

# General practitioner support needs to implement cardiovascular disease risk assessment and management guidelines: Qualitative interviews

Carissa Bonner, James E Sharman, Shannon McKinn, Samuel Cornell, Mark R Nelson, Jenny Doust, Niamh Chapman

## Background and objective

Previous research identified numerous barriers to general practitioner (GP) use of cardiovascular disease (CVD) risk guidelines, and it is unclear whether these issues have been resolved. This study explored recent GP experiences.

## Methods

Interviews with 18 GPs in an Australian state with relatively few COVID-19 cases in 2021 were transcribed and coded using a framework analysis approach, with data mapped to five previously identified CVD risk assessment strategies: absolute risk focused, absolute risk adjusted, clinical judgement, passive disregard and active disregard.

## Results

GPs used various CVD risk calculators to inform clinical decision making, but there were concerns about accuracy, the role of extra risk factors and less 'personalised' assessment. GPs addressed these concerns by requesting additional tests, subjectively adjusting the CVD risk assessment to account for extra risk factors and focusing on individual risk factors.

## Discussion

Many barriers to CVD risk assessment guidelines remain. GP support is needed to implement revised guidelines.

## AUSTRALIAN CARDIOVASCULAR DISEASE

(CVD) prevention guidelines are based on the concept of 'absolute risk', using multiple predictive risk factors to assess the chance of a CVD event in the next five years.<sup>1-5</sup> Absolute risk assessment guidelines were first released in 2009 using the Framingham risk equation, based on age, sex, smoking and diabetes status, blood pressure and cholesterol.<sup>5</sup> This was updated with management recommendations in 2012, including criteria for 'clinically determined high risk', where a calculator was not needed to recommend medication (eg for people living with diabetes aged >60 years).<sup>1</sup> The 2012 guidelines also specified how to manage risk factors that were not in the calculator, such as lifestyle risk factors and family history.<sup>1</sup> In 2023, the guidelines were updated based on the PREDICT model, which includes additional risk factors such as socioeconomic status in the calculation, as well as allowing adjustment up or down for other factors such as ethnicity.<sup>4,6</sup> Evidence supports the use of the absolute risk approach to target treatment to those at highest risk who are most likely to benefit, rather than treating blood pressure and cholesterol as isolated risk factors.<sup>7-10</sup> Although guidelines have recommended using absolute CVD risk calculators for over a decade, these tools were not integrated in general practice software systems until some years later, and fragmented implementation strategies led to a low uptake of guidelines in practice over the

past 10 years.<sup>11-14</sup> As a result, more than half of patients do not have the required risk factors recorded to calculate absolute CVD risk, leading to overtreatment of low-risk patients and undertreatment of high-risk patients.<sup>11,15,16</sup>

In 2011-12, general practitioners (GPs) were interviewed to explore how they assessed CVD risk and to identify barriers to absolute risk guidelines.<sup>17</sup> That study identified five distinct risk assessment strategies that need different support to improve guideline-based management.<sup>17</sup> These strategies ranged from an absolute CVD risk-focused approach to active disregard for absolute CVD risk assessment when it was seen as irrelevant or unhelpful. The use of absolute risk in management decisions depended on various behavioural drivers,<sup>18</sup> including the communication strategy the GP was using (eg whether they wanted to reassure someone at low risk or motivate someone at high risk),<sup>19</sup> and both patient and GP attitudes towards risk and prevention options (eg antimedication views).<sup>13</sup> A subsequent study showed that Australian GPs continued to prescribe CVD medication based on individual risk factors (blood pressure or cholesterol) rather than absolute risk, even when absolute risk was explicitly provided in a case study.<sup>14</sup> In related research, it was found that patients might misunderstand and question the credibility of CVD risk calculators when absolute risk is not explicit and the role of different risk factors is not explained.<sup>20,21</sup> Since these barriers to guideline-recommended CVD prevention

were identified, there have been contextual changes to improve implementation of the guidelines. This includes decision support tools that integrate assessment and management guidelines into clinical workflows,<sup>12,22,23</sup> new Medicare Benefit Schedule (MBS) items to support Heart Health Checks,<sup>24</sup> and a national quality improvement program to increase CVD risk assessment in general practice.<sup>25</sup>

This study aimed to explore GPs' experiences of CVD risk assessment and management guidelines after a decade given such context changes in order to inform implementation plans for the revised guidelines released in July 2023.<sup>4,6</sup>

## Methods

### Context

The present study was conducted in 2021. GPs were recruited in metropolitan and regional areas of Tasmania, a state that was relatively unaffected by COVID-19 at this time due to travel restrictions to the island.

