Supplementary material

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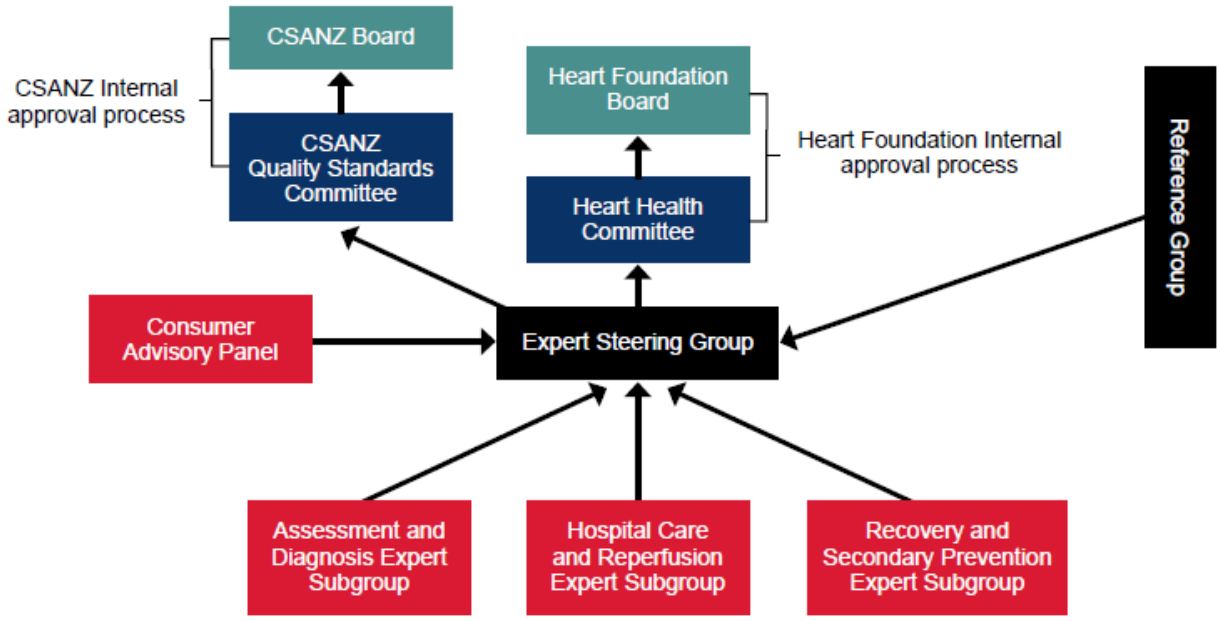
Supplementary material 1: Governance and guideline contributors

Governance

The development of the *Australian clinical guideline for diagnosing and managing acute coronary syndromes (ACS) 2024* (the guideline) was led by the National Heart Foundation of Australia (Heart Foundation) in collaboration with an extensive network of leading experts and reference group organisations who contributed in an honorary capacity. The guideline was jointly funded by the Heart Foundation and the Cardiac Society of Australia and New Zealand (CSANZ). Funding was also received from trusts managed by Perpetual for the guideline development in 2020 and 2021.

The governance process employed by the Heart Foundation aims to ensure the integrity of the guideline developers and to strike a balance between the existence of 'interests' in a topic under review and the expertise required to make sound and meaningful recommendations.

The overarching governance structure was developed in line with the 2016 National Health and Medical Research Council's (NHMRC) *Standards for Guidelines [1]*. The structure included an Expert Steering Group (ESG), three Expert Subgroups, Reference Group organisations and a Consumer Advisory Panel (see Supplementary figure 1).



Supplementary figure 1. Governance structure for the guideline project.

Expert groups

The guideline was developed under the direction and governance of five expert groups with multidisciplinary, clinical and people with lived or living experience input. Experts and people with lived or living experience representatives from diverse backgrounds and geographic regions were recruited by CSANZ and the Heart Foundation through an Expression of Interest process between the last quarter of 2021 and first quarter of 2022.

Members were selected based on their expertise and experience in guideline development. Expertise was sourced across the disciplines of cardiology, emergency medicine, general medicine, general practice, nursing, pharmacy, epidemiology, cardiac rehabilitation and public health.

Expert Steering Group

The ESG met regularly between the first quarter of 2022 and 2023. The ESG agreed on the prioritised scope and clinical questions of the guideline. The ESG was also responsible for reviewing the full content of the draft guideline, including grading of the evidence and final recommendations. The ESG identified which expert subgroups would be required to progress guideline development and oversaw their input into the project.

Members of the ESG included the Co-chairs, representatives from the Expert Subgroups, Chair of the Consumer Advisory Panel, and Heart Foundation and CSANZ representatives. ESG members chaired and participated in Expert Subgroups where their expertise was relevant.

The ESG reported to the internal approval committees from the Heart Foundation and CSANZ.

