Current debates and research in cardiovascular medicine

The *Medical Journal of Australia* regularly publishes articles related to cardiovascular diseases (CVDs). Although there has been a reduction in total burden due to coronary heart disease over time among Indigenous and non-Indigenous Australians,[1,2] CVDs remain the leading cause of death and disability. In 2019, around 18 million people died from CVDs; of these deaths, heart attack and stroke were the most common underlying causes.[3] In the Australian Burden of Disease Study 2022, coronary heart disease was the leading cause of burden of disease for every reference year and contributed to most burden among men and among those aged 45 years and over,[1] and among Indigenous Australians.[2] In this issue of the *MJA*, we collate current debates and research in cardiovascular medicine.

According to evidence-based Australian guidelines published in 2016, management of acute coronary syndromes associated with atherosclerotic lesions includes percutaneous coronary intervention where appropriate.[4] In this issue, Chew and Zaman discuss the evidence for coronary stenting for chronic stable angina (doi: 10.5694/mja2.52050). They explore the evidence for treatments for coronary artery disease (CAD) and residual ischaemia in stable CAD. They argue that percutaneous coronary intervention has not shown the same degree of benefit as seen among patients with acute coronary syndromes.

Rapid access chest pain clinics exist in Australia and are designed to evaluate people with new onset chest pain. Compared with traditional cardiology clinics, patients with new onset chest pain have been shown to be evaluated more efficiently in rapid access chest pain clinics and had lower rates of subsequent emergency department re-attendances and adverse cardiovascular events.[5] In this issue, Cho and colleagues review the models and experiences of rapid access chest pain clinics in Australia and New Zealand (doi: 10.5694/mja2.52043). They find that rapid access chest pain clinics are safe and improve hospital efficiency and costs. They conclude that "despite variations in rapid access chest pain clinic models, there are limited data to determine the most effective approach. Developing a national framework could be beneficial to provide sites with evidence, possible models, and business cases. Multicentre data analysis could enhance understanding and monitoring of the service."

Prevention of CVD, including recurrence of adverse events, requires determining a patient's level of risk of developing a CVD in the future. Clinicians are familiar with using the Framingham risk model, and researchers are aware of the limitations of this model when applied to an Australian cohort.[6] There is still a gap in the establishment of a robust national cardiovascular risk screening program.[7] In this issue, Brown and colleagues review existing risk equations recommended in eleven CVD primary prevention guidelines and assess their suitability for use in Australia (doi: 10.5694/mja2.52052). This endeavour was commissioned by the National Heart Foundation of Australia on behalf of the Australian Chronic Disease Prevention Alliance to inform recommendations on CVD risk estimation as part of the 2023 update of the Australian CVD risk assessment and management guidelines (https://www.cvdcheck.org.au). The risk equations were assessed against eight selection criteria: development using contemporary data; inclusion of established cardiovascular risk factors; inclusion of ethnicity and deprivation measures; prediction of a broad selection of fatal and non-fatal CVD outcomes; population representativeness; model performance; external validation in an Australian dataset; and the ability to be recalibrated or modified.

Also in this issue, Alexander and colleagues assess a challenge of remote care in a retrospective cohort study conducted in Western Australia (doi: 10.5694/mja2.52018). This study examines the severity of CAD in people from rural or remote WA referred for invasive coronary angiography (ICA) in Perth and their subsequent management. The authors estimate the cost savings if computed tomography coronary angiography (CTCA) is offered in rural centres as the first line investigation for people with suspected CAD. They find that "were CTCA used locally to determine the need for referral, 527 referrals could have been averted (53%), the ICA:revascularisation ratio would have improved from 2.6 to 1.6, and 1757 metropolitan hospital bed-days (43% reduction) and $7.3 million in health care costs (36% reduction) would have been saved". Noting that "many rural and remote Western Australians referred for ICA in Perth have non-obstructive CAD and can be medically managed", they conclude that CTCA can be used as a first line investigation in rural centres and could potentially be a cost-effective strategy for estimating risk in people with suspected CAD and reducing the number of referrals. ■

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1 Australian Institute of Health and Welfare. Australian Burden of Disease Study 2022. https://www.aihw.gov.au/reports/burden-of-disease/australian-burden-of-disease-study-2022/contents/about (viewed Aug 2023).

2 Australian Institute of Health and Welfare. Australian Burden of Disease Study: impact and causes of illness and death in Aboriginal and Torres Strait Islander people 2018. https://www.aihw.gov.au/reports/burden-of-disease/illness-death-indigenous-2018/summary (viewed Aug 2023).

3 World Health Organization. Cardiovascular diseases. https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds) (viewed Aug 2023).

4 Chew DP, Scott IA, Cullen L, et al. National Heart Foundation of Australia and Cardiac Society of Australia and New Zealand: Australian clinical guidelines for the management of acute coronary syndromes 2016. *Med J Aust* 2016; 205: 128-133. https://www.mja.com.au/journal/2016/205/3/national-heart-foundation-australia-and-cardiac-society-australia-and-new

5 Black JA, Cheng K, Flood JA, et al. Evaluating the benefits of a rapid access chest pain clinic in Australia. *Med J Aust* 2019; 210: 321-325. https://www.mja.com.au/journal/2019/210/7/evaluating-benefits-rapid-access-chest-pain-clinic-australia

6 Albarqouni L, Doust JA, Magliano D, et al. External validation and comparison of four cardiovascular risk prediction models with data from the Australian Diabetes, Obesity and Lifestyle study. *Med J Aust* 2019; 210: 161-167. https://www.mja.com.au/journal/2019/210/4/external-validation-and-comparison-four-cardiovascular-risk-prediction-models

7 Paige E, Raffoul N, Lonsdale E, Banks E. Cardiovascular disease risk screening in Australia: evidence and data gaps. *Med J Aust* 2023; 218: 103-105. https://www.mja.com.au/journal/2023/218/3/cardiovascular-disease-risk-screening-australia-evidence-and-data-gaps ■