### Recruitment

Eighteen GPs were recruited as part of a baseline process evaluation for the state-wide improved cardiovascular disease health service delivery in Australia (IDEAL) trial before implementation of a new CVD risk assessment intervention.<sup>26</sup> Purposive sampling targets included both regional and metropolitan areas and a range of age, gender and experience. Practice managers were contacted from general practices in the north, north-west and south of Tasmania and asked to promote the research study via email to GPs. GPs were offered a \$150 gift card for participation, and interviews ranged from 27 to 51 minutes in duration, with a median duration of 36 minutes. A semistructured interview schedule was used that included questions about CVD risk assessment, CVD risk management, communication issues and response to four hypothetical case studies. These case studies included examples of patients with low absolute risk but notably elevated individual risk factors, and high absolute risk with moderately elevated individual risk factors, with or without low health literacy. The cases with low health literacy will be reported separately. This approach was informed by our previous study

using such cases, which helped GPs discuss the issues in a more applied way.<sup>17</sup>

### Researcher characteristics and reflexivity

The study team had diverse backgrounds, including experts in CVD risk assessment and management, guideline implementation, behavioural science, qualitative research and general practice. Input from GPs was sought at each stage from study design to interpretation of the results. The study was directly informed by prior research conducted by some co-authors (CB, SM, JD), using an explicit deductive approach.<sup>17</sup>

### Analysis

Interviews were audio recorded, transcribed and imported into NVivo software (QSR International) for thematic analysis. To ensure rigour, a structured framework analysis approach was used,<sup>27</sup> including double coding a subset of transcripts to develop the initial coding framework, refining the framework based on additional transcripts, mapping all data to the final framework, identifying direct quotes to support all themes and subthemes and involving authors with a diverse range of perspectives in interpretation of the data (including experts across different disciplines). As well as data-driven themes, data were coded based on the five distinct CVD risk assessment strategies previously identified as follows:<sup>17</sup>

1. Absolute risk focused: using various CVD risk calculators that might or might not match Australian guidelines.
2. Absolute risk adjusted: mentally adjusting the CVD risk calculator for additional risk factors, some of which are already accounted for in the calculator.
3. Clinical judgement: using a subjective assessment of CVD risk that takes more risk factors into account than the calculator.
4. Passive disregard: focusing on individual risk factors rather than absolute CVD risk due to habit or lack of access to calculators.
5. Active disregard: when absolute CVD risk assessment was seen as irrelevant or unhelpful for the patient.

Four authors (CB, NC, SM, SC) read a subset of transcripts to further develop the thematic framework, which was finalised after

discussion with all authors and application to additional transcripts. Two authors (SM, SC) coded all transcripts in NVivo according to this framework, noting any new interpretations or changes in the previously identified risk assessment strategies. The final framework was reviewed by theme and hypothetical case study and written up with supporting quotes.

Ethics approval was obtained from the University of Tasmania Human Research Ethics Committee (23015).

## Results

### Participant characteristics

Most GPs (n=18) were female (61%) and aged <40 years (72%), with practice experience ranging from 1–5 (28%) to ≥10 (33%) years.

### Theme 1: CVD risk assessment issues

Examples of all five risk assessment strategies were identified in the transcripts. Table 1 provides a summary of quotes illustrating each of the strategies.

#### Subtheme 1a: Preference for more comprehensive models

For absolute risk focused and adjusted strategies, a range of models was used instead of the Australian tools if the models were perceived as more comprehensive. An active disregard strategy was used when there was no perceived credible model, and GPs described the calculators as less useful for management decision making even when used for communication:

*I take it with a pinch of salt. Um, it's useful if I'm trying to really emphasise to a patient their risk factors and show them some scary numbers and some things flashing in red. But I'm not particularly confident in the numbers that it turns out. And I think there's too many other risks or factors that it doesn't compensate for: family history and lifestyle factors and exercise, you know. So it can be useful as a bit of a tool to scare patients into action or emphasise my concerns, but I really don't trust the numbers all that much. (ID18)*

New examples of this subtheme included a preference for more personalised risk assessment methods (eg coronary artery calcium [CAC] scoring):

**Table 1. Examples of cardiovascular disease risk assessment strategies**

Strategy	Description	Illustrative quotes
Absolute risk focused	Uses various CVD risk calculators that might or might not match Australian guidelines	<p><i>I use the one [calculator] that's associated with our software, which is I think the Framingham risk calculator ... I just use the Heart Foundation guidelines, so if they're low risk, fine. If they're intermediate risk they've got to work on some lifestyle factors and review, review. And then within three months if things haven't changed, they're on a blood pressure tablet. And if they're high risk it's, you know, a blood pressure tablet and the statin, the cholesterol-lowering tablet. So I'm pretty clear on that one. That's if the patient wants to follow the guidelines as well. (ID6)</i></p> <p><i>So, some of the ones QRISK can correct for. It's got a broader range of ethnicities than the Australian one, so I like that. But it will also correct for long-term antipsychotic use, for steroids use. (ID9)</i></p>
Absolute risk adjusted	Mentally adjusting the risk calculation for additional risk factors (often already accounted for in model or management guidelines)	<p><i>But I don't think it takes into account all of the factors ... You know, if someone is like, 'Oh my mum had a heart attack at 45', I'm like, 'Whoa, like your risk is so much higher than the calculator is saying your risk is 1%.' (ID14)</i></p> <p><i>... trying to do an absolute cardiovascular risk ... 'Oh but they're higher because they've got obesity, and they've got this as well' that's then a really big assessment isn't it? (ID12)</i></p> <p><i>We have to look at like the area they live in, and we take into account their weight, which it doesn't seem to take into account in the one on Best Practice. (ID2/ID3 - interviewed together)</i></p> <p><i>I kind of anecdotally see that people of Indian and Pakistani descent and South-east Asian descent tend to be quite prone to diabetes and heart disease at quite a relatively young age. And yet, you know, on the risk calculator they would come up as low risk ... their BMI might be up but that's not relevant to the cardiovascular risk calculator. (ID6)</i></p>
Clinical judgement	Uses a subjective assessment of risk that takes more risk factors into account than the calculator	<p><i>And then there's their apparent cardiovascular risk. And so by that I mean, we need to treat your peripheral vascular disease because your toes are blue every winter, but your overall profile is not too bad, and you don't have diabetes and you have good lifestyle factors ... So you might identify poor diet, unhealthy weight, poor exercise patterns, smoking status, high blood pressure, high cholesterol, new diagnosis of diabetes, erectile dysfunction, peripheral vascular disease, poor wound healing. I mean lots of different things. (ID1)</i></p> <p><i>So I'm based up in (name) clinic, which is quite a deprived area. So to be honest there's lots of, you know, poor health literacy, poor lifestyle and habits in terms of smoking and diet and things like that. So I pretty much come to it with most of our patients to be high risk, to be honest (ID2/3 - interviewed together)</i></p>
Passive disregard	Focuses on individual risk factors rather than absolute risk due to habit, time pressures or patient factors	<p><i>It doesn't matter what their cardiovascular risk is, there's other things that it's important to treat their blood pressure for. (ID16)</i></p> <p><i>... if you've got the time, it's generally not an issue. But if you sort of have noticed that there is a problem that you need to address, but they have come in with a different agenda, then it becomes quite difficult. (ID12)</i></p> <p><i>The immediacy of why a patient needs to have their healthcare on the day often overrides a lot of health promotion screening initiatives that take time. And it's expensive to see the doctor, so they're less likely to come back. (ID1)</i></p> <p><i>I guess everywhere people feel time poor or they don't think it's important. Or, you know, you give them the [pathology] form and then like seven months later you get the result in your inbox, and you go, 'Oh, I told you to do that next week.' (ID14)</i></p>
Active disregard	Absolute risk seen as irrelevant or not trustworthy, preference for other methods	<p><i>I prefer to go on people's personalised risk. And I think that the CAC score really lends itself to that. So, it looks at plaque load, hard plaque load, so looking at the calcium deposition in the coronary arteries. And so, I think that's far more indicative of what that patient's risk is in regard to having a heart attack or an adverse cardiac event. (ID17)</i></p> <p><i>I take it with a pinch of salt. Um, it's useful if I'm trying to really emphasise to a patient their risk factors and show them some scary numbers and some things flashing in red. But I'm not particularly confident in the numbers that it turns out. And I think there's too many other risks or factors that it doesn't compensate for: family history and lifestyle factors and exercise, you know. So it can be useful as a bit of a tool to scare patients into action or emphasise my concerns, but I really don't trust the numbers all that much. (ID18)</i></p>

CAC, coronary artery calcium; CVD, cardiovascular disease.

*I prefer to go on people's personalised risk. And I think that the CAC score really lends itself to that. So, it looks at plaque load, hard plaque load, so looking at the calcium deposition in the coronary arteries. And so, I think that's far more indicative of what that patient's risk is in regard to having a heart attack or an adverse cardiac event. (ID17)*

Adjusted and clinical judgement was used to account for additional risk factors that were not in the assessment strategies, such as body mass index (BMI), family history and ethnicity, leading to variable management decisions (refer to Table 2):

*We have to look at like the area they live in, and we take into account their weight, which it doesn't seem to take into account in the one*

*on Best Practice. (ID2/ID3 – interviewed together)*

**Subtheme 1b: Trust in risk assessment methods**

There were also concerns about the accuracy of self-reporting risk factors like family history and alcohol, and a preference for more factors to be included (eg mental health):

*We try and have conversations about it, but I'm not sure how many really tell us the truth about how much they're drinking. So that can be a challenge. (ID18)*

*It's (QRISK) got a broader range of ethnicities than the Australian one, so I like that. But it will also correct for long-term antipsychotic use, for steroids use, and I think there's one*

*other, that I can't remember. No, there's one other. But it's got a few other ones that aren't in the Australian calculator. (ID9)*

**Subtheme 1c: Practical barriers**

Passive disregard of absolute risk was no longer attributed to lack of access to risk calculators with greater familiarity with tools (particularly those within clinical practice software), but lack of consultation time, billing issues and a habitual focus on individual risk factors remained. This was often attributed to patient factors:

*The immediacy of why a patient needs to have their healthcare on the day often overrides a lot of health promotion screening initiatives that take time. And it's expensive to see the doctor, so they're less likely to come back. (ID1)*

**Table 2. Examples of cardiovascular disease risk management strategies for cases with high and low absolute risk**

Patient description	Examples of lifestyle approach	Examples of medication approach
<p>High-risk case: a man, aged 62 years, with high absolute risk (19%) of CVD; smoker with low health literacy; BMI 27.5 kg/m<sup>2</sup>, BP 139/86 mmHg, TC 5.7 mmol/L, HDL 1.2 mmol/L, LDL 3.7 mmol/L</p> <p>2012 high-risk guidelines recommendation:<sup>A</sup> lifestyle change plus BP/cholesterol medications</p>	<p>Focus on diet/exercise:</p> <p><i>...my approach would be to interrogate his diet, interrogate his exercise, set some shared goals around what's realistic for him to achieve, ... one other thing would be a bit of weight loss if we could do it. But that normally comes out of the others, so I tend not to focus it. (ID9)</i></p> <p>Refer to allied health:</p> <p><i>Yeah, and then offer a dietitian as well. (ID15)</i></p>	<p>Delay medication:</p> <p><i>I mean if he wasn't keen on the statin I could say, well, we could, you know, you can have six months trial of lifestyle, accepting the risk that he's got high cardiovascular risk in that meantime. (ID15)</i></p> <p>Prescribe medication:</p> <p><i>...educate about the risk benefit that an ACE inhibitor and a statin could provide for him. And uptitrate both of them, ACE to max tolerated and statin to target lipids and for primary prevention. (ID9)</i></p>
<p>Low-risk case: a woman, aged 58 years, with low absolute risk of CVD; non-smoker with low health literacy; BMI 32.1 kg/m<sup>2</sup>, BP 151/86 mmHg, TC 3.1 mmol/L, HDL 1.8 mmol/L, LDL 3.8 mmol/L</p> <p>2012 low-risk guidelines recommendation:<sup>A</sup> lifestyle change only, no medications</p>	<p>Focus on weight:</p> <p><i>... her BMI, which is again in the high range, which is 32.1, in the obese range. She should be advised lifestyle modifications, more exercise, more active lifestyle and avoiding the food which are high sugary and high fat content so that she can lose her weight. (ID5)</i></p> <p>Focus on weight and BP:</p> <p><i>... so what would probably jump out with me would be her BMI. Her blood pressure, I would, um, so I would probably say to her to really push lifestyle. I wouldn't initiate medications at this point. And I'd probably review her every month about the blood pressure, so we can get some serial readings. And check her weight, you know, maybe every two months. And then make a decision or re-evaluate the calculator maybe six months down the track. (ID6)</i></p>	<p>Consider medication if no change:</p> <p><i>...re-evaluate her blood pressure maybe three to six months down the track. And if her blood pressure is still a bit on that high side, I probably would end up putting her on a blood pressure tablet. Whether that's right or wrong, I'm not too sure. (ID6)</i></p>

<sup>A</sup>Absolute risk scores were not provided to the general practitioners; they were told whether the patient was classified as high or low risk.

ACE, angiotensin-converting enzyme; BMI, body mass index; BP, blood pressure; HDL, high-density lipoprotein; LDL, low-density lipoprotein; TC, total cholesterol.

*I guess everywhere people feel time poor or they don't think it's important. Or, you know, you give them the [pathology] form and then like seven months later you get the result in your inbox, and you go, 'Oh, I told you to do that next week.'* (ID14)

Some GPs also mentioned challenges with billing Healthy Heart Checks that disincentivised them to conduct a CVD risk assessment:

*Because the reason we don't do it to be quite frank is because they just don't pay very well. They're very time consuming and also the criteria for which patients fit into the eligible item number is not that straightforward.* (ID2/3)

## Theme 2: CVD risk management issues

Management issues included knowledge and service gaps, practice variation and a continued focus on individual risk factors rather than an absolute risk approach.

### Subtheme 2a: Knowledge and service gaps

GPs identified issues around lack of knowledge about evidence-based diet changes, no funded referral pathways for prevention (eg to dietitians), a lack of local access to allied health services for lifestyle change in regional areas and the need for multiple appointments to move from initial high-risk assessment to multiple medications.

For lifestyle change challenges, there was a particular focus on diet, with many GPs preferring to refer to a specialist to manage this complex issue. This was a problem in regional areas, where access was limited:

*So in some places, you still have to pay out of pocket for the dietitian even if you go on a care plan, and an exercise physiologist. So, there's that practicality access thing as well. I reckon if we had more in our practice, if we had a dietitian in our practice, I think we'd have more success, because we could just say, 'Oh, why don't you see them on the way out and book in and then it's done.'* (ID11)

Lifestyle referral was also a problem for prevention, because funding models were more focused on providing referrals for those with chronic conditions:

*Well, the thing is, access is difficult. Because it'll be private. Unless I can wrangle a care plan by saying, 'This patient has some chronic medical conditions that require complex interdisciplinary care from at least three health professionals.' Now most of the time when you're screening people, you're getting them before they've got the diabetes, you know, before they're on the blood pressure medication. So it's really hard. Most of them wouldn't fit the criteria for a care plan. And so they've got to pay out of pocket to see a dietitian.* (ID6)

### Subtheme 2b: Practice variation

These knowledge and service issues led to variable management approaches. Table 2 shows how the same hypothetical cases would be managed in different ways: addressing lifestyle change in practice or through specialist referral, and prescribing medication or not independent of absolute risk guideline recommendations. Medication decisions were driven by a mix of risk factors to focus on for lifestyle and variable decisions about whether to avoid medication, consider it based on patient responses or prescribe straight away even for cases of low absolute risk.

### Subtheme 2c: Individual risk factors

The variable responses to the same cases reflected a focus on individual risk factor management rather than an absolute risk approach. It also reflects GPs' preference to account for additional risk factors than just those included in risk calculators:

*I kind of anecdotally see that people of Indian and Pakistani descent and South-east Asian descent tend to be quite prone to diabetes and heart disease at quite a relatively young age. And yet, you know, on the risk calculator they would come up as low risk ... their BMI might be up but that's not relevant to the cardiovascular risk calculator.* (ID6)

*This would likely be a postmenopausal female, so their cardiovascular disease risk would have substantially increased in recent times ... I'd hazard a guess to say that she is insulin resistant and so that puts her in the high-risk category.* (ID17)

## Discussion

The GP barriers to using a guidelines-based approach to CVD risk assessment and management described in this study were similar to the issues identified in 2012,<sup>17</sup> indicating that little has changed in the past decade. GPs in this sample seemed to have higher awareness and experience of using CVD risk calculators compared with earlier research.<sup>17</sup> However, lack of time and patient factors remained challenges to absolute CVD risk assessment for GPs. New funding models that promote CVD risk assessment (eg MBS item for Heart Health Checks<sup>24</sup>) were seen as insufficient to support the CVD risk assessment and management process, which requires multiple appointments. Finally, the emergence of what is perceived as more 'personalised' risk assessment methods, such as CAC scoring, led some GPs to prefer this over absolute risk as a general screening approach. Together, these findings suggest that several barriers to implementation of guideline-based care remain that need to be addressed for the successful implementation of revised CVD prevention guidelines in 2023. As found in our earlier study,<sup>17</sup> this included capability issues (eg low knowledge about the latest evidence on how to manage lifestyle risk factors), opportunity issues (eg lack of adequate funding to cover multiple appointments and specialist referral) and motivation issues (eg preference for alternative assessment methods over Australian guidelines).

Although GPs were aware of CVD risk assessment tools, many described integrating additional risk factors into their decision making. However, many of these risk factors were either included in the CVD risk assessment model and found to add no predictive value (eg obesity<sup>3</sup>) or were included in the management rather than the assessment guidelines (eg family history<sup>1</sup>). The interest in more 'personalised' risk assessment methods by some GPs was a new finding compared with previous work.<sup>17</sup> However, traditional risk factors are still more predictive using an absolute risk approach than newer assessments, and such scans involve additional costs and potential harms.<sup>28</sup> The new 2023 guidelines do include a role for CAC scoring, but this is not recommended for general population screening, only for selected contexts where

such a scan might change decision making about medication.<sup>4</sup>

The changes in the 2023 guidelines<sup>4</sup> might address some of the motivational issues raised by GPs in the present study. In particular, the PREDICT algorithm is more comprehensive than the Framingham model, including more of the risk factors that GPs have raised as important to consider in assessment. They also include a role for 'personalised' assessment methods, as described above. However, the requirement for additional risk factors and assessment steps might exacerbate opportunity issues, where funding is insufficient to cover the number of appointments and referrals required for optimal management of risk. Capability issues around understanding the role and management of different risk factors will require targeted GP education activities.

### Strengths and limitations

The sample included both metropolitan and regional areas across a whole state to include diverse populations. We did not collect data on the participants' clinic populations for this qualitative study, but will explore the effect of such factors in a larger quantitative trial that is in progress. We cannot guarantee that COVID-19 experiences did not change responses, but comparison to New South Wales findings in 2012 provides some reassurance that similar issues are encountered in different states.<sup>17</sup> Although the relatively low impact of COVID-19 in this region at the time of the study could indicate a better reflection of 'usual care' before the pandemic, other areas in Australia and around the world experienced significant impact at this time. The results do not reflect the experience of GPs in areas that continue to have reduced CVD risk screening activity since COVID-19 disruptions.

### Conclusion

The implementation of the 2023 CVD prevention guidelines must address capability, opportunity and motivation barriers to support GPs. The provision of a more comprehensive risk assessment model in a single calculator will go some way towards addressing this. Further work is needed, including software integration, education and funding models that match clinical workflows.

### Authors

Carissa Bonner MPH, PhD, Research Fellow, Menzies Centre for Health Policy and Economics, Faculty of Medicine and Health, The University of Sydney, Sydney, NSW

James E Sharman PhD, Professor, Menzies Institute for Medical Research, College of Health and Medicine, University of Tasmania, Hobart, Tas

Shannon McKinn BlntSt, MPH, PhD, Research Fellow, Menzies Centre for Health Policy and Economics, Faculty of Medicine and Health, The University of Sydney, Sydney, NSW

Samuel Cornell MS, Menzies Centre for Health Policy and Economics, Faculty of Medicine and Health, The University of Sydney, Sydney, NSW

Mark R Nelson MBBS (Hons), MFM, PhD, FRACGP, FAFPHM, FCSANZ, Professorial Research Fellow, Menzies Institute for Medical Research, College of Health and Medicine, University of Tasmania, Hobart, Tas

Jenny Doust BMBS, BA, BEcons, PhD, FRACGP, Clinical Professorial Research Fellow, Australian Women and Girls' Health Research Centre, School of Public Health, The University of Queensland, Brisbane, Qld

Niamh Chapman PhD, Senior Research Fellow, Menzies Institute for Medical Research, College of Health and Medicine, University of Tasmania, Hobart, Tas

Competing interests: CB and MRN were involved in the CVD prevention guideline revision released in July 2023. CB reports honoraria from the Heart Foundation for an educational webinar on CVD risk assessment; travel expenses from the Cardiac Society of Australia and New Zealand for a conference presentation on CVD prevention; membership of the National Vascular Disease Prevention Alliance Expert Subcommittee on Communication of Risk for national CVD prevention guidelines; a scientific advisory role for expressions of interest for grants from the NSW Health Department; and being Director of a consultancy company, Health Literacy Solutions, to fund development of a health literacy editing tool (no personal income). MRN was on the Novartis Lipid Advisory Board in 2020. JD reports receipt of a National Health and Medical Research Council (NHMRC) Partnership Grant (APP1169888) for improving communication about heart disease risk assessment using translational research strategies in general practice (CHAT-GP); and participation on the Data Safety Monitoring Board and Advisory Board for the START trial of dapagliflozin vs metformin in type 2 diabetes (NHMRC grant APP2006893). NC reports roles for the Australian Cardiovascular Alliance: Emerging Leaders Committee member 2019-22, Deputy Chair 2022 and Chair 2023. JES, SMcK and SC have no competing interests to declare.

Funding: This study was undertaken as part of the CHAT-GP Project, with funding from the Australian Government via the NHMRC (Partnership Grant APP1170815) and the Medical Research Future Fund (MRFF) Boosting Preventive Health Research Program funding provided to The Australian Prevention Partnership Centre. CB was supported by a fellowship co-funded by the NHMRC and Heart Foundation.

Provenance and peer review: Not commissioned, externally peer reviewed.

### Correspondence to:

carissa.bonner@sydney.edu.au

### Acknowledgements

The authors thank the GPs who participated for their time, and GP Natasha Freeman for input on the draft thematic framework.

### References

1. National Vascular Disease Prevention Alliance. Guidelines for the management of absolute cardiovascular disease risk. National Vascular Disease Prevention Alliance, 2012.
2. Jackson R, Barham P, Bills J, et al. Management of raised blood pressure in New Zealand: A discussion document. *BMJ* 1993;307(6896):107-10. doi: 10.1136/bmj.307.6896.107.
3. D'Agostino RB Sr, Vasan RS, Pencina MJ, et al. General cardiovascular risk profile for use in primary care: The Framingham Heart Study. *Circulation* 2008;117(6):743-53. doi: 10.1161/CIRCULATIONAHA.107.699579.
4. Australian Chronic Disease Prevention Alliance (ACDPA). Australian guideline and calculator for assessing and managing cardiovascular disease risk. ACDPA, 2023. Available at [www.cvdcheck.org.au/](http://www.cvdcheck.org.au/) [Accessed 8 September 2023].
5. National Vascular Disease Prevention Alliance. Guidelines for the assessment of absolute cardiovascular disease risk. National Vascular Disease Prevention Alliance, 2009.
6. Australian Chronic Disease Prevention Alliance (ACPA). Updating the Australian CVD risk guidelines. ACDPA, 2022. Available at [www.acdpa.org.au/absolute-cvd-risk-guideline-update](http://www.acdpa.org.au/absolute-cvd-risk-guideline-update) [Accessed 31 May 2023].
7. Sheridan SL, Crespo E. Does the routine use of global coronary heart disease risk scores translate into clinical benefits or harms? A systematic review of the literature. *BMC Health Serv Res* 2008;8(1):60. doi: 10.1186/1472-6963-8-60.
8. Jackson R, Lawes CM, Bennett DA, Milne RJ, Rodgers A. Treatment with drugs to lower blood pressure and blood cholesterol based on an individual's absolute cardiovascular risk. *Lancet* 2005;365(9457):434-41. doi: 10.1016/S0140-6736(05)70240-3.
9. Sheridan SL, Viera AJ, Krantz MJ, et al. The effect of giving global coronary risk information to adults: A systematic review. *Arch Intern Med* 2010;170(3):230-39. doi: 10.1001/archinternmed.2009.516.
10. Doust J, Sanders S, Shaw J, Glasziou P. Prioritising CVD prevention therapy - absolute risk versus individual risk factors. *Aust Fam Physician* 2012;41(10):805-09.
11. Banks E, Crouch SR, Korda RJ, et al. Absolute risk of cardiovascular disease events, and blood pressure- and lipid-lowering therapy in Australia. *Med J Aust* 2016;204(8):320. doi: 10.5694/mja15.01004.
12. Bonner C, Fajardo MA, Doust J, McCaffery K, Trevena L. Implementing cardiovascular disease prevention guidelines to translate evidence-based medicine and shared decision making into general practice: Theory-based intervention development, qualitative piloting and quantitative feasibility. *Implement Sci* 2019;14(1):86. doi: 10.1186/s13012-019-0927-x.
13. Bonner C, Jansen J, McKinn S, et al. How do general practitioners and patients make decisions about cardiovascular disease risk? *Health Psychol* 2015;34(3):253-61. doi: 10.1037/hea0000122.
14. Jansen J, Bonner C, McKinn S, et al. General practitioners' use of absolute risk versus individual risk factors in cardiovascular disease prevention: An experimental study. *BMJ Open* 2014;4(5):e004812. doi: 10.1136/bmjopen-2014-004812.
15. National Heart Foundation of Australia (NHF). At-risk Australians missing out on CVD assessment. [News] NHF, 2019. Available at

- <https://resources.heartfoundation.org.au/news/at-risk-australians-missing-out-on-cvd-assessment> [Accessed 19 October 2022].
16. Hespe CM, Giskes K, Harris MF, Peiris D. Findings and lessons learnt implementing a cardiovascular disease quality improvement program in Australian primary care: A mixed method evaluation. *BMC Health Serv Res* 2022;22(1):108. doi: 10.1186/s12913-021-07310-6.
  17. Bonner C, Jansen J, McKinn S, et al. General practitioners' use of different cardiovascular risk assessment strategies: A qualitative study. *Med J Aust* 2013;199(7):485–89. doi: 10.5694/mja13.10133.
  18. Michie S, van Stralen MM, West R. The behaviour change wheel: A new method for characterising and designing behaviour change interventions. *Implement Sci* 2011;6(1):42. doi: 10.1186/1748-5908-6-42.
  19. Bonner C, Jansen J, McKinn S, et al. Communicating cardiovascular disease risk: An interview study of general practitioners' use of absolute risk within tailored communication strategies. *BMC Fam Pract* 2014;15(1):106. doi: 10.1186/1471-2296-15-106.
  20. Bonner C, Jansen J, Newell BR, et al. I don't believe it, but I'd better do something about it: Patient experiences of online heart age risk calculators. *J Med Internet Res* 2014;16(5):e120. doi: 10.2196/jmir.3190.
  21. Bonner C, Jansen J, Newell BR, et al. Is the 'heart age' concept helpful or harmful compared to absolute cardiovascular disease risk? An experimental study. *Med Decis Making* 2015;35(8):967–78. doi: 10.1177/0272989X15597224.
  22. Peiris D, Usherwood T, Panaretto K, et al. Effect of a computer-guided, quality improvement program for cardiovascular disease risk management in primary health care: The treatment of cardiovascular risk using electronic decision support cluster-randomized trial. *Circ Cardiovasc Qual Outcomes* 2015;8(1):87–95. doi: 10.1161/CIRCOUTCOMES.114.001235.
  23. National Heart Foundation of Australia (NHF). Heart health check toolkit. NHF, [date unknown]. Available at [www.heartfoundation.org.au/bundles/heart-health-check-toolkit](http://www.heartfoundation.org.au/bundles/heart-health-check-toolkit) [Accessed 31 May 2023].
  24. Department of Health and Aged Care. MBS Online: New MBS items for Heart Health Check. Australian Government, 2020.
  25. Australian Institute of Health and Welfare (AIHW). Practice incentives program quality improvement measures: National report on the first year of data 2020–21. AIHW, [date unknown].
  26. Chapman N, McWhirter RE, Schultz MG, Ezzy D, Nelson MR, Sharman JE. General practitioner perceptions of assessment and reporting of absolute cardiovascular disease risk via pathology services: A qualitative study. *Fam Pract* 2021;38(2):173–80. doi: 10.1093/fampra/cmaa107.
  27. Ritchie J, Lewis J, McNaughton NC, Ormston R, editors. *Qualitative research practice: A guide for social science students and researchers*. 2nd edn. SAGE Publications, 2014.
  28. Bell KJL, White S, Hassan O, et al. Evaluation of the incremental value of a coronary artery calcium score beyond traditional cardiovascular risk assessment: A systematic review and meta-analysis. *JAMA Intern Med* 2022;182(6):634–42. doi: 10.1001/jamainternmed.2022.1262.

correspondence [ajgp@racgp.org.au](mailto:ajgp@racgp.org.au)