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Supporting Information

Supplementary results

**This appendix was part of the submitted manuscript and has been peer reviewed.
It is posted as supplied by the authors.**

Appendix to: Paige E, Banks E, Zhang Y, et al. Development and calibration of the 2023 Australian cardiovascular disease risk prediction equations: a model updating study. *Med J Aust* 2025; doi: 10.5694/mja2.52718.

Supplementary methods

1. TRIPOD Checklist for Prediction Model Development

Note: The page and item numbers refer to the submitted manuscript, not the published article or its supporting information file.

Section/Topic		Checklist Item	Page
Title and abstract			
Title	1	Identify the study as developing and/or validating a multivariable prediction model, the target population, and the outcome to be predicted.	1
Abstract	2	Provide a summary of objectives, study design, setting, participants, sample size, predictors, outcome, statistical analysis, results, and conclusions.	1
Introduction			
Background and objectives	3a	Explain the medical context (including whether diagnostic or prognostic) and rationale for developing or validating the multivariable prediction model, including references to existing models.	2,3
	3b	Specify the objectives, including whether the study describes the development or validation of the model or both.	3
Methods			
Source of data	4a	Describe the study design or source of data (e.g., randomized trial, cohort, or registry data), separately for the development and validation data sets, if applicable.	3
	4b	Specify the key study dates, including start of accrual; end of accrual; and, if applicable, end of follow-up.	3
Participants	5a	Specify key elements of the study setting (e.g., primary care, secondary care, general population) including number and location of centres.	3
	5b	Describe eligibility criteria for participants.	3,4
	5c	Give details of treatments received, if relevant.	NA
Outcome	6a	Clearly define the outcome that is predicted by the prediction model, including how and when assessed.	3, Table S1
	6b	Report any actions to blind assessment of the outcome to be predicted.	NA
Predictors	7a	Clearly define all predictors used in developing or validating the multivariable prediction model, including how and when they were measured.	4, Table S2
	7b	Report any actions to blind assessment of predictors for the outcome and other predictors.	NA
Sample size	8	Explain how the study size was arrived at.	Fig 1 & 3
Missing data	9	Describe how missing data were handled (e.g., complete-case analysis, single imputation, multiple imputation) with details of any imputation method.	Table S2
Statistical analysis methods	10a	Describe how predictors were handled in the analyses.	Refs 6, 7, 17
	10b	Specify type of model, all model-building procedures (including any predictor selection), and method for internal validation.	Refs 6, 7, 17
	10d	Specify all measures used to assess model performance and, if relevant, to compare multiple models.	5
Risk groups	11	Provide details on how risk groups were created, if done.	NA
Results			
Participants	13a	Describe the flow of participants through the study, including the number of participants with and without the outcome and, if applicable, a summary of the follow-up time. A diagram may be helpful.	Fig 1 & 3
	13b	Describe the characteristics of the participants (basic demographics, clinical features, available predictors), including the number of participants with missing data for predictors and outcome.	Tables 1 & 3
	14a	Specify the number of participants and outcome events in each analysis.	6,7

Model development	14b	If done, report the unadjusted association between each candidate predictor and outcome.	NA
Model specification	15a	Present the full prediction model to allow predictions for individuals (i.e., all regression coefficients, and model intercept or baseline survival at a given time point).	See data sharing statement
	15b	Explain how to the use the prediction model.	See data sharing statement
Model performance	16	Report performance measures (with CIs) for the prediction model.	Tables 2 & 4
Discussion			
Limitations	18	Discuss any limitations of the study (such as nonrepresentative sample, few events per predictor, missing data).	9,10
Interpretation	19b	Give an overall interpretation of the results, considering objectives, limitations, and results from similar studies, and other relevant evidence.	8
Implications	20	Discuss the potential clinical use of the model and implications for future research.	8,9
Other information			
Supplementary information	21	Provide information about the availability of supplementary resources, such as study protocol, Web calculator, and data sets.	Web calculator (ref 13) & data sharing statement
Funding	22	Give the source of funding and the role of the funders for the present study.	Online portal

Table 1. International Classification of Diseases, tenth revision (ICD-10) codes for cardiovascular disease (CVD) outcomes predicted by the 2023 Australian CVD risk calculator