Expert Steering Group members

Name	Position
Prof David Brieger (Co-chair)	Head of Coronary Care, Concord Repatriation General Hospital; Professor in Medicine, Concord Clinical School, ANZAC Research Institute, The University of Sydney
Prof Louise Cullen (Co-chair)	Pre-Eminent Staff Specialist, Emergency Medicine, Royal Brisbane and Women's Hospital; Professor, Queensland University of Technology; Professor (Clinical), University of Queensland
Prof Tom Briffa	Professor, School of Population and Global Health, University of Western Australia; Head of Cardiovascular Research Group and Centre for Health Services Research, The University of Western Australia; Honorary Professorial Fellow, The George Institute for Global Health
Dr Sasha Bennett	Executive Officer, New South Wales (NSW) Therapeutic Advisory Group; St Vincent's Hospital Cardiac Rehabilitation
Prof Robyn Clark	Matthew Flinders Emeritus Professor, Flinders University; Adjunct Professor, South Australian Health and Medical Research Institute (SAHMRI); Adjunct Professor, University of South Australia; Adjunct Professor, Queensland University of Technology
Prof Stephen Duffy (Resigned from position on 13 September 2022)	CSANZ representative; Interventional and Structural Cardiologist, The Alfred Hospital; Adjunct Professor, Centre of Cardiovascular Research and Education in Therapeutics, Monash University
Darren Hicks	Chair of the Consumer Advisory Panel; Member of the SOLVECHD Consumer Advisory Group; Member of the MyHeart MyLife Consumer Advisory Group
Dr Cynthia Papendick	Emergency Physician, Royal Adelaide Hospital; Associate Professor, University of Adelaide, School of Medicine
Dr Greg Starmer (Resigned from position on 24 October 2022)	Clinical and Interventional Cardiologist, Cairns Base Hospital; Adjunct Senior Lecturer, James Cook University, School of Medicine and Dentistry
Prof Liza Thomas	CSANZ representative; Interventional and Consultant Cardiologist, Westmead Hospital; Principal Investigator, Westmead Applied Research Centre, Faculty of Medicine and Health, University of Sydney; Conjoint Professor, University of Sydney and University of New South Wales
Dr Edwina Wing-Lun	Interventional and Consultant Cardiologist, Royal Darwin Hospital; Contractor Cardiologist, NT Cardiac, Darwin Private Hospital; PhD Candidate, University of Sydney
A/Prof Sarah Zaman	Interventional Cardiologist & Clinical Academic, Westmead Hospital and the University of Sydney; Honorary Academic, School of Clinical Sciences at Monash Health, Monash University

Expert Subgroups

The Expert Subgroup members met monthly between the second quarter of 2022 and 2023. The Expert Subgroups were responsible for developing the clinical questions, generating guideline recommendations and drafting sections of the guideline.

Three Expert Subgroups provided subject matter expertise to progress guideline development:

- Assessment and Diagnosis Expert Subgroup
- Hospital Care and Reperfusion Expert Subgroup
- Recovery and Secondary Prevention Expert Subgroup

Expert Subgroups were chaired by members of the ESG to ensure the cohesion of recommendations across the broad spectrum of work involved in the guideline development. Expert Subgroups were supplemented by members with recognised expertise from stakeholder groups and the clinical community.

Assessment and Diagnosis Expert Subgroup members

Name	Position
Prof Louise Cullen (Chair)	Pre-Eminent Staff Specialist, Emergency Medicine, Royal Brisbane and Women's Hospital; Professor, Queensland University of Technology; Professor (Clinical), University of Queensland
Dr Atef Asham	General Practitioner, Practice Principal, Deer Park Medical Centre; Research Investigator, Baker Heart and Diabetes Institute
Dr Angus Baumann	Consultant Cardiologist, Department of Medicine, Alice Springs Hospital; Flinders University Rural Clinical School, Flinders University, South Australia
Prof Sally Inglis	Professor, IMPACCT – Improving Palliative, Aged and Chronic Care through Clinical Research and Translation, University of Technology Sydney, Faculty of Health
A/Prof Lisa Kuhn	Associate Professor of Emergency Nursing, Monash University, School of Nursing and Midwifery; Registered Nurse and Chair (Nursing), Monash Emergency Research Collaborative (MERC), Monash Health
Dr Cynthia Papendick	Emergency Physician, Royal Adelaide Hospital; Associate Professor, University of Adelaide, School of Medicine
Prof Hans Schneider	General Physician, General Medicine Unit, Alfred Health; Director of Pathology, Alfred Health; Head of Clinical Biochemistry, Alfred Pathology Service, Alfred Health
Dr Greg Starmer (Resigned from position on 24 October 2022)	Clinical and Interventional Cardiologist, Cairns Base Hospital; Adjunct Senior Lecturer, James Cook University, School of Medicine and Dentistry
Dr Edwina Wing-Lun	Interventional and Consultant Cardiologist, Royal Darwin Hospital; Contractor Cardiologist, NT Cardiac, Darwin Private Hospital; PhD Candidate, University of Sydney

Hospital Care and Reperfusion Expert Subgroup members

Name	Position
Prof David Brieger (Chair)	Head of Coronary Care, Concord Repatriation General Hospital; Professor in Medicine, Concord Clinical School, ANZAC Research Institute, The University of Sydney
Dr Angus Baumann	Consultant Cardiologist, Department of Medicine, Alice Springs Hospital; Flinders University Rural Clinical School, Flinders University, South Australia
Prof Stephen Duffy (Resigned from position on 13 September 2022)	CSANZ representative; Interventional and Structural Cardiologist, The Alfred Hospital; Adjunct Professor, Centre of Cardiovascular Research and Education in Therapeutics, Monash University
Mr James Edelman	Cardiothoracic Surgeon, Fiona Stanley Hospital; Senior Clinical Lecturer, The University of Western Australia
Adam Livori	Lead Pharmacist, Medicine and Continuing Care, Grampians Health; PhD Candidate, Centre for Medicine Use and Safety, Monash University
Prof Ian Scott	Former Director of Internal Medicine and Clinical Epidemiology, Princess Alexandra Hospital; Professor in Clinical Decision-making, University of Queensland; Adjunct Professor of Medicine, Queensland University of Technology
Jeanine Stewart	ACS Nurse Practitioner, The Prince Charles Hospital
Prof Liza Thomas	CSANZ representative; Interventional and Consultant Cardiologist, Westmead Hospital; Principal Investigator, Westmead Applied Research Centre, Faculty of Medicine and Health, University of Sydney; Conjoint Professor, University of Sydney and University of New South Wales
A/Prof Sarah Zaman	Interventional Cardiologist & Clinical Academic, Westmead Hospital and the University of Sydney; Honorary Academic, School of Clinical Sciences at Monash Health, Monash University

Recovery and Secondary Prevention Expert Subgroup members

Name	Position
Prof Tom Briffa (Chair)	Professor, School of Population and Global Health, University of Western Australia; Head of Cardiovascular Research Group and Centre for Health Services Research, The University of Western Australia; Honorary Professorial Fellow, The George Institute for Global Health
Kimberley Bardsley	ACS Nurse Practitioner, The Prince Charles Hospital, Brisbane
Dr Sasha Bennett	Executive Officer, NSW Therapeutic Advisory Group; St Vincent's Hospital Cardiac Rehabilitation
Prof David Brieger	Head of Coronary Care, Concord Repatriation General Hospital; Professor in Medicine, Concord Clinical School, ANZAC Research Institute, The University of Sydney
Prof Robyn Clark	Matthew Flinders Emeritus Professor, Flinders University; Adjunct Professor, South Australian Health and Medical Research Institute (SAHMRI); Adjunct Professor, University of South Australia; Adjunct Professor, Queensland University of Technology
Prof Julie Redfern	Professor and Director, Institute for Evidence-Based Healthcare, Bond University; Professor of Public Health, Faculty of Medicine and Health, The University of Sydney
Dr Ling Zhang	Practicing Registered Nurse and Research Associate, Faculty of Medicine and Health, Sydney Nursing School, The University of Sydney

Consumer Advisory Panel

The Consumer Advisory Panel members were recruited by the Heart Foundation through an Expression of Interest process in the first quarter of 2022. Seven members were selected and interviewed before being invited to join the panel. Members were appointed based upon lived/living experience of cardiovascular disease, diversity (gender, age group, ethnicity, First Nations Peoples representation) and geographical location to ensure a broad range of experiences were heard and considered.

The Consumer Advisory Panel members convened regularly in 2022-2023 to review and provide feedback on relevant recommendations and guideline content. The Consumer Advisory Panel provided the people with lived or living experience and carer perspective, and ensured their voice was represented during guideline development.

The Chair of the Consumer Advisory Panel was a member of the ESG. The Consumer Advisory Panel received direction from, and reported its recommendations, to the ESG.

Consumer Advisory Panel members

- Darren Hicks (Chair)
- David Follent (First Nations representative)
- Sarah Hatzivlastou
- Sharon Kort
- Michael McGowan
- Jarod McMaugh
- Rodney Turner (First Nations representative - resigned from position on 30th May 2023)
- Lea Zeestraten

For how conflicts of interest were managed for all guideline contributors, see Supplementary material 3.

Reference Group

The Reference Group was established in the first quarter of 2022. The group comprised nominated representatives of identified key stakeholder organisations or societies with national relevance in the assessment, diagnosis, management and rehabilitation of ACS in Australia. Members of the Reference Group were nominated by their respective organisations. Where appropriate and agreed with the organisation, an existing member of the ESG or Expert Subgroups provided representation on the Reference Group.

The Reference Group provided feedback on the clinical scope of the guideline. The group was also responsible for reviewing the acceptability and relevance of the guideline recommendations and implementation strategies. Reference Group members facilitated the process of endorsing the guideline, where relevant/appropriate.

The Reference Group reported to the ESG.

Reference Group organisations

- Advanced Pharmacy Australia (previously Society of Hospital Pharmacists Australia)
- Australasian Cardiovascular Nursing College
- Australasian College for Emergency Medicine
- Australian and New Zealand Society of Cardiac and Thoracic Surgeons
- Australian and New Zealand Society for Geriatric Medicine
- Australian Cardiovascular Health and Rehabilitation Association
- Australian College of Rural and Remote Medicine
- Australian Commission on Safety and Quality in Heath Care
- Australian Physiotherapy Association
- Central Australian Rural Practitioners Association
- Council of Remote Area Nurses of Australia
- Exercise & Sports Science Australia
- Internal Medicine Society of Australia and New Zealand
- National Aboriginal Community Controlled Health Organisation
- National Association of Aboriginal and Torres Strait Islander Health Workers and Practitioners
- The Australasian College of Paramedicine
- The Australian Resuscitation Council
- The National Rural Health Alliance
- The Royal Australian College of General Practitioners
- The Royal College of Pathologists of Australasia

Heart Foundation project contributors

Name	Position
Elaine Ho	Senior Evidence and Policy Advisor, Clinical Evidence
Stacey Matthews	Senior Evidence and Policy Advisor, Clinical Evidence
Erin Bowen	National Manager, Health Research & Innovation
Mistralle Brouillard	Evidence and Policy Advisor, Clinical Evidence
Dr Amanda Buttery	Manager, Clinical Evidence (former)
Dr Dannii Dougherty	Manager, Clinical Evidence
Prof Garry Jennings	Chief Medical Advisor
Jasmine Just	Senior Medical Writer, Clinical Evidence
Carol Kilkenny	Senior Evidence and Policy Advisor, Clinical Evidence (former)
Victoria Leitch	Acting Manager (former) and Senior Medical Writer, Clinical Evidence
Natalie Walton	Heart Health Coordinator, Clinical Evidence (former)

External contributors

Royal Australasian College of Surgeons team

Name	Position
Ning Ma	Project Team Leader (project oversight)
Dr Tom Vreugdenburg	Project Team Leader (day-to-day management)
Dr Alun Cameron	Senior Research Officer
Dr Alvin Atlas	Senior Research Officer
Dr Ming Min	Research Officer (support researcher)
Dr Elise Rochet	Research Officer (support researcher)

Independent Reviewer

Name	Position
Prof Derek Chew	Director of Cardiology Victorian Heart Hospital, Monash Health

Supplementary material 2: Process for developing the guideline

Introduction

In 2019-20, a formal prioritisation process for clinical guideline development was undertaken by the Heart Foundation [2], and the *2016 Australian clinical guideline for the management of ACS* was identified as the highest priority to update.

The updated guideline was developed based on the Grading of recommendations assessment, development, and evaluation (GRADE) methodology [3]. It is also informed by the 2016 NHRMC *Standards for Guidelines* [1], adapting them where necessary to align with the unique and specific requirements of the guideline.

Developing the guideline scope and clinical questions

Between the second and third quarter of 2022, the Expert Steering Group and Expert Subgroups developed the guideline scope and clinical questions, which were prioritised based on gaps identified in published international guidelines, literature review, priorities and choices faced by health professionals, and values and preferences of people with lived or living experience. The guideline scope was shared with, and feedback received from reference group organisations and the consumer advisory panel. The guideline clinical questions were expressed in patient/population, intervention, comparison, outcome, time, setting (PICOTS) format. An independent literature review was conducted based on these PICOTS questions (see Supplementary table 1).

Supplementary table 1: List of clinical questions for evidence review.

	PICOTS Question
1	In emergency patients with suspected non-ST-segment-elevation acute coronary syndromes (NSTEACS), risk scores (e.g. emergency department assessment of chest pain score (EDACS)/history, electrocardiogram (ECG), age, risk factors, and troponin (HEART)/Thrombolysis in myocardial infarction (TIMI)/The Global Registry of Acute Coronary Events (GRACE)) in addition to high sensitivity troponin-based algorithms (that include ECG assessment) in comparison to high sensitivity (HS) troponin-based strategies alone provide significant benefits to patients and healthcare services (e.g. improved safety for index acute myocardial infarction (AMI) or 30-day major adverse cardiovascular events (MACE)/improved discharge rates). a. Define MACE – AMI and cardiac death (not revascularisation). b. Define outcomes – reduced false negative (FN) rate for index AMI vs reduced FN rate for MACE.
2	In the primary care/outpatient setting, patients with chest pain and possible ACS, risk scores (e.g. HEAR/HEART/EDACS) can identify a low-risk cohort who can be safely managed and investigated without referral to the emergency department (ED)/hospital setting +/- troponin testing. OR is there a risk score + ECG which can identify patients presenting for assessment of chest pain or other symptoms of ACS that are so low risk they do not require troponin testing? a. Define chest pain or anginal equivalents.

	b. Define assessment needed – ECG.
3	In patients with occlusion myocardial infarction (OMI)/acute coronary occlusion (ACO) what ECG findings identify occlusion at invasive coronary angiography (ICA)?
4	In patients with chest pain presenting to rural and remote hospitals, what models of care or decision support at a system level improve diagnosis and management of those with acute coronary syndromes?
5	In adult patients presenting to ED with suspected ACS, what are the time- and assay-dependent performance characteristics of biomarkers in diagnosing AMI? How do these performance characteristics vary according to: a. Assay type (Troponin I (TnI) or Troponin T (TnT)), sensitive or highly sensitive assays, point of care or laboratory assays? b. Timing (on admission, or at two hours, four hours, six hours or 12 hours after admission or after symptom onset)?
6	In adult patients presenting to ED with suspected ACS and in whom AMI has been ruled out: a. Which subsequent test (exercise stress test (EST), stress echocardiography (ECHO), nuclear medicine testing (myocardial perfusion imaging), CT coronary angiogram (CTCA) (not CTCA with fraction flow reserve (FFR)) is most accurate and cost effective in detecting or ruling out symptomatic coronary (or myocardial) ischaemia? b. When should the test be performed (e.g. within 72 hours, within 30 days)? Are there different timeframes for different risk cohorts? c. Are there subgroups in whom further testing is unnecessary?
7	In adult patients presenting with resuscitated out-of-hospital cardiac arrest and without ST elevation on the ECG, how does the use of immediate coronary angiography versus delayed/selective coronary angiography affect the outcomes of in-hospital major cardiovascular events or death, in-hospital complications of bleeding and renal failure/kidney function and length of stay, and 30-day or six-month major cardiovascular events or death?
8	In adult patients presenting with confirmed ACS, how does the use of risk stratification pathways/protocols, objective risk scores (e.g. TIMI score, GRACE score), bleeding risk scores or biomarkers (e.g. B-type natriuretic peptide (BNP), troponin) affect the following outcomes: a. risk of in-hospital major adverse cardiac events or death b. risk of 12-month major adverse cardiac events or death c. risk of in-hospital bleeding d. risk of 12-month bleeding.
9	In patients with high ischaemic risk (thrombus, no-flow, slow-flow) receiving percutaneous coronary intervention (PCI) for ACS, does the use of glycoprotein IIb/IIIa (GP IIb/IIIa) inhibitors affect clinical outcomes including MACE and bleeding compared to not using GPIIb/IIIa inhibitors?
10	In patients following an ACS, stratified by presence and mode of revascularisation during index admission (surgery/PCI/neither), what duration (one, three, six or 12 months) of dual antiplatelet therapy results in the lowest incidence of:

	a. recurrent ischaemic events (cardiovascular death/myocardial infarction [MI]) b. bleeding c. net adverse clinical outcome (composite of recurrent ischaemic and bleeding events).
11	In all hospitalised ACS patients with normal left ventricular ejection fraction (LVEF), what is the evidence that medicines (e.g. beta blockers, angiotensin-converting enzyme (ACE) inhibitors, angiotensin II receptor blockers (ARBs), colchicine), aside from antithrombotic, lipid-lowering agents, improve morbidity and mortality at and beyond 12 months?
12	In all hospitalised ACS patients, does referral/participation/completion of a multimodal form of cardiac rehabilitation (including web-based, telehealth, general practice, telephone, home-based, or combinations) improve patient-reported outcomes, risk profile and MACE compared to eligible counterparts participating in standard outpatient-based exercise-based cardiac rehabilitation (phase two programs)?
13	In all hospitalised ACS patients, particularly the underserved and minorities (women, older adults, regional and remote, First Nations Peoples, culturally and linguistically diverse, low socioeconomic groups), does timing and type of follow-up (by who (clinicians, automated systems), how (phone call, text message, letter, email) and how often (including multidisciplinary i.e. types of clinicians, types of communication, frequency and content)) since leaving hospital improve titration of therapies, cardiac rehabilitation attendance, transition of care, patient-reported outcomes and morbidity compared to standard outpatient follow-up?

Literature review and evidence synthesis

The Royal Australasian College of Surgeons was appointed to conduct the literature review through an open tender process in September 2022. The literature review sought published studies from January 2015 to December 2022. Evidence summaries were completed in the first quarter of 2023 and circulated to the ESG and Expert Subgroups for review and approval. The ESG and Expert Subgroup members were given the opportunity to submit queries about or identify gaps in the evidence prior to approving the evidence summaries. The technical report is available upon request through the Heart Foundation.

Evidence summaries were supplemented with additional studies identified from conference attendances, searching reference lists, database alerts and relevant international guidelines where the recommendations were adopted or adapted for this guideline. If relevant and pertinent to the recommendations, studies published after the literature search dates were included.

GRADE methodology for developing recommendations

The recommendations were developed by the expert groups using the GRADE methodology. The GRADE approach offers a transparent and structured process for developing and presenting evidence summaries and recommendations [3].

Each recommendation was developed using an ‘Evidence to recommendation’ template, to ensure that the strength of the recommendation was determined based on the balance between benefits and harms, certainty of evidence, preferences and values of the target population, and resource considerations.

Applying GRADE methods to the certainty of evidence and strength of recommendation

Certainty of evidence

In the context of developing recommendations, the certainty of evidence reflects the extent to which the confidence in the estimates of an effect is adequate to support a particular decision [3].

Using the GRADE approach, the certainty of evidence for each recommendation was categorised using one of four grades listed below.

Certainty of evidence	What it means
High	The authors are very confident that the true effect lies close to that of the estimate of the effect.
Moderate	The authors are moderately confident in the effect estimate: the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.
Low	The authors' confidence in the effect estimate is limited: the true effect may be substantially different from the estimate of the effect.
Very Low	The authors have very little confidence in the effect estimate: the true effect is likely to be substantially different from the estimate of the effect.

The GRADE approach to rating the level of certainty begins with the study design (trials or observational studies), which can then be upgraded or downgraded based on the factors listed below.

Adapted with permission from Elsevier [4].

Study design	Certainty of evidence	Lower level of certainty if:	Higher level of certainty if:

Randomised trial	• High (further research is very unlikely to change our confidence in the estimate of effect)
	• Moderate (further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate)
		• Risk of bias (serious [− 1]; very serious [− 2])
		• Inconsistency (serious [− 1]; very serious [− 2])
		• Indirectness (serious [− 1]; very serious [− 2])
		• Imprecision (serious [− 1]; very serious [− 2])
		• Publication bias (likely [− 1]; very likely [− 2])
			• Large effect (large [+1]; very large [+2])
			• Evidence of a dose–response gradient (+1)
			• All plausible confounding has been accounted for which would otherwise:
			  ○ reduce a demonstrated effect (+1)
			  ○ suggest a spurious effect when results show no effect (+1)

Observational study	• Low (further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate)		

	• Very low (any estimate of effect is very uncertain)		

Strength of recommendation

The GRADE approach defines the strength of a recommendation as the extent to which one can be confident that the desirable effects of an intervention outweigh the undesirable effects [3].

There are two strengths of recommendation: weak or strong.

Strength of recommendation	What it means
Strong	The authors are confident that the desirable effects of adherence to a recommendation outweigh the undesirable effects. It implies that most or all individuals will be best served by the recommended course of action.
Weak	The authors concluded that the desirable effects of adherence to a recommendation probably outweigh the undesirable effects, but are not certain. It implies that not all individuals will be best served by the recommended course of action.

The direction (for/against) and strength of a recommendation were determined based on four key domains listed below.

Adapted with permission from GRADE Handbook [3].

Domain	Comment
Balance between desirable and undesirable outcomes (trade-offs) taking into account: • best estimates of the magnitude of effects on desirable and undesirable outcomes • importance of outcomes (estimated typical values and preferences).	The larger the differences between the desirable and undesirable consequences, the more likely a strong recommendation is warranted. The smaller the net benefit and the lower certainty for that benefit, the more likely a weak recommendation is warranted.
Confidence in the magnitude of estimates for the effect of the interventions on important outcomes (overall quality of evidence for outcomes)	The higher the quality of evidence, the more likely a strong recommendation is warranted.
Confidence in values and preferences, and their variability	The greater the variability in values and preferences, or uncertainty about typical values and preferences, the more likely a weak recommendation is warranted.
Resource use	The higher the costs of an intervention (the more resources consumed), the less likely a strong recommendation is warranted.

Recommendations were categorised as either:

- **Strong:** when judgements in all domains supported a recommendation either for or against an intervention or clinical action.
- **Weak:** when judgements were equivocal or contradictory. A weak recommendation applies to most situations, but there may be exceptions, as specified, or up to the judgement of the health practitioner and patient after considering the potential benefits and risks for the individual.

Recommendations were categorised as 'consensus' where there was high certainty that the desirable effects of an intervention clearly outweigh its undesirable effects, but the body of supportive evidence was indirect and application of the GRADE approach to rate the certainty of evidence or strength of recommendation was inappropriate.

Consensus recommendations were evaluated against the following five criteria:

1) Is collecting and summarising the evidence a poor use of a guideline panel's limited time and energy (opportunity cost is large)?
2) Is the message important for actual health care practice?
3) After consideration of all relevant outcomes and potential downstream consequences, does implementing the consensus recommendation result in a large net positive consequence?
4) Is there a well-documented clear and explicit rationale connecting the indirect evidence?
5) Is the statement clear and actionable?

Consensus recommendations were based on the expert opinion of the ESG and Expert Subgroup members, with consideration of relevant available evidence, values, preferences and resource use at the time of writing, in consultation with the expert committees. Consensus was established when majority of the members of the expert groups supported the decision with a focus on the healthcare environment within Australia and the need for pragmatic guidance where robust evidence is unavailable.

Each of the recommendations and accompanying narratives were drafted by the Expert Subgroups, then reviewed and refined by the ESG, Reference Group, Consumer Advisory Panel, Heart Foundation Heart Health Committee and CSANZ Quality Standards Committee.

It is important to note that the GRADE methodology also takes into account the importance of the recommendation. These are recommendations that are not necessarily related to the quality or certainty of the evidence, but that reflect the extent to which the recommendation will impact on the health status or quality of life of the target population. This allows for a strong recommendation to be made even if the certainty of the evidence is low due to the importance of the recommendation.

Practice points are statements that that may be actionable and often describe the how, who, where, what, and when related to implementing a recommendation. They may contain information supporting elements of a recommendation (e.g., medication dosing). They may also include information about tools and tips that enhance implementation of the chosen intervention and/or its efficient utilisation. Practice points are not actionable without related recommendations.

Practice points were developed with consideration of the geographical challenges in Australia and availability of resources in Australian healthcare settings. Where there were specific practice points, evidence and/or resources relevant to underserved populations, this was included under a separate heading in the section. A dedicated Consumer Advisory Panel,

representing people with lived or living experience of cardiovascular disease in Australia, was drawn upon to help determine the values and preferences domains.

Drafting the guideline

Between the second and fourth quarter of 2023, the expert groups drafted the guideline content and recommendations. In the first quarter of 2024, an independent reviewer was commissioned to assess the comprehensiveness and balance of the scientific evidence, certainty of evidence and rationale for each recommendation.

The Heart Foundation medical writers brought together the recommendations and content produced by the Expert Subgroups into a full draft guideline which was reviewed and approved by the Expert Steering Group.

In September 2024, the Heart Foundation and CSANZ committees were consulted on the first full draft of the guideline prior to public consultation.

Public consultation

In accordance with the 2016 NHMRC *Standards for Guidelines* [1], the public consultation process was conducted over a period of 30 days between September to October 2024. The purpose of this review was to improve the guideline's quality, legitimacy and its acceptability to end users and the public. A combination of both open and targeted consultation methods was used. A register of all feedback received and how it was managed is available on request.

Endorsement

Once the draft guideline has been finalised for publication, the Heart Foundation will contact reference group members for endorsement.

Supplementary material 3: Conflict of interest

Conflict of interest process

The Guideline Expert Steering Group acknowledges the importance of both transparency and appropriate management of conflicts of interest (COI). COI were considered within a framework of both the relationship (direct or indirect) of the participating individual to any third party with interest in the topic under consideration within the guideline development process, and the nature (financial and non-financial) of the potential conflict.

The Conflict of Interest Policy was based on the NHMRC's *Policy on the Disclosure of Interests Requirements for Prospective and Appointed NHMRC Committee Members* [5] and NHMRC *Guidelines for Guidelines Handbook [6]*. A copy of the Conflict of Interest Policy can be supplied upon request.

What is considered a relevant conflict of interest?

As per the 2016 NHMRC *Standards for Guidelines*, interest is defined as 'any direct or indirect, pecuniary or non-pecuniary interest'. A conflict of interest arises when there is a risk that a person's professional judgment or actions regarding a primary interest (i.e. this guideline) will be unduly influenced by a secondary interest (such as financial gain).

Examples of interests:

- Financial interests, such as receipt by the member or their 'immediate family members' of payments, honoraria or grants from an entity or individual having a commercial interest in the issues being considered by the expert group.
- Any other relevant direct or pecuniary interest (for instance, having provided expert testimony for a fee on behalf of an entity with a commercial interest in the issues being considered by the expert group).
- Working and personal relationships, including board membership and employment at the same organisation.
- Affiliations or associations with organisations or activities which could reasonably be perceived to be an influence due to a competing interest.
- Institutional interests.
- Having recently (within the last three years) been involved in the development of related guidelines, standards, or policies.
- Receipt of research funding by the prospective member or immediate family members from any entity that has a commercial interest in the issues being considered by the advisory group.

The nature of potential conflicts includes:

1. **High-level benefit** – position held, or direct investment in an activity that provides cash or in-kind incentives.

2. **Low-level benefit** – position held, or *ad hoc* or indirect investment in an activity that provides cash or in-kind incentives.

3. **No benefit** – position held, or investment in an activity that does not provide cash incentives.

Managing conflicts of interest

Conflicting interests among the guideline expert groups required appropriate management to ensure clinical recommendations were not compromised. Processes employed by the Heart Foundation aimed to ensure the integrity of guideline developers and to strike an appropriate balance between the existence of 'interests' in a topic under review and the expertise required to make sound and meaningful recommendations.

Conflicts of interest were managed as follows:

- Open disclosure of all COI to all members of the expert group and public declaration of all COI in the guideline. Members were expected to disclose COI at commencement of membership and also to update the expert group during the project if there were any changes to this declaration.
- COI declarations were revisited at each expert group meeting (including the ESG and Expert Subgroup meetings) to ensure new disclosures were recorded.
- If a COI disclosure was deemed significant, individuals would have been restricted from involvement in discussions and decisions on related topics. In circumstances where a COI was disclosed, the process of managing the disclosure included:
    - limited involvement in the deliberation of the evidence, with possibility of bias noted
    - limited involvement in discussions on the wording, structure or intent of the clinical recommendation
    - limited involvement in the formulation of the clinical recommendation relevant to disclosure of a conflict.

Conflict of interest register - summary

Member and role	Employment/Current Position	Declared Interests
Expert Steering Group Members		
Professor Louise Cullen Co-chair of the Expert Steering Group Chair of the Assessment and Diagnosis Subgroup	Pre-Eminent Staff Specialist, Emergency Medicine, Royal Brisbane and Women's Hospital Professor, Queensland University of Technology Professor (Clinical), University of Queensland	<u>Low-level benefit:</u> Personal: • Speaker fees from Abbott Diagnostics, Beckman Coulter, Siemens Healthineers. • Advisory Board member for Siemens Healthineers, GlyCardial Diagnostics, Radiometer, Abbott Diagnostics, Roche, Quidel/Ortho Diagnostics. Non-personal: • Cullen L, Parsonage W, Stephensen L, Starmer G, Greenslade J, Tyack Z, McKivett A, Chew D, Hillis G, Goodman A, Rahman Ihdayhid A, Mahoney R, Cramb S, McCreanor V. Clinical and health economics implications of routine CTCA for emergency department assessment of Aboriginal and Torres Strait Islander people at risk of acute coronary syndrome (The Powerful Pictures Study) NHMRC 2022 Medical Research Future Fund (MRFF) Cardiovascular Health Mission Grant, 20228112022/MRF2022811 $1,488,717.00. • International Federation of Clinical Chemistry and Laboratory Medicine (IFCC) Committee on Clinical Applications of Cardiac Bio-Markers (C-CB) member 2023 – 2026. • Queensland Advancing Clinical Research Fellowship. Queensland Health. 2023-2026, $249,648. • NHMRC Development Grant: Development of a first-in class therapeutic for protecting the ischaemic heart, (GNT 126982) $926,673.00. • NHMRC Partnerships Project: Difficult peripheral intravenous catheter insertion: Australian consideration for sustainable implementation of ultrasound guided procedures, (GNT 1180193) $1,497,197.00.

Member and role	Employment/Current Position	Declared Interests
		• NHMRC Partnerships Project: Optimizing evidence translation in the high-risk time-critical environment of the emergency management for suspected cardiac chest pain (RAPIDx), (GNT 1191914) $1,230,000 + in kind. • Emergency Medicine Foundation: Coronary Artery Disease in Aboriginal and Torres Strait Islander People, (EMLE-202R36-2021-STARMER) $100,000. • NHMRC Ideas Grant: Biosensor based clinical-decision support for patients with heart failure, (GNT 2002576) $691,933.40. • Emergency Medicine Foundation JumpStart Grant: Relief of chest pain in the Emergency Department (RELIEF). Co-investigator (Grant ID: EMJS-363R34-2020-BROWNLEE) $36,396. • NHMRC Partnerships Project: The Limit of Detection in the Emergency Department Trial: A stepped-wedge cluster randomization trial for rapid assessment of patients with suspected acute coronary syndrome in the Emergency Department, (GNT 1193269) $532,120. • Medical Research Future Fund (MRFF) Rapid Applied Research Translation Program: Validation of an accelerated diagnostic protocol for Aboriginal and Torres Strait Islander patients presenting to an emergency department (ED) with suspected acute coronary syndrome, $235,254. • MRFF Rapid Applied Research Translation Program: The Limit of Detection in the Emergency Department Trial (LEGEND), $194,682. • Emergency Medicine Foundation Capacity Building Grant: Capacity Building Grant II: Emergency & Trauma Centre, Royal Brisbane and Women's Hospital, $70,000. • Support for cardiac biomarker evaluation from Siemens, Abbott Diagnostics, Beckman Coulter.
Professor David Brieger Co-chair of the Expert Steering Group Chair of the Hospital Care and	Head of Coronary Care, Concord Repatriation General Hospital Professor in Medicine, Concord Clinical School, ANZAC Research	<u>Low-level benefit:</u> Personal: • Speaker/consulting honoraria and/or research grant support from Amgen, AstraZeneca, Bayer, Boehringer Ingelheim, BMS, Eli Lilly, Merck and Sanofi. • Advisory committee member for The Limbic for cardiovascular educational events.

Member and role	Employment/Current Position	Declared Interests
Reperfusion Subgroup Member of the Recovery and Secondary Prevention Subgroup	Institute, The University of Sydney	Non-personal: • NHMRC: Centre for Research Excellence in Cardiovascular Outcomes Improvement, (GNT 1111170) $2,500,000. • Department of Health (Federal)/MRFF - International Clinical Trials Collaborations Program: Anticoagulation for Stroke Prevention In patients with Recent Episodes of perioperative Atrial Fibrillation after noncardiac surgery - The ASPIRE-AF trial, (2022/MRF2015330) $1,816,175.10. • NHMRC Synergy Grant: Solving the long-standing evidence-practice gap associated with cardiac rehabilitation and secondary prevention of coronary heart disease (SOLVE CHD), (GNT 118230) $5,000,000. • NHMRC: COLchicine CARDIovascular Outcomes in Acute Coronary Syndrome (COLCARDIO-ACS) Study, (GNT 1187193) $4,238,895. • NHMRC Ideas Grant: Learning what works and for which patients: efficient framework and novel technologies for precision comparative effectiveness research, (GNT 1184304) $587,183. • Support for research analysis of heart failure data sets from Novartis. <u>No benefit:</u> Personal: • Chair of The Australasian Cardiac Outcomes Registry Limited (ACOR) Ltd. Board of Directors
Professor Tom Briffa Chair of the Recovery and Secondary Prevention Subgroup	Professor, School of Population and Global Health, University of Western Australia	<u>Low-level benefit:</u> Non-personal: • MRFF Cardiovascular Health Mission Research Grant: Guardian Angel: Implementation of a peer support program for people with heart disease, (MRFF2007669) $655,522.17.

Member and role	Employment/Current Position	Declared Interests
	Head of Cardiovascular Research Group and Centre for Health Services Research, The University of Western Australia Honorary Professorial Fellow, The George Institute for Global Health	• Heart Foundation Secondary Prevention Strategic Grant: Secondary Prevention for All in Need (SPAN) after myocardial infarction: a comparative effectiveness randomised trial, (ID: 105531) $999,034. • NHMRC Partnerships Project: Optimizing evidence translation in the high-risk time-critical environment of the emergency management for suspected cardiac chest pain (RAPIDx), (GNT 1191914) $1,230,000 + in kind. • NHMRC Synergy Grant: Solving the long-standing evidence-practice gap associated with cardiac rehabilitation and secondary prevention of coronary heart disease (SOLVE CHD), (GNT 118230) $5,000,000. • NHMRC/MRFF International Clinical Trial Collaborations Grant: The Early valve replacement in severe ASYmptomatic aortic stenosis (EASY AS) trial, (GNT 1170844) $1,827,443. • HCF Research Foundation Grant: Better use of angiography in managing undifferentiated chest pain, $240,000. • Abbott Australasia: Outcomes in patients treated with Bioresorbable Vascular Scaffolds in public hospitals of Western Australia, $17,550. • NHMRC: The appropriateness of coronary investigation in myocardial injury and type 2 myocardial infarction (ACT-2), (GNT 1146512). • NHMRC: Is highly-sensitive troponin testing advancing clinical practice, improving outcomes and cost-effective in the investigation and management of chest pain in the Emergency Department? (GNT 1122792) $1,193,965.80. • Government of Western Australia, Department of Health: West Australian Cardiac Outcomes Registry (WACOR): Does routine stratification for competing risks at the time of diagnosis of Acute Coronary Syndromes improve outcomes and lower health care costs? • Government of Western Australia, Department of Health: RTP - Round 11 - Cost effectiveness of extending the Phase 3 community pulmonary rehabilitation program beyond the recommended 10 weeks. • Government of Western Australia, Department of Health: The RADICAL project: Impact of Rapid Access to cardiology Determined multi-modality testing among Individuals presenting with new onset Chest pain: improving quality, efficiency and cost effectiveness at Royal Perth Hospital.

Member and role	Employment/Current Position	Declared Interests
		No benefit: Personal: • Unpaid member of the Heart Foundation Clinical Committee.
Dr Sasha Bennett Member of the Recovery and Secondary Prevention Subgroup	Executive Officer, NSW Therapeutic Advisory Group St Vincent's Hospital Cardiac Rehabilitation	Low-level benefit: Non-personal: • MRFF Quality, Safety and Effectiveness of Medicine Use and Medicine Intervention by Pharmacists Grant: A systems-approach to enhancing community-based medication review. • MRFF 2020 Dementia, Ageing and Aged Care Grant: Knowledge brokers for evidence translation to improve quality use of medicines in residential aged care, $1,952,566.00.
Professor Robyn Clark Member of the Recovery and Secondary Prevention Subgroup	Matthew Flinders Emeritus Professor, Flinders University Adjunct Professor, South Australian Health and Medical Research Institute (SAHMRI) Adjunct Professor, University of South Australia	High-level benefit: Non-personal: • Heart Foundation Future Leader Fellow Low-level benefit: Personal: • Member of the Boehringer Advisory Board Boston 2019. • Accommodation/meals/travel support as member of the Boehringer Advisory Board Boston 2019. Non-personal:

Member and role	Employment/Current Position	Declared Interests
	Adjunct Professor, Queensland University of Technology	• NHMRC Partnerships Project: The Country Heart Attack Prevention Project, (GNT 1169893) $3.2 million. Novartis/Astra Zeneca are partners in this study. • Heart Foundation Partnership Engagement Grant: The Country Heart Attack Prevention (CHAP) Project, (ID: 102325) $150,000. • NHMRC Partnerships Project: Heart Matters: Heart Safe Communities partnership to improve cardiovascular awareness and response to symptoms in regions at highest risk of heart attacks, (GNT 1180282) $ 905,714.50. • Heart Foundation Vanguard Grant: Standardised ACS discharge and medication education using Avatars to prevent 30-day readmission, (ID: 102990) $149,452. • The Pinnaroo Project, $17,000. • National Breast Cancer Award: Heart in Breast Cancer, $700,000. • The Hospital Research Foundation: The CREW Project, $148,000. • Flinders Foundation: Cardiac Rehabilitation for CR4ALL, $25,000. • Safe@Home Telemonitoring Hospital Avoidance Program (ARC Digital Health CRC), $1,200,868.
Resigned from position on 13th September 2022 Professor Stephen Duffy Member of the Hospital Care and Reperfusion Subgroup	Interventional and Structural Cardiologist, The Alfred Hospital Adjunct Professor, Centre of Cardiovascular Research and Education in Therapeutics, Monash University,	<u>Low-level benefit:</u> Personal: • Payment or other support as proctor for transcatheter aortic valve implantation (TAVI) procedures for Medtronic. Non-personal: • NHMRC Centre of Research Excellence in Cardiovascular Outcomes Improvement (GNT 1111170), $2,500,000.00. • Clinical Lead, Melbourne Interventional Group Registry (MIG). The MIG acknowledges funding from Abbott Vascular, AstraZeneca, Biotronik, Boston Scientific, Johnson & Johnson, Medtronic, Pfizer, Schering-Plough, Sanofi-Aventis, Servier, St. Jude Medical, and Terumo.

Member and role	Employment/Current Position	Declared Interