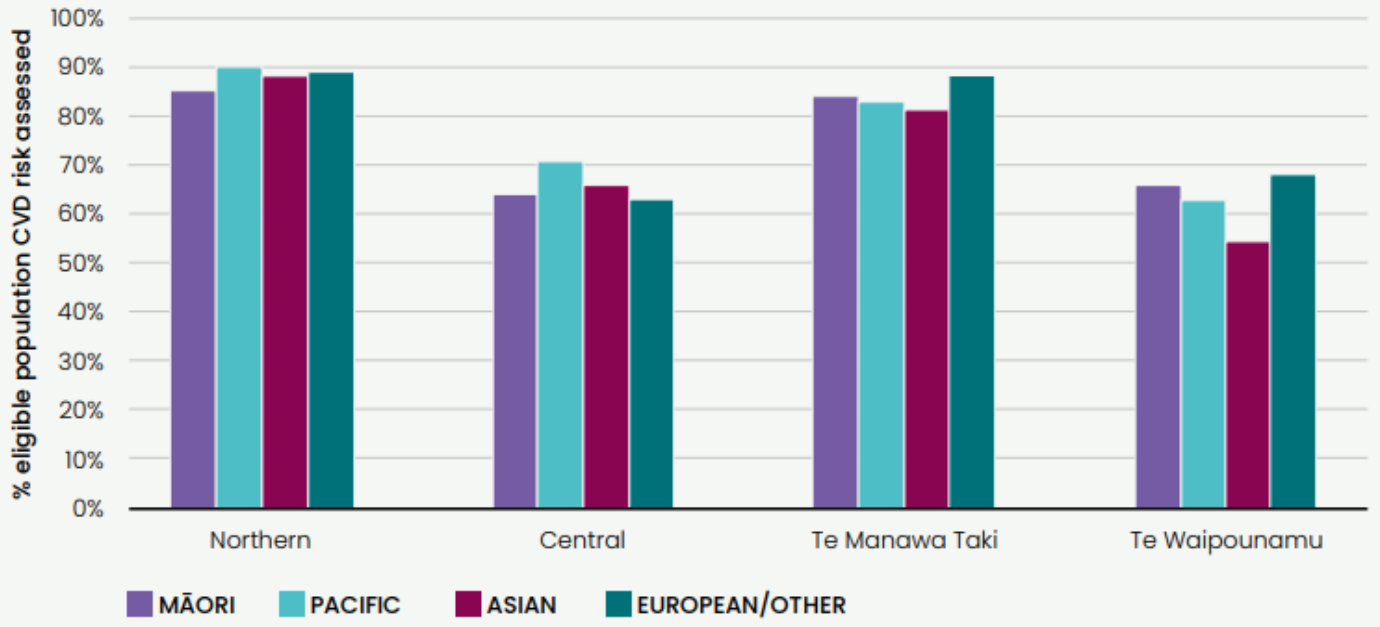
HNZ-TWO-Health-Status-Report_FULL.pdf,
Heart_Foundation_White_Paper_July_2023.pdf
Cardiovascular Disease Risk Assessment and Management for Primary Care – Health New Zealand | Te Whatu Ora

Heart Foundation Action plan 2023

Goal:

‘95% of eligible New Zealanders are risk assessed for cardiovascular disease (heart disease and stroke) and have their risk managed.’

Figure 88: Proportion of eligible population CVD risk assessed, as at quarter one 2020/21



Source: Ministry of Health

HNZ-TWO-Health-Status-Report_FULL.pdf,
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Where is CVD RA done in NZ?

- Typically in primary care (some secondary care clinics)

- Known barriers to access primary care
  - Previous negative experience within the health system
  - Not taking enrolments – 'Closed books'
    - Māori have lower enrolment rates in primary care (85% vs 95% total)
    - Lower rates of enrolment with younger age groups
  - Cost
  - Balancing work/whānau commitments

HNZ-TWO-Health-Status-Report_FULL.pdf,
Heart_Foundation_White_Paper_July_2023.pdf
Enrolment with a general practice and primary health organisation – Health New Zealand | Te Whatu Ora
Mohan, N., Irurzun-Lopez, M., Pledger, M., Jeffreys, M., & Cumming, J. (2024). Addressing closed and limited enrolments in general practices in Aotearoa New Zealand: a mixed methods study. *The New Zealand Medical Journal (Online)*, *137*(1599), 55-64.
Mona Jeffreys, Lis Ellison-Loschmann, Maite Irurzun-Lopez, Jacqueline Cumming, Fiona McKenzie, on behalf of the Primary Health Care Programme Grant Team, Financial barriers to primary health care in Aotearoa New Zealand, Family Practice, Volume 41, Issue 6, December 2024, Pages 995–1001, https://doi.org/10.1093/fampra/cmad096

Most see a fracture….

We saw an opportunity for CVD RA

The study premise

- Opportunistic pharmacist led CVD RA for Māori and Pacific people not up to date with risk assessment
- Hospital inpatients – for non-CVD related admissions
- Focus on identifying CVD risk factors, education, improving awareness and possible medication initiation
- Ensure ongoing follow-up

Study Outcomes

Primary Outcome

- Proportion of eligible Māori and Pacific people who have received CVD RA before and after our intervention

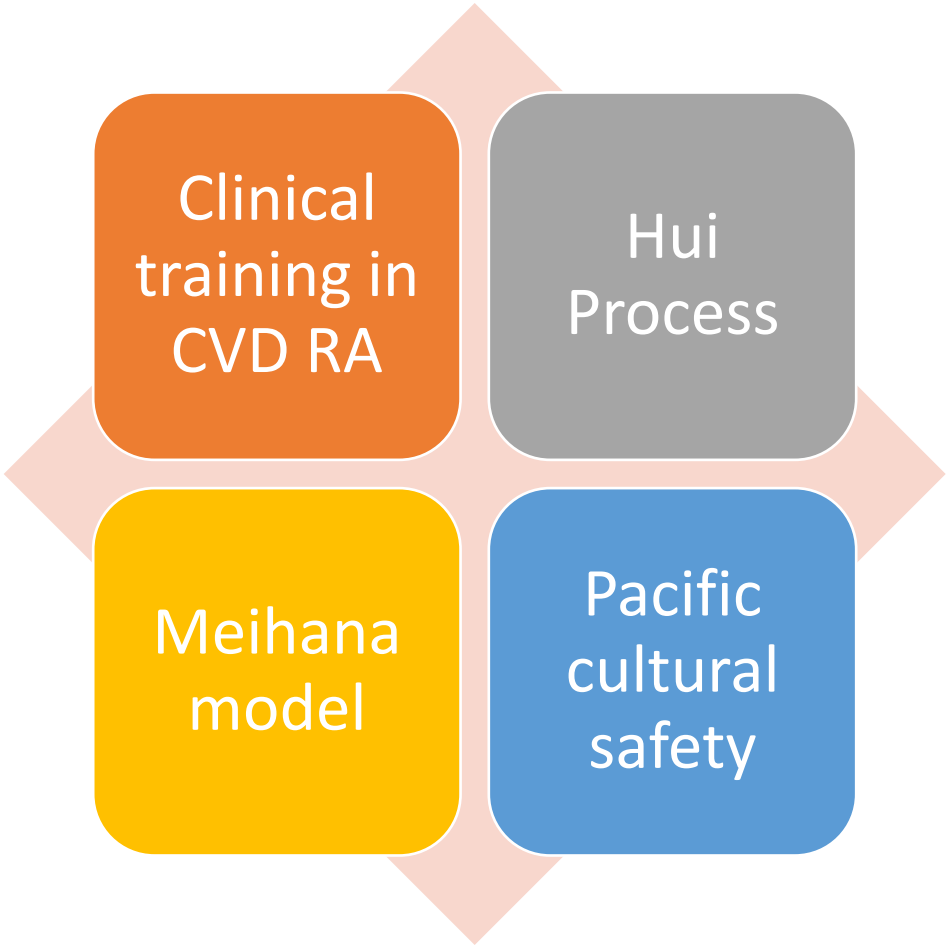
Secondary Outcome

- Proportion of study participants at moderate or high risk started on a statin
- Number of participants with newly identified diabetes or pre-diabetes

Study pharmacist training

- 10 study pharmacists upskilled
(9.4 FTE)

- Study enrolment
10th September – 20th December 2024



Methodology

Identify patients from a prioritisation list
Remote pre-screening, followed by in-person screening
Consent patient + inform inpatient team
Acquire CVD RA information: i.e. diet / lifestyle, family history, smoking/vaping status
Relevant blood tests (creatinine, lipids, HbA1c)
Calculate risk via PREDICT online calculator
Communicate risk / educate and improve awareness / shared decision making plan
Transfer of care via Tautoko Hauora as needed

Study Eligibility

Inclusion

From prioritisation list

- Māori or Pacific Male* aged 30 or above
- Māori or Pacific Female* aged 40 or above

  * Sex at birth

Pre-screening

- Live in greater Christchurch area to ensure appropriate community follow up can be arranged.

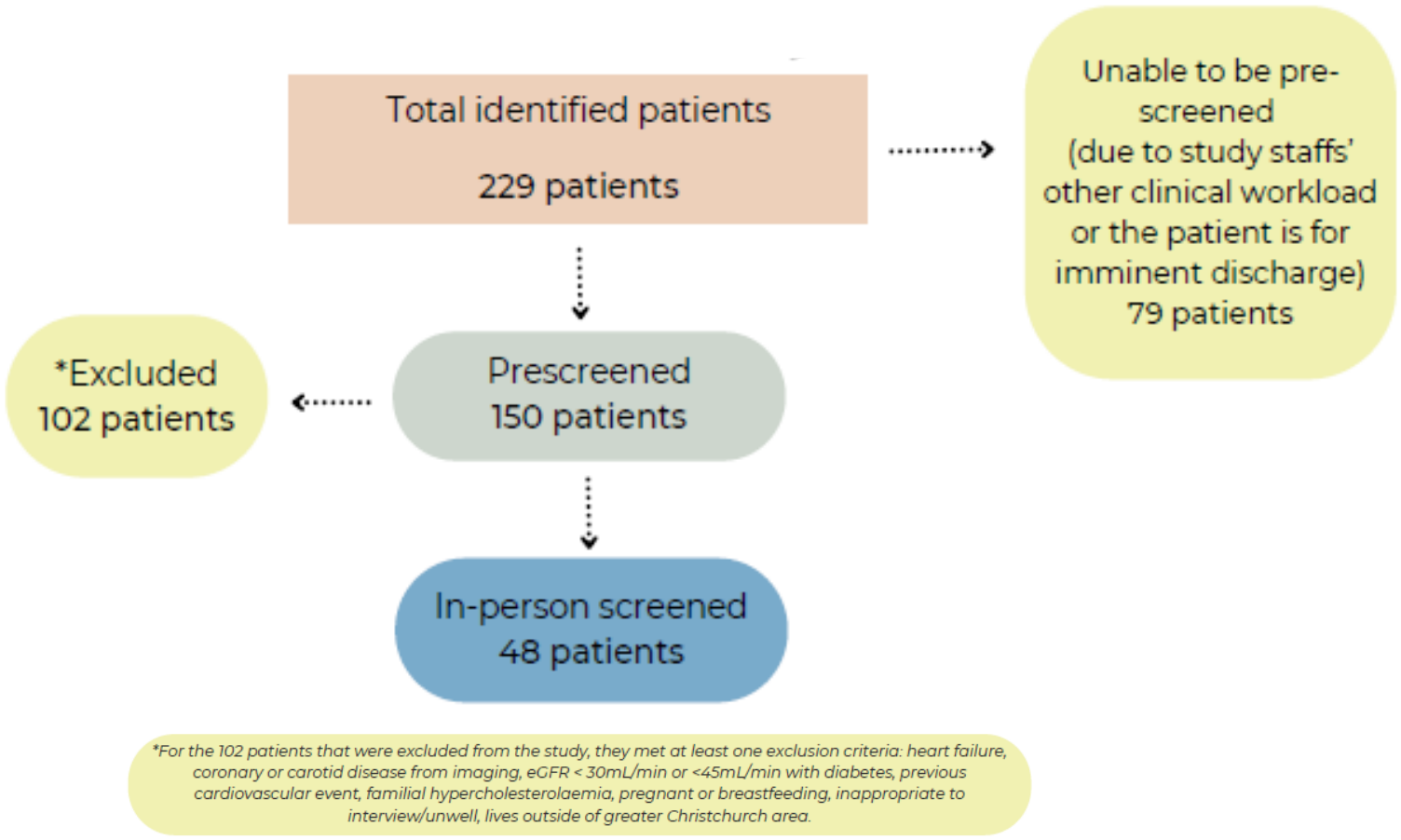
Exclusion

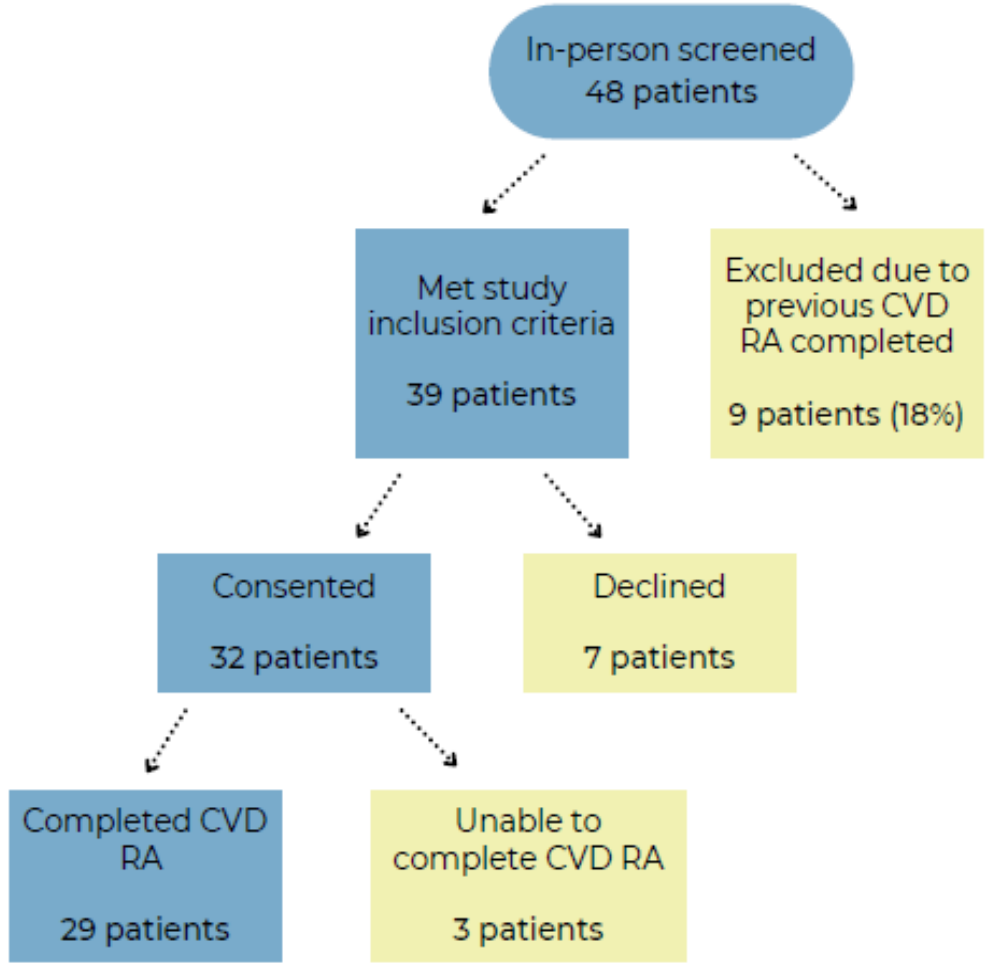
Pre-screening

- High risk feature
  - Heart failure
  - Coronary or carotid artery disease from imaging
  - eGFR < 30 mL/min or < 45mL/min with diabetes
  - Previous Cardiovascular event (Stroke / MI / TIA)
  - Familial hypercholesterolaemia
- Age greater than 75
- Pregnant / Breastfeeding
- Not appropriate due to clinical or emotional circumstance in hospital or current prognosis

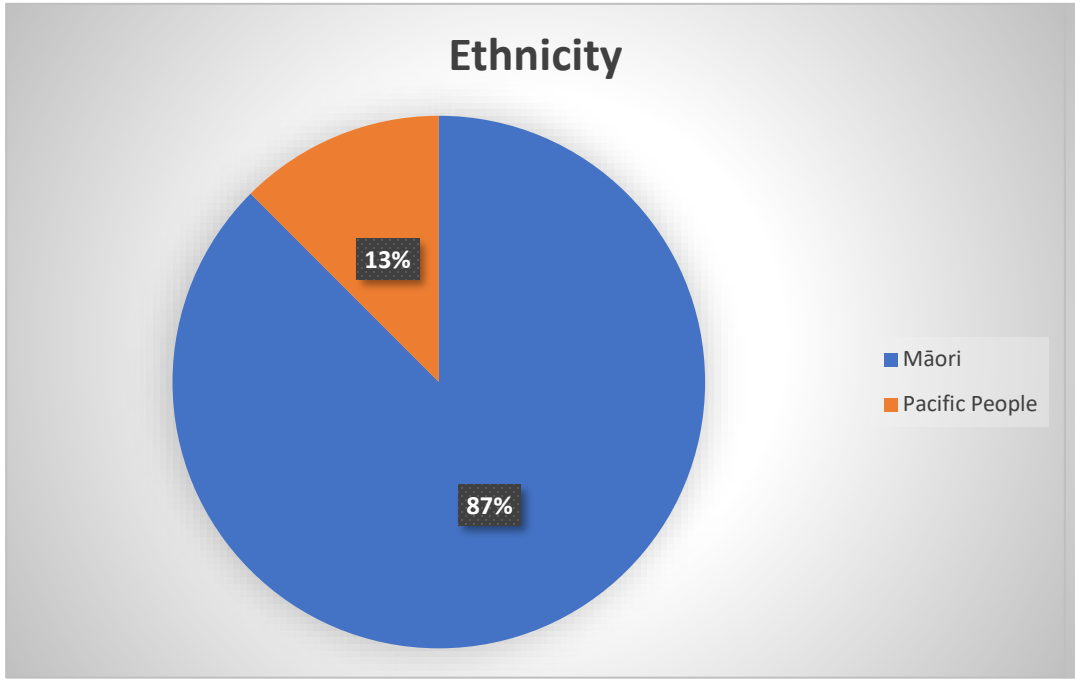
In-person

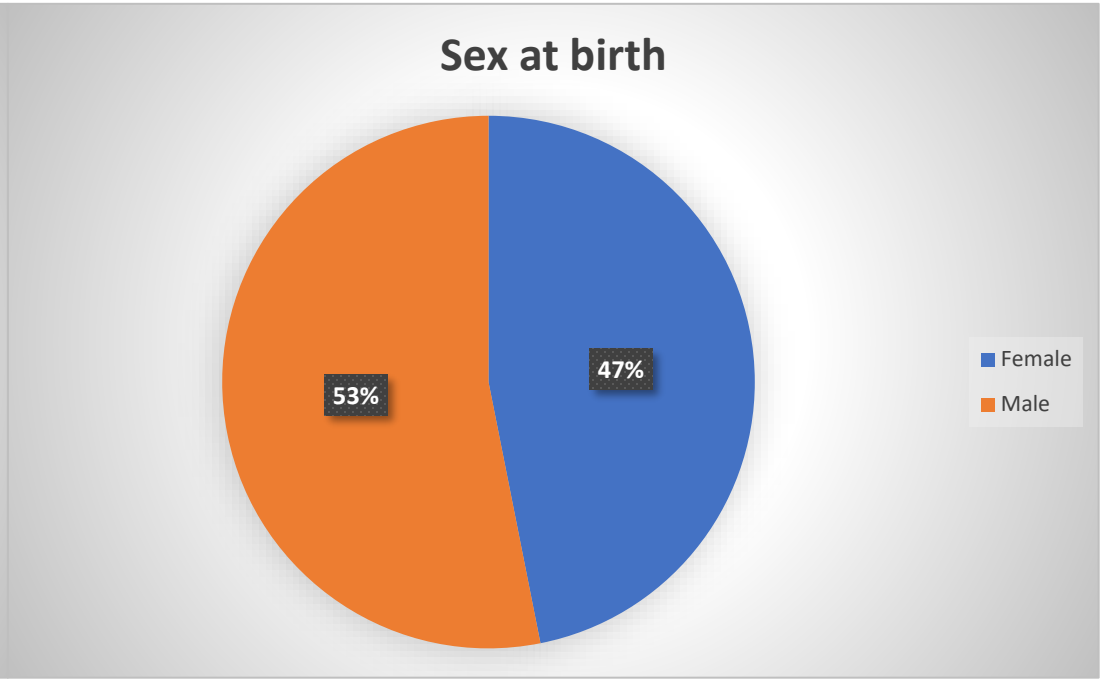
- Patient had CVD RA completed previously + clearly recalls their risk level **AND** is not due for repeat assessment **AND** appears appropriately treated for risk level.


Total identified patients
229 patients
Unable to be pre-screened
(due to study staffs' other clinical workload or the patient is for imminent discharge)
79 patients
Prescreened
150 patients
*Excluded
102 patients
In-person screened
48 patients
*For the 102 patients that were excluded from the study, they met at least one exclusion criteria: heart failure, coronary or carotid disease from imaging, eGFR < 30mL/min or <45mL/min with diabetes, previous cardiovascular event, familial hypercholesterolaemia, pregnant or breastfeeding, inappropriate to interview/unwell, lives outside of greater Christchurch area.


In-person screened
48 patients
Met study inclusion criteria
39 patients
Excluded due to previous CVD RA completed
9 patients (18%)
Consented
32 patients
Declined
7 patients
Completed CVD RA
29 patients
Unable to complete CVD RA
3 patients

Study Demographics

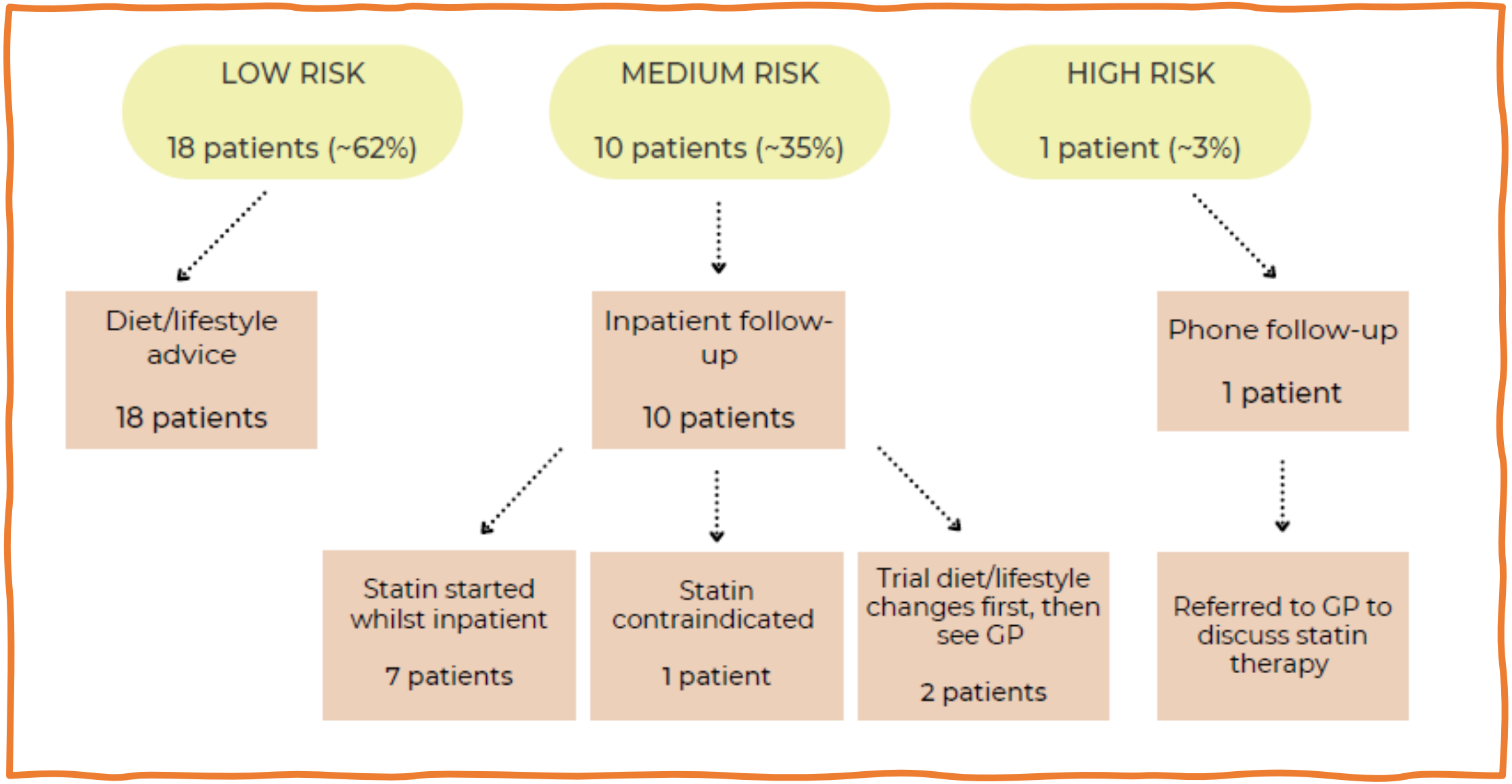




Age

Male: 31 – 68 years old. Mean 41 years old

Female: 40 – 72 years old. Mean 52 years old


LOW RISK
18 patients (~62%)
MEDIUM RISK
10 patients (~35%)
HIGH RISK
1 patient (~3%)
Diet/lifestyle advice
18 patients
Inpatient follow-up
10 patients
Phone follow-up
1 patient
Statin started whilst inpatient
7 patients
Statin contraindicated
1 patient
Trial diet/lifestyle changes first, then see GP
2 patients
Referred to GP to discuss statin therapy

Secondary Outcomes

Number of participants with newly identified diabetes or pre-diabetes

- Three participants newly identified with a HbA1c in the pre-diabetic range
- This was flagged to primary care via discharge summary for ongoing monitoring

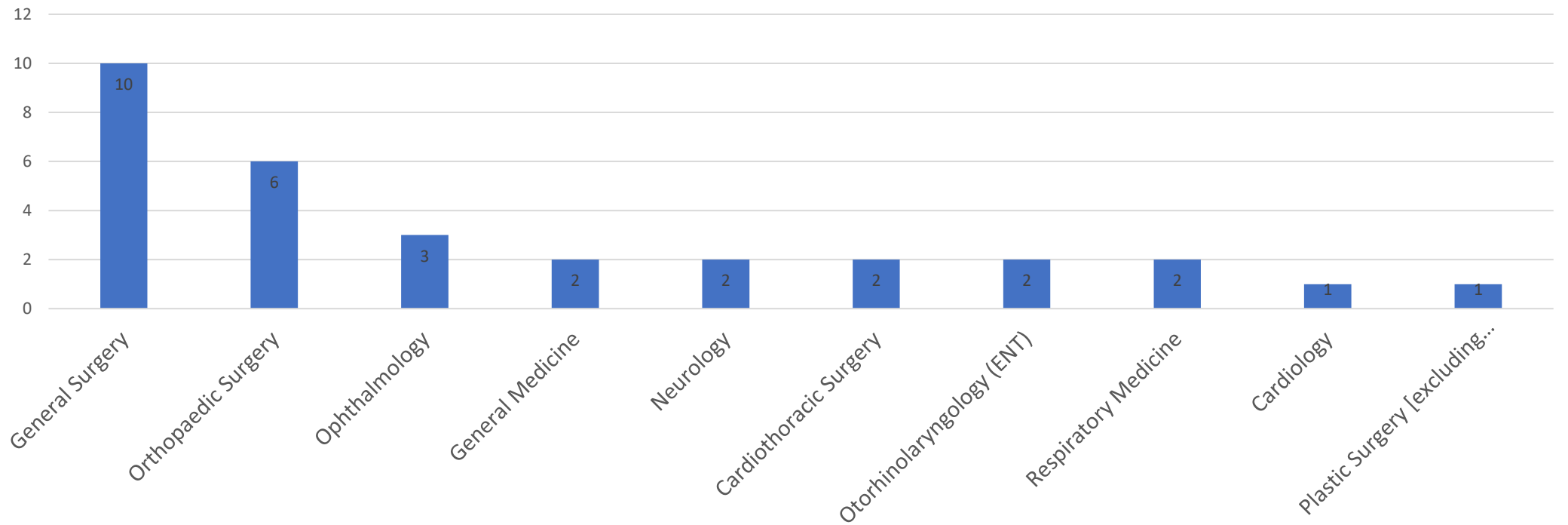
Primary care enrolment

- Three patients (approx. 10 %) were referred to Tautoko Hauora to facilitate enrolment with primary care post discharge

- Those referred were aged between 30 and 60

HNZ-TWO-Health-Status-Report_FULL.pdf,
Enrolment with a general practice and primary health organisation – Health New Zealand | Te Whatu Ora

Specialty during admission



Challenges

- Significant time involved in pre-screening
- Consent process for research added significant time – lost opportunity for patients with fast turnaround in hospital
- No easy visualisation of previous CVD RA history on electronic systems
- Balancing other clinical workload

The Future

Business as usual

- Developing local protocol
- Upskilling more staff – locally and nationally

Local options

- Mental Health
- Clinics e.g., rheumatology

Community pharmacy links

- Blood pressure checks post discharge

Pharmacist Prescribers

- Lipid lowering medications
- Other preventative medications

Conclusions

- Unmet need for Māori and Pacific people to receive timely CVD RA.
- CVD RA can be successfully completed for hospital inpatients by trained pharmacists with the support of the multidisciplinary team
- Majority of patients welcoming of having this intervention while in hospital and supportive of starting medications when indicated
- Addressing inequity by improving access to preventative care

Acknowledgements

- Study Staff
- Christchurch Hospital Pharmacy Services – Waitaha Canterbury
- Christchurch Hospital Cardiology Department – Waitaha Canterbury
- Pegasus Health & Tautoko Hauora
- University of Otago Māori/Indigenous Health Innovation (MIHI)
- Christchurch Hospital research office
- Canterbury Health Laboratories
- Māori Pharmacists Association
- Heart Foundation NZ – Christchurch branch
- NZ Hospital Pharmacy Association – Cardiology Special Interest Network
- Many Others

Questions

Appendix slides

Pharmacy prioritisation list

Canterbury DHB

Pharmacist Prioritisation Report

07:04.1

Score	NHI	Patient Name	Age	Health Specialty	Ward	Room/Bed	Admit Date	Demographics	>3 Admits in 12 months	Readmit within 7 days	Number of Community Medications	FloView Alerts	High Risk Medication in Community
		Team 5 Gen Med											
123	[redacted]		75	M00 - General Medicine	WD23 ~~CHC-MA~~	1-Jan	14/11/23	6	Y	Y	24		
121			81	M00 - General Medicine	WD25 ~~CHC-MA~~	7-Jan	14/11/23	6	Y		12	Not enrolled with GP, Falls Risk	Y
113			79	M00 - General Medicine	MA	00-33	14/11/23	6			19	Falls Risk	
109			70	M00 - General Medicine	MA	00-32	15/11/23	5			14	Falls Risk	

Hypertension

- Less reliable to use inpatient readings for CVD RA
- Promote importance of ongoing BP checks
- Used primary care results if recent or inpatient readings when stable. Otherwise ‘myheartcheck’ uses national average for age
- Antihypertensives not started as part of study protocol
- Two patients were started antihypertensives as routine care in hospital

Hypertension continued

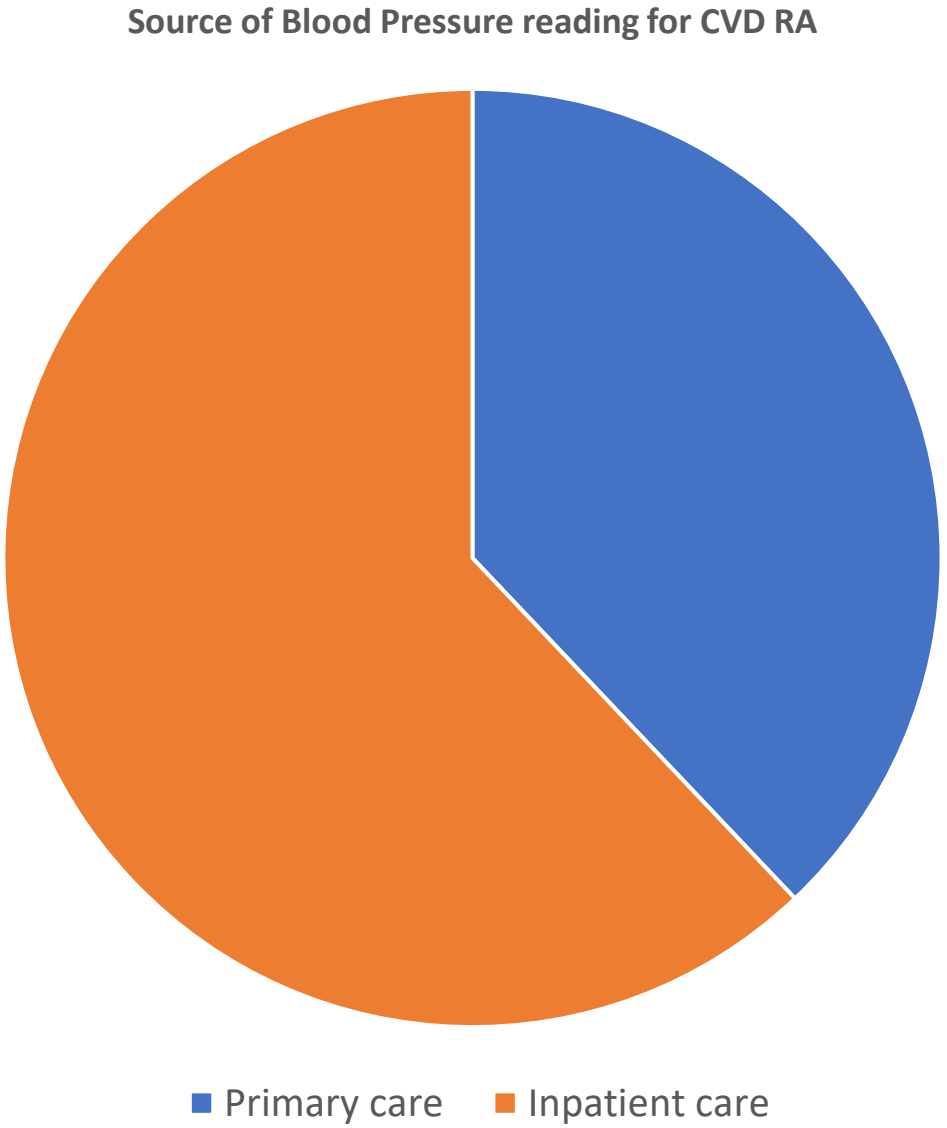
- **5 patients had BP readings for CVD RA >130 mmHg systolic but <160 mmgHg**

Plan to see GP within 1 month for reassessment of BP

- **1 patient had BP >160 mmHg systolic**

Plan to see GP for review post discharge

- 4 of 6 patients with BP greater than 130mmHG systolic were otherwise “low CVD risk”



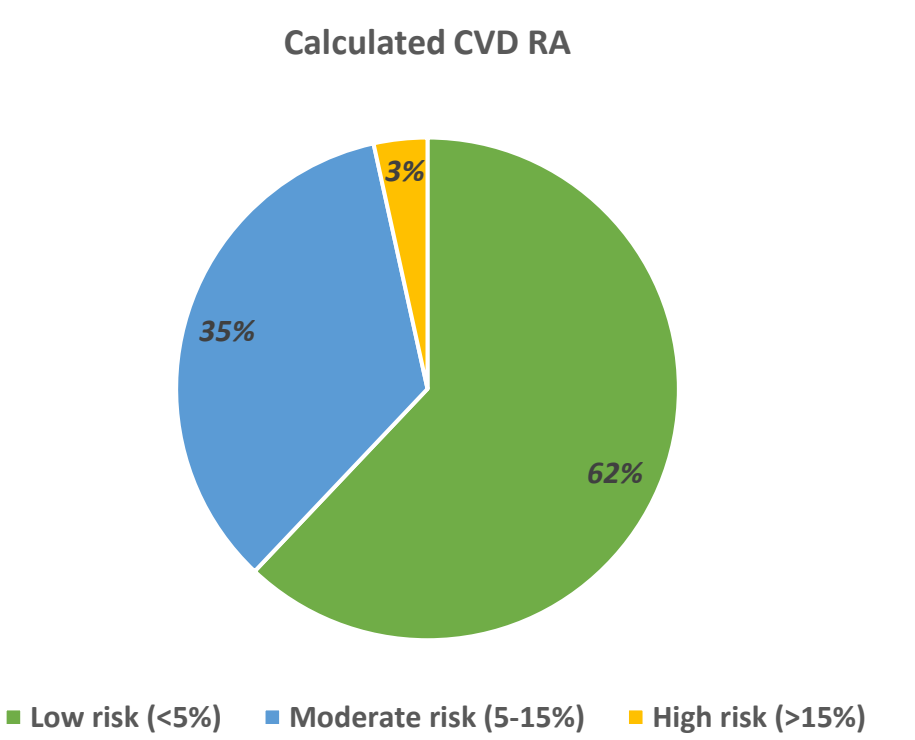
Primary Outcome

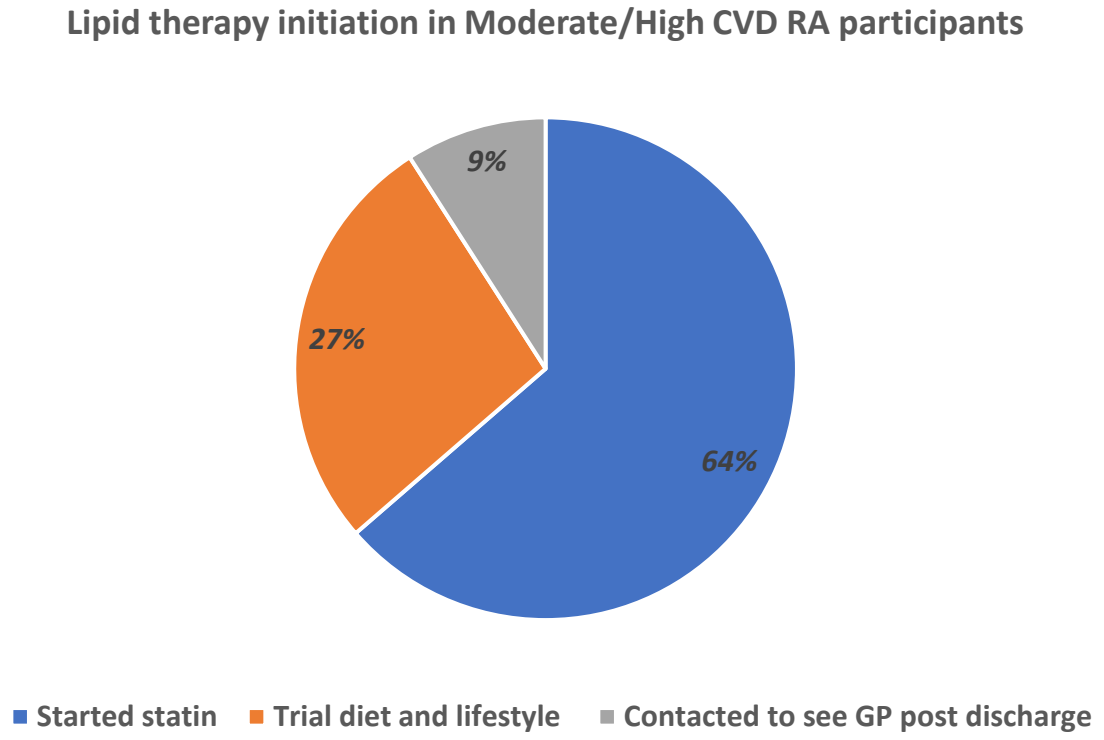
- Of the 48 patients who met pre-screening eligibility criteria
  - 9 (18 %) were excluded as they recalled recent ‘Heart Health Check”
  - 7 (15 %) declined to participate.

- Of the 32 patients who consented to the study
  - 29 (90 %) completed CVD RA
  - 2 discharged prior to CVD RA discussion and were unable to be contacted via phonecall
  - 1 patient passed away related to inpatient admission

Secondary Outcome

- Proportion of study participants with Moderate or High risk (or equivalent risk) of CVD agreeable to starting a statin at discharge





Lipid lowering therapy

Prescribed for 64 % of patients at moderate or high CVD risk .

Four started on Atorvastatin

Three started on Rosuvastatin

(special authority)

Inpatient speciality prescribed for all patients agreeable to starting statin.

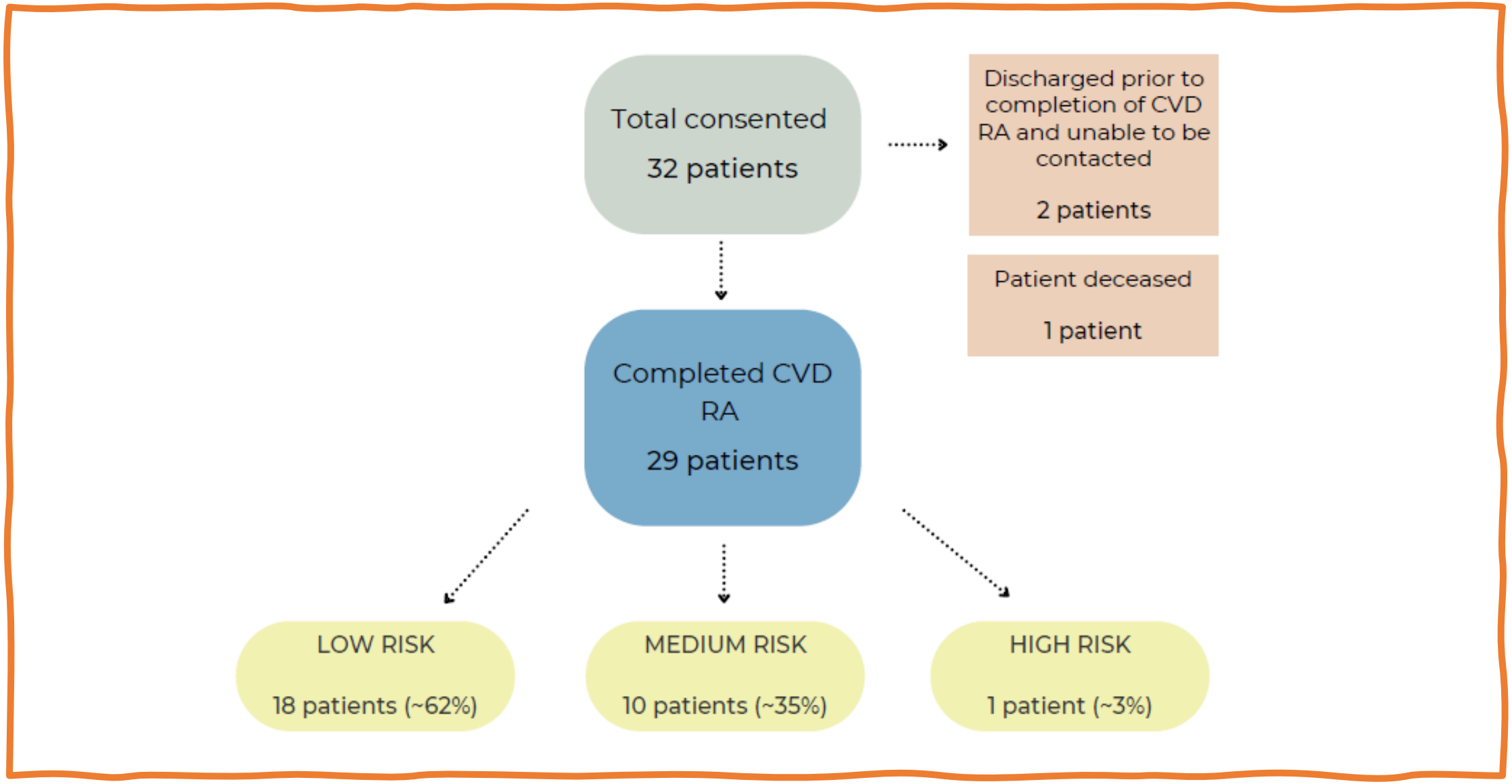
Family history

- Three patients reported strong family Hx (1st degree relative 50 years or less) having CVD event
  - Discussion around possible underestimation of risk due to younger age
  - May benefit from earlier introduction of medical therapy – to discuss with GP

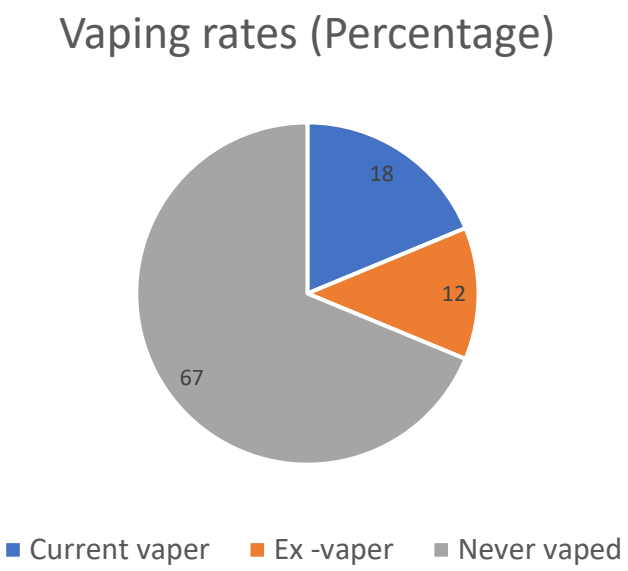
Health NZ Survey Access to Primary Care

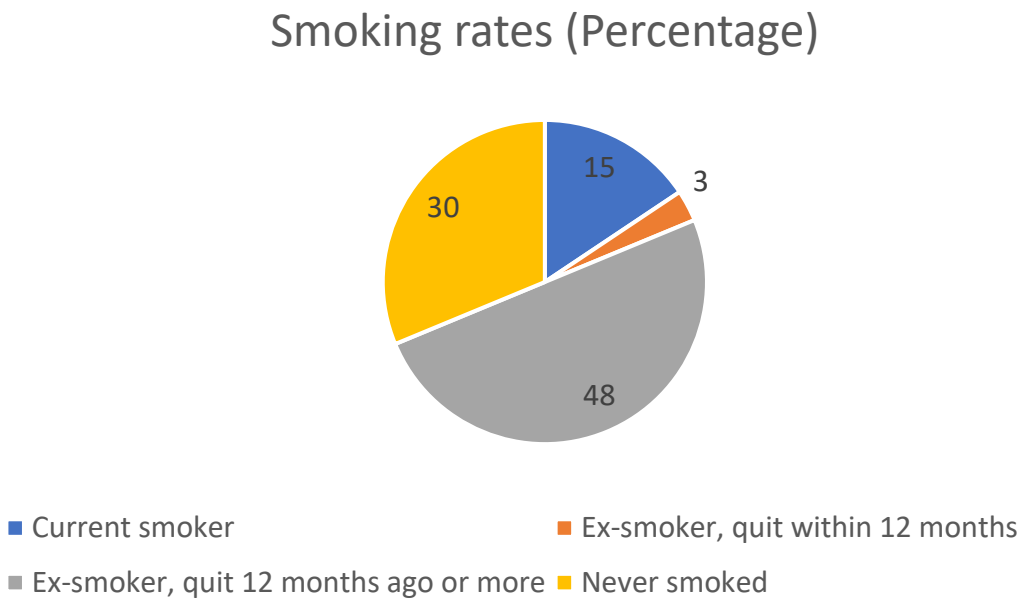
- Survey of 107,231 people, 22,292 (21%) were Māori.
- Across all years, 22% of Māori (13% non-Māori) experienced a cost barrier to seeing a GP
- 14% of Māori (5% non-Māori) reported a cost barrier to collecting a prescription.
- Socio-demographics accounted for about half the inequity for both outcomes; in a fully adjusted model, age, sex, low income, and poorer underlying health were determinants of both outcomes,
- Māori experience considerable inequity in access to primary health care; evidence supports an urgent need for change to system funding to eliminate financial barriers to care.

Mona Jeffreys, Lis Ellison-Loschmann, Maite Irurzun-Lopez, Jacqueline Cumming, Fiona McKenzie, on behalf of the Primary Health Care Programme Grant Team, Financial barriers to primary health care in Aotearoa New Zealand, Family Practice, Volume 41, Issue 6, December 2024, Pages 995–1001, https://doi.org/10.1093/fampra/cmad096


Total consented
32 patients
Discharged prior to completion of CVD RA and unable to be contacted
2 patients
Patient deceased
1 patient
Completed CVD RA
29 patients
LOW RISK
18 patients (~62%)
MEDIUM RISK
10 patients (~35%)
HIGH RISK
1 patient (~3%)

Smoking / Vaping





- 2 patients provided NRT on discharge
- 4 identified high exposure to passive smoking previously
- 1 referred to Te Hā Waitaha
- 2 accepted copy of Te Ha Waitaha information leaflet for future use

Time and workload

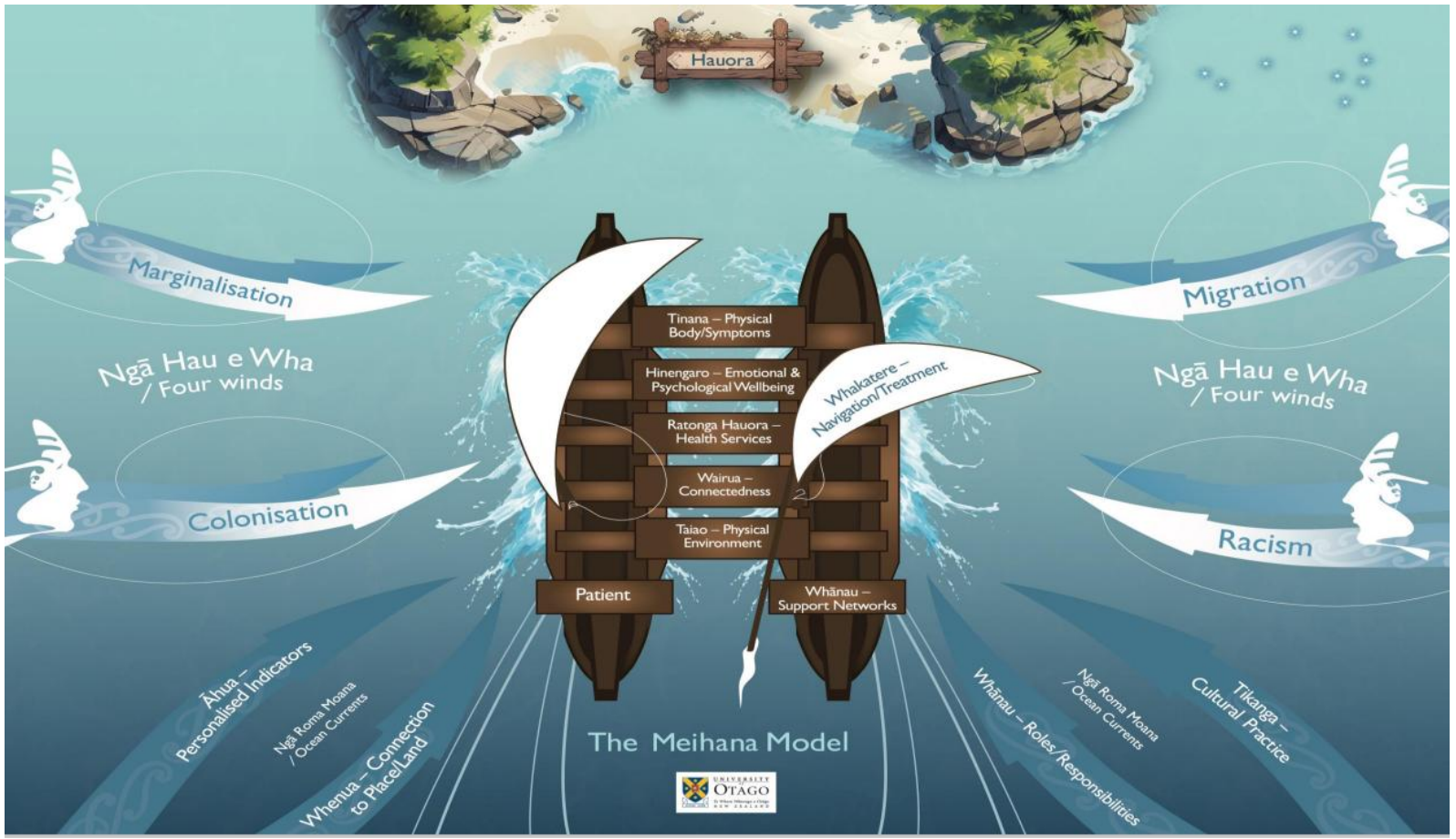
Balancing other clinical work

- Study staff were only actively enrolling 56% of work days from 10th September till 20th December

Each CVD RA intervention (consented) took 1 hour on average

- Minimum 30 minutes
- Maximum 3 hours

Time taken prescreening + on non consented patients was not recorded


Hauora
Marginalisation
Ngā Hau e Wha
/ Four winds
Colonisation
Migration
Ngā Hau e Wha
/ Four winds
Racism
Tinana – Physical
Body/Symptoms
Hinengaro – Emotional &
Psychological Wellbeing
Ratonga Hauora –
Health Services
Wairua –
Connectedness
Taiao – Physical
Environment
Whakatere –
Navigation/Treatment
Patient
Whānau –
Support Networks
Āhua –
Personalised Indicators
Ngā Roma Moana
/ Ocean Currents
Whenua – Connection
to Place/Land
Whānau – Roles/Responsibilities
Ngā Roma Moana
/ Ocean Currents
Tikanga –
Cultural Practice
The Meihana Model
University of Otago

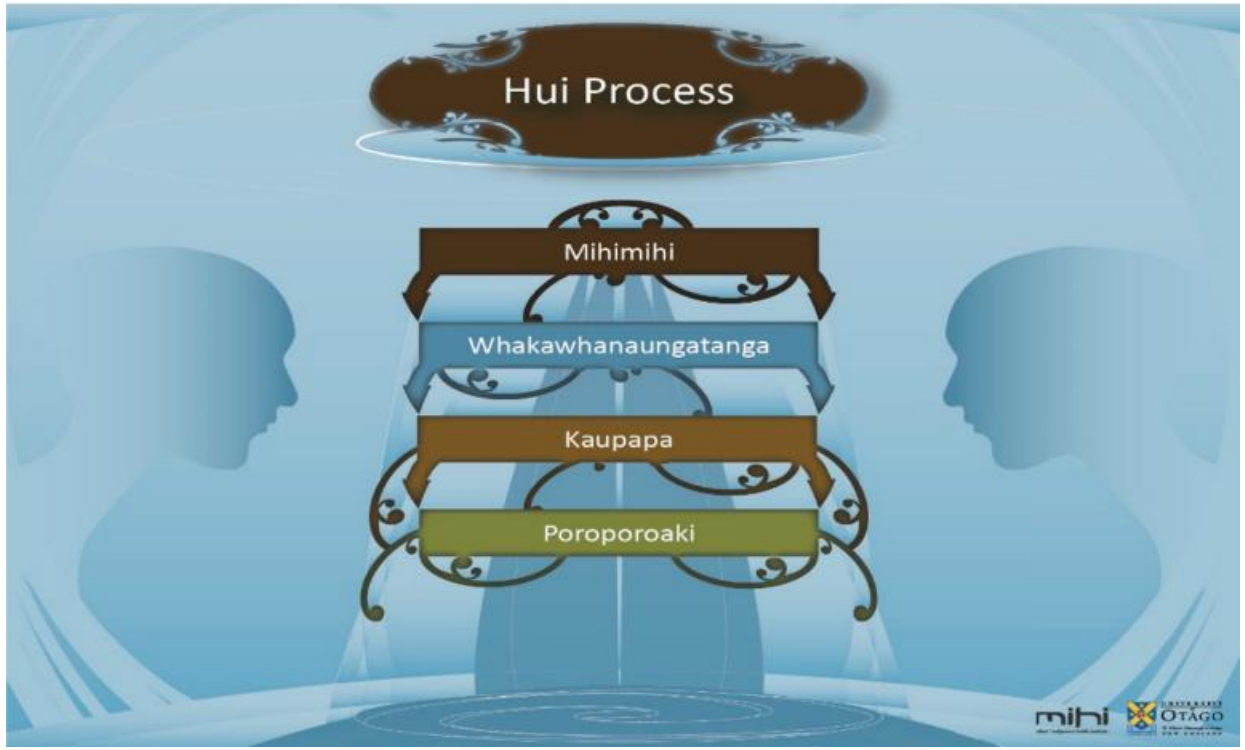

Hui Process
Mihimihi
Whakawhanaungatanga
Kaupapa
Poroporoaki
mihi
OTAGO

Table 5 Intervention strategies as a function of total cardiovascular risk and untreated low-density lipoprotein cholesterol levels

	Total CV risk (SCORE) %	Untreated LDL-C levels					
		<1.4 mmol/L (55 mg/dL)	1.4 to <1.8 mmol/L (55 to <70 mg/dL)	1.8 to <2.6 mmol/L (70 to <100 mg/dL)	2.6 to <3.0 mmol/L (100 to <116 mg/dL)	3.0 to <4.9 mmol/L (116 to <190 mg/dL)	≥4.9 mmol/L (≥190 mg/dL)
Primary prevention	<1, low-risk	Lifestyle advice	Lifestyle advice	Lifestyle advice	Lifestyle advice	Lifestyle intervention, consider adding drug if uncontrolled	Lifestyle intervention and concomitant drug intervention
	Class[a]/Level[b]	I/C	I/C	I/C	I/C	IIa/A	IIa/A
	≥1 to <5, or moderate risk (see *Table 4*)	Lifestyle advice	Lifestyle advice	Lifestyle advice	Lifestyle intervention, consider adding drug if uncontrolled	Lifestyle intervention, consider adding drug if uncontrolled	Lifestyle intervention and concomitant drug intervention
	Class[a]/Level[b]	I/C	I/C	IIa/A	IIa/A	IIa/A	IIa/A
	≥5 to <10, or high-risk (see *Table 4*)	Lifestyle advice	Lifestyle advice	Lifestyle intervention, consider adding drug if uncontrolled	Lifestyle intervention and concomitant drug intervention	Lifestyle intervention and concomitant drug intervention	Lifestyle intervention and concomitant drug intervention
	Class[a]/Level[b]	IIa/A	IIa/A	IIa/A	I/A	I/A	I/A
	≥10, or at very-high risk due to a risk condition (see *Table 4*)	Lifestyle advice	Lifestyle intervention, consider adding drug if uncontrolled	Lifestyle intervention and concomitant drug intervention	Lifestyle intervention and concomitant drug intervention	Lifestyle intervention and concomitant drug intervention	Lifestyle intervention and concomitant drug intervention
	Class[a]/Level[b]	IIa/B	IIa/A	I/A	I/A	I/A	I/A
Secondary prevention	Very-high-risk	Lifestyle intervention, consider adding drug if uncontrolled	Lifestyle intervention and concomitant drug intervention	Lifestyle intervention and concomitant drug intervention	Lifestyle intervention and concomitant drug intervention	Lifestyle intervention and concomitant drug intervention	Lifestyle intervention and concomitant drug intervention
	Class[a]/Level[b]	IIa/A	I/A	I/A	I/A	I/A	I/A

CV = cardiovascular; LDL-C = low-density lipoprotein cholesterol; SCORE = Systematic Coronary Risk Estimation.
[a]Class of recommendation.
[b]Level of evidence.