Outcome*	**ICD-10 codes**
Myocardial infarction	I210, I211 - I214, I219 – 1222, I228, I229)
Unstable angina	I200
Other coronary disease	I201, I208, I209, I230 - I236, I238, I240, I248, I249, I253 - I256, I460, I469)
Ischaemic and haemorrhagic stroke	I630 - I636, I638, I639, I64, I600 - I616, I618, I619
Transient ischaemic attack	G450 - G453, G458 - G468
Peripheral vascular disease	E1050 - E1052, E1150 - E1152, E1451, E1452, I7021 - I7024, I7100 - I7103, I711, I713, I715, I718, I739 - I745, I748, I749
Congestive heart failure	I110, I130, I132, I50, I500, I501, I509
Other ischaemic CVD-related deaths	E1053, E1059, E1153, E1159, E1353, E1359, E1453, E1459, I250, I2510 - I2513, I252, I258, I259, I461, I650 - I653, I658 - I664, I668 - I670, I672, I690, I691, I693, I694, I698, I700, I701, I7020, I708, I709, I714, I716

* An event was defined as fatal if the person died of cardiovascular disease without being admitted to hospital or died within 28 days of their first CVD-related hospital admission.

Table 2. Risk predictors included in the development of the 2023 Australian CVD risk calculator

Risk factor	Definition
AUS-PREDICT and AUS-PREDICT-Diabetes equations	
Age (years)	Continuous variable. This variable was derived from the participant's index assessment date and their date of birth. Date of birth is a component of the National Health Index dataset on all New Zealanders and was automatically linked to the PREDICT dataset.
New Zealand Index of Socioeconomic Deprivation*	An area-based socio-economic deprivation score derived from national census data and categorised into quintiles. 1 = least deprived and 5 = most deprived. Included as a continuous variable in the models. This variable is a component of the National Health Index dataset on all New Zealanders and was automatically linked to the PREDICT dataset.
Smoking status	Three categories: never smoker, ex-smoker, current smoker. This variable was recorded by the health professional completing the electronic form. The categories provided were: no-never; no – quit over 12 months ago; no – quit less than 12 months ago; yes – up to 10/day; yes – 11-19/day; yes – 20+/day. These were combined into three categories.
Diabetes	Categorised as no, yes and combined type I, type II, unknown type. This variable was recorded by the health professional completing the electronic form. The categories provided were: none; Type 1; Type 2 (including Type 2 on insulin); Type unknown; current gestational diabetes. Participants with current gestational diabetes were excluded from these analyses. In addition, if participants had been previously hospitalised with diabetes or were taking diabetic medications prior to the index assessment, they were classified as having diabetes.
History of atrial fibrillation	Categorised as no, yes. This variable (electrocardiogram confirmed atrial fibrillation) was recorded by the health professional completing the electronic form. In addition, participants hospitalised with atrial fibrillation were classified as having atrial fibrillation.
Systolic blood pressure	Measured in mmHg (mean of two measures, continuous). These were the two most recently recorded sitting blood pressure levels at the time of the index assessment, measured by either a general practitioner or practice nurse.
Total cholesterol to high-density lipoprotein cholesterol ratio	Assessed using one fasting or non-fasting measure and included as a continuous variable. These are the most recently recorded total cholesterol and high-density lipoprotein cholesterol levels at the time of the index assessment. Measured in community laboratories and are automatically downloaded into patient records.
Blood pressure lowering medication	Dispensed during the six months prior to the index risk assessment (categorised as no, yes). This variable was extracted from the National drug dispensing database.
Lipid-lowering medication	Dispensed during the six months prior to the index risk assessment (categorised as no, yes). This variable was extracted from the National drug dispensing database.
Antithrombotic medication	Dispensed during the six months prior to the index risk assessment (categorised as no, yes). This variable was extracted from the National drug dispensing database.
Additional variables included in the AUS-PREDICT-Diabetes equation	
Years since diagnosis	Number of years since type 2 diabetes diagnosis, included as a continuous variable.
Body mass index	Continuous variable (kg/m^2). Calculated using a patient's weight and height, recorded by the health professional completing the electronic form.
Current smoker	Measured in the same way as smoking status for the general equation, but in the diabetes-specific equation, smoking categories are combined into a binary category (never/ex-smoker=no; current smoker=yes).
Estimated glomerular filtration rate	Calculated using the Chronic Kidney Disease Epidemiology Collaboration equation as recommended by the 2013 guidelines from the Kidney Disease: Improving Global Outcomes organization. Serum creatinine used in the calculation was based on the most recent result recorded before baseline risk assessment, or, if none were available, up to 12 months after the baseline.
Urinary albumin to creatinine ratio	Based on the most recent results recorded before baseline risk assessment, or, if none available, up to 12 months after the baseline.

Risk factor	Definition
Haemoglobin A1C	Most recent result recorded before baseline risk assessment, or, if none were available, up to 14 days after baseline. If a patient did not have at least one result in this period, but was not on blood glucose-lowering drugs (insulin or oral hypoglycaemic), a haemoglobin A1C measurement was included up to 18 months post baseline.
Insulin	Dispensed at least once during six months prior to the index risk assessment (no, yes). This variable was extracted from National drug dispensing database and primary care records.

* In the Australian CVD risk calculator, New Zealand Index of Socioeconomic Deprivation is replaced with the Index of Relative Socio-Economic Disadvantage which is a measure of Socio-Economic Indexes for Areas . Socio-Economic Indexes for Areas is a similar area-level of disadvantage designed for Australia and assessed through postcode. Socio-Economic Indexes for Areas categories are in the reverse order from New Zealand Index of Socioeconomic Deprivation (1 = most deprived and 5 = least deprived).

Notes: Data were substantially complete for most risk factors, however some there was some missing data for estimated glomerular filtration rate, urinary albumin to creatinine ratio, years since type 2 diabetes diagnosis, body mass index, haemoglobin A1C and total cholesterol:high-density lipoprotein cholesterol ratio. Multiple imputation by chained equations was used to impute missing values, by sex. The imputation model included all risk factor variables, along with the Nelson-Aalen estimator of the baseline cumulative hazard and the study outcome. Five new datasets with imputed data were created and model estimates from each iteration were combined using Rubin's rules.

2. Methods for comparing cardiovascular disease (CVD) risk factors in Australia and New Zealand

Data sources

We compared the prevalence of CVD risk factors between Australia and New Zealand in 10-year age- and sex-groups. Within-country data on smoking status (never, past, current, and daily smokers), self-reported diabetes (yes or no), use of medications for high blood pressure (yes or no) and use of medications for high cholesterol (yes or no) were obtained from the 2017-18 National Health Survey of Australia and the 2017-18 New Zealand Health Survey. The 2017-18 National Health Survey of Australia was conducted by the ABS between July 2017 and June 2018.[1] The survey included a representative sample of approximately 21,300 people throughout Australia, with a response rate of 76%.

The New Zealand Health Survey was a population-based health survey commissioned by the New Zealand Ministry of Health.[2] Data on health characteristics were collected using face-to-face interviews in participants' homes. The survey was conducted from July 2017 to June 2018 and had a sample size of 13,869 adults, with a response rate of 79%. Population-level data on chronic kidney disease were not available for New Zealand so the prevalence of this condition was not compared.

Biomedical data on mean levels of systolic blood pressure (mmHg) and total serum cholesterol (mmol/L) were ascertained from the 2011-12 National Health Measures Survey in Australia (part of the 2011-2013 Australian Health Survey)[3] and the 2014-15 Biomedical Data Explorer for New Zealand Health Survey,[4] representing the most recent data available. In Australia, all people aged five years and older who participated in the main survey were invited to participate in the voluntary National Health Measures Survey. The survey took place throughout Australia from March 2011 to September 2012, and included 10,403 people aged 15 years and older. Participants voluntarily provided blood and urine samples, which were then analysed for specific biomarkers.

In New Zealand, the biomedical module was conducted in a subset of 5,027 adult respondents from the main survey. The probability of selection varied by ethnicity, age and sex. The 2014-15 results were collected from participants contributing to the sample between July 2014 and June 2015, with blood and urine sample collection completed by the end of July 2015.

Statistical analysis

Prevalence ratios (PRs) and 95% CIs were calculated for the difference in categorical variables (smoking status, diabetes, and medications for high blood pressure or high cholesterol) between New Zealand and Australia. Mean differences in systolic blood pressure and total cholesterol levels were calculated using analysis of variance tests. Analyses were done separately for age- and sex-groups, with ages categorised as 18 (or 15)-24, 25-34, 35-44, 45-54, 55-64, 65-74, and ≥75 years.

Due to differences in definitions, current and past smokers cannot be compared between Australia and New Zealand, although proportions for each country have been reported. Current smokers in New Zealand included monthly and daily smokers while current smokers in Australia included weekly and daily smokers. Past smokers in New Zealand included those who have stopped smoking for at least one month, while in Australia people who have only ever smoked less than daily were included in this category.

Ethics approvals for the risk factor analyses were provided by the ANU Human Research Ethics Committee (2021/424).

Supplementary results

Figure 1. Calibration plots, by sex and age group, for the general Australian CVD risk prediction equation (AUS-PREDICT)

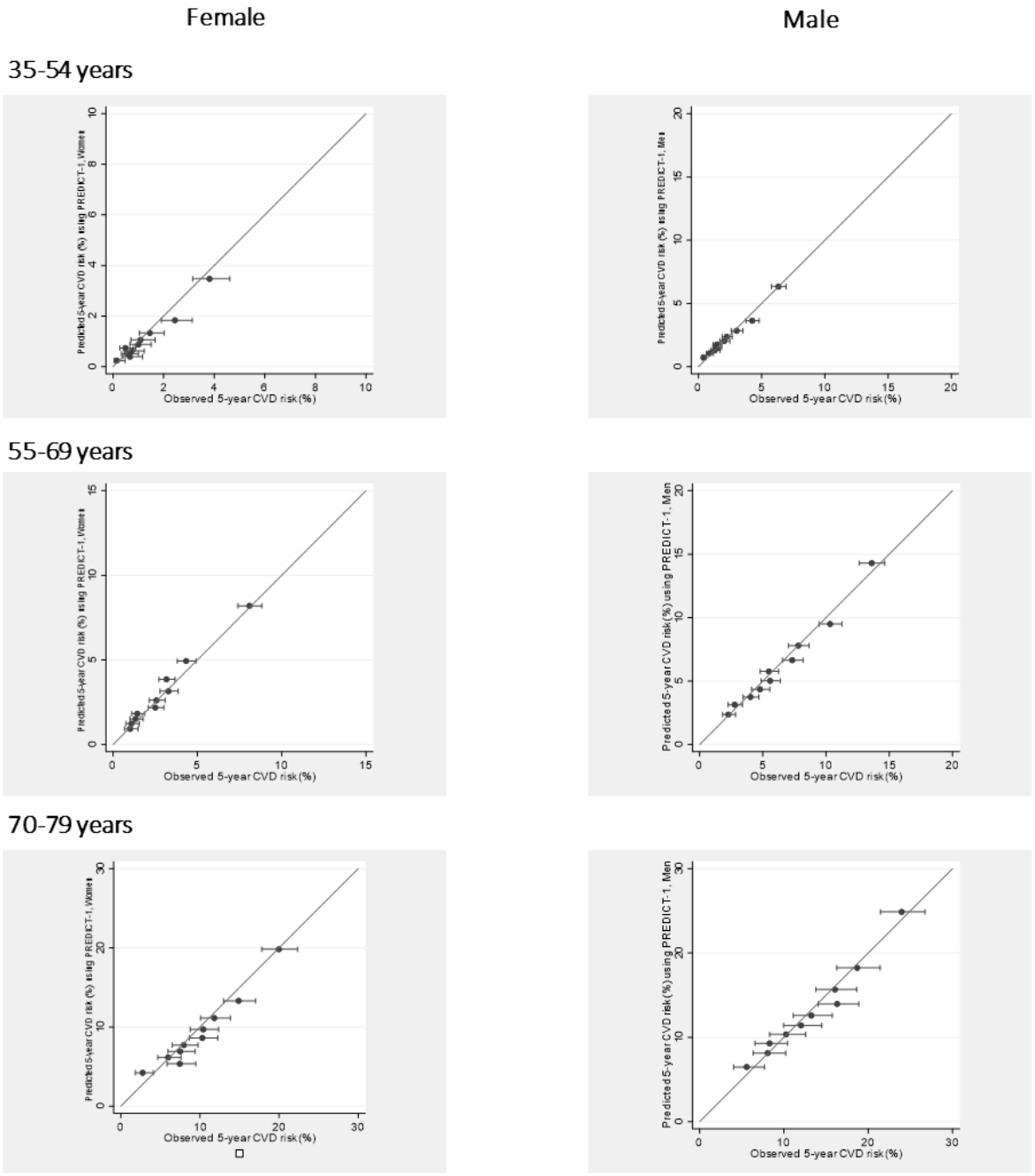

Table 3. Prevalence of smoking status in New Zealand and Australia, 2017-18, by age group and sex

	New Zealand				Australia				Prevalence ratio (95% CI)	
Age (years)	**Never**	**Formerly[1]**	**Currently[2]**	**Daily**	**Never**	**Formerly[1]**	**Currently[2]**	**Daily**	**Never**	**Daily**
Total	38.3%	25.6%	34.9%	13.30%	55.7%	29.2%	15.1%	13.80%	0.69 (0.51, 0.93)	0.96 (0.48, 1.94)
Men total	34.2%	26.6%	39.2%	14.50%	47.9%	33.8%	18.3%	16.50%	0.71 (0.51, 0.97)	0.88 (0.46, 1.68)
18-24	41.0%	5.7%	52.1%	17.10%	69.6%	9.7%	20.9%	17.50%	0.59 (0.45, 0.80)	0.98 (0.53, 1.79)
25-34	32.5%	16.4%	51.1%	22.00%	56.2%	22.1%	21.7%	19.00%	0.58 (0.42, 0.78)	1.16 (0.67, 2.00)
35-44	30.4%	24.4%	44.6%	16.40%	47.6%	30.9%	21.5%	19.60%	0.64 (0.45, 0.87)	0.84 (0.46, 1.52)
45-54	33.7%	29.5%	36.8%	15.00%	45.0%	34.6%	20.5%	19.30%	0.75 (0.53, 1.01)	0.78 (0.42, 1.44)
55-64	28.4%	37.4%	34.2%	15.80%	38.8%	43.7%	17.5%	16.50%	0.73 (0.49, 0.99)	0.96 (0.51, 1.80)
65-74	28.2%	45.3%	16.7%	7.40%	34.4%	55.1%	10.4%	9.90%	0.82 (0.54, 1.11)	0.75 (0.30, 1.86)
≥75	21.4%	57.7%	5.7%	2.50%	35.8%	58.6%	5.8%	5.10%	0.60 (0.38, 0.81)	0.49 (0.11, 2.17)
Women total	42.3%	24.6%	31.0%	12.20%	63.2%	24.7%	12.1%	11.10%	0.67 (0.51, 0.91)	1.10 (0.51, 2.36)
18-24	50.2%	6.6%	42.4%	16.40%	81.5%	7.3%	11.5%	10.40%	0.62 (0.50, 0.83)	1.58 (0.76, 3.26)
25-34	40.4%	17.8%	41.8%	16.70%	70.0%	18.4%	11.6%	10.60%	0.58 (0.44, 0.78)	1.58 (0.77, 3.23)
35-44	41.3%	25.7%	33.0%	14.10%	61.7%	24.5%	13.8%	12.40%	0.67 (0.51, 0.91)	1.14 (0.56, 2.32)
45-54	36.6%	30.5%	32.9%	14.20%	55.5%	28.7%	16.0%	14.70%	0.66 (0.48, 0.89)	0.97 (0.49, 1.90)
55-64	33.6%	33.6%	30.4%	12.30%	53.2%	32.2%	14.7%	13.80%	0.63 (0.45, 0.86)	0.89 (0.44, 1.83)
65-74	36.6%	36.4%	17.2%	6.60%	57.8%	34.2%	8.1%	7.50%	0.63 (0.47, 0.86)	0.88 (0.32, 2.41)
≥75	49.3%	30.9%	4.2%	1.90%	67.1%	28.8%	4.3%	3.70%	0.73 (0.58, 1.00)	0.51 (0.09, 2.89)

CI = confidence interval.

1 Formerly smoked: ever smoked more than 100 cigarettes but no longer smokes. In New Zealand, people who have stopped for more than one month were included in this category; in Australia, people who have only ever smoked less than daily were included.

2 Currently smokes: in New Zealand, currently smokes defined as monthly (including daily) smoking; in Australia, currently smokes defined as weekly (including daily) smoking.

(1) Data on smoking were obtained from the 2017-18 National Health Survey of Australia[1] and the 2017-18 New Zealand Health Survey.[2]

Table 4. Prevalence of self-reported type 2 diabetes in New Zealand and Australia, 2017-18, by age group and sex

Age (years)	New Zealand	Australia	Prevalence ratio (95% CI)
Total	5.9%	5.3%	1.11 (0.36, 1.51)
Men total	6.6%	6.1%	1.08 (0.37, 1.47)
15-24	0.3%	0.0%	-
25-34	1.1%	0.6%	1.83 (0.08, 2.48)
35-44	3.5%	1.0%	3.50 (0.39, 4.74)
45-54	7.4%	4.4%	1.68 (0.53, 2.28)
55-64	9.6%	11.0%	0.87 (0.38, 1.18)
65-74	16.3%	17.4%	0.94 (0.51, 1.27)
≥75	20.6%	17.9%	1.15 (0.65, 1.56)
Women total	5.4%	4.6%	1.17 (0.35, 1.59)
15-24	0.9%	0.0%	-
25-34	1.4%	0.3%	4.67 (0.09, 6.32)
35-44	2.7%	1.8%	1.50 (0.23, 2.03)
45-54	6.3%	3.0%	2.10 (0.55, 2.85)
55-64	7.6%	7.6%	1.00 (0.38, 1.36)
65-74	11.5%	11.3%	1.02 (0.47, 1.38)
≥75	13.0%	14.8%	0.88 (0.44, 1.19)

CI = confidence interval.

(1) Data on self-reported diabetes were obtained from the 2017-18 National Health Survey of Australia[1] and the 2017-18 New Zealand Health Survey.[2]

Table 5. Prevalence of use of medications for reducing cholesterol and blood pressure levels in New Zealand and Australia, , 2017-18, by age group and sex

	Cholesterol-lowering medication			Blood pressure-lowering medication		
Age (years)	**New Zealand**	**Australia**	**Prevalence ratio (95% CI)**	**New Zealand**	**Australia**	**Prevalence ratio (95% CI)**
Total	10.8%	6.1%	1.77 (0.68, 2.40)	16.4%	10.6%	1.55 (0.75, 2.10)
Men total	12.9%	6.1%	2.11 (0.84, 2.87)	15.7%	10.5%	1.50 (0.72, 2.03)
15-24	0.0%	0.2%	-	0.1%	0.4%	0.25 (0.00, 0.34)
25-34	1.1%	0.3%	3.67 (0.07, 4.97)	1.1%	0.8%	1.38 (0.08, 1.86)
35-44	3.9%	2.4%	1.63 (0.33, 2.20)	6.6%	4.9%	1.35 (0.43, 1.83)
45-54	12.8%	7.0%	1.83 (0.76, 2.48)	12.9%	13.4%	0.96 (0.47, 1.30)
55-64	22.2%	15.1%	1.47 (0.81, 1.99)	27.3%	23.1%	1.18 (0.73, 1.60)
65-74	35.5%	20.2%	1.76 (1.10, 2.38)	43.4%	34.8%	1.25 (0.88, 1.69)
≥75	43.2%	21.1%	2.05 (1.32, 2.77)	54.2%	38.7%	1.40 (1.03, 1.90)
Women total	8.8%	6.1%	1.44 (0.53, 1.96)	17.1%	10.7%	1.60 (0.78, 2.17)
15-24	0.1%	0.2%	0.50 (0.00, 0.68)	0.4%	0.5%	0.80 (0.01, 1.08)
25-34	0.5%	0.8%	0.63 (0.02, 0.85)	1.0%	1.3%	0.77 (0.06, 1.04)
35-44	1.2%	1.6%	0.75 (0.07, 1.02)	4.5%	3.4%	1.32 (0.33, 1.79)
45-54	6.6%	6.4%	1.03 (0.36, 1.40)	12.8%	12.5%	1.02 (0.49, 1.39)
55-64	13.8%	12.8%	1.08 (0.53, 1.46)	29.3%	20.8%	1.41 (0.86, 1.91)
65-74	25.4%	21.8%	1.17 (0.71, 1.58)	45.7%	33.0%	1.38 (0.97, 1.88)
≥75	30.4%	21.3%	1.43 (0.88, 1.93)	55.1%	44.0%	1.25 (0.94, 1.70)

CI = confidence interval.

(1) Data on use of medications for high blood pressure and use of medications for high cholesterol were obtained from the 2017-18 National Health Survey of Australia[1] and the 2017-18 New Zealand Health Survey.[2]

Table 6. Mean systolic blood pressure in New Zealand (2014-15) and Australia (2011-12), by age group and sex

	Mean systolic blood pressure, mmHg (95% CI)	
Age (years)	**New Zealand**	**Australia**
Total	124.9 (124.5-125.4)*	127.8 (126.7-128.9)
Men total	129.0 (128.5-129.5)	130.1 (128.6-131.6)
15-24	122.6 (121.4-123.8)	124.0 (118.8-129.2)
25-34	125.3 (124.2-126.7)	125.3 (121.6-129.0)
35-44	125.6 (124.5-126.7)	123.1 (121.5-124.7)
45-54	130.0 (128.7-131.2)	128.2 (125.9-130.5)
55-64	135.4 (133.8-137.0)	136.7 (132.6-140.7)
65-74	135.4 (133.4-137.4)	138.7 (134.2-143.3)
≥75	137.7 (135.5-139.9)	147.5 (139.4-155.5)
Women total	121.1 (120.5-121.6)*	125.7 (124.1-127.3)
15-24	110.4 (109.4-111.4)	112.1 (108.3-115.9)
25-34	112.2 (111.1-113.4)	113.1 (110.0-116.2)
35-44	115.6 (114.5-116.7)	116.4 (113.4-119.4)
45-54	121.8 (120.5-123.0)	125.7 (122.3-129.1)
55-64	128.2 (126.8-129.5)	130.4 (127.5-133.3)
65-74	134.3 (132.7-135.8)*	142.7 (136.9-148.4)
≥75	139.5 (137.3-141.7)*	161.1 (152.4-171.7)

CI = confidence interval.

* Indicates significantly different, New Zealand v Australia (analysis of variance).

(1) Biomedical data on mean levels of systolic blood pressure (mmHg) were ascertained from the 2011-12 National Health Measures Survey in Australia (part of the 2011-2013 Australian Health Survey)[3] and the 2014-15 Biomedical Data Explorer for New Zealand Health Survey.[4]

Table 7. Mean total serum cholesterol level comparison between New Zealand (2014-15) and Australia (2011-12), by age group and sex

	Mean total serum cholesterol, mmol/L (95% CI)	
Age (years)	**New Zealand**	**Australia**
Total	5.10 (5.06-5.15)	5.13 (5.10-5.16)
Men total	4.99 (4.92-5.06)	5.05 (5.01-5.09)
15-24	4.30 (4.15-4.46)	4.22 (4.10-4.34)
25-34	4.98 (4.83-5.13)	4.99 (4.89-5.10)
35-44	5.51 (5.36-5.66)	5.35 (5.25-5.44)
45-54	5.51 (5.35-5.66)	5.47 (5.38-5.56)
55-64	5.12 (4.95-5.29)	5.15 (5.07-5.24)
65-74	4.76 (4.60-4.92)	4.90 (4.80-5.01)
≥75	4.53 (4.39-4.66)	4.59 (4.47-4.71)
Women total	5.20 (5.14-5.27)	5.19 (5.15-5.22)
15-24	4.61 (4.48-4.75)	4.41 (4.32-4.50)
25-34	4.82 (4.68-4.96)	4.89 (4.81-4.98)
35-44	5.00 (4.88-5.13)	5.00 (4.93-5.07)
45-54	5.64 (5.48-5.80)*	5.38 (5.31-5.45)
55-64	5.71 (5.57-5.85)	5.58 (5.50-5.66)
65-74	5.55 (5.35-5.75)	5.33 (5.23-5.42)
≥75	5.30 (5.01-5.59)	5.24 (5.11-5.37)

CI = confidence interval.

* Indicates significantly different, New Zealand v Australia (analysis of variance).

Biomedical data on total serum cholesterol (mmol/L) were ascertained from the 2011-12 National Health Measures Survey in Australia (part of the 2011-2013 Australian Health Survey)[3] and the 2014-15 Biomedical Data Explorer for New Zealand Health Survey.[4]

References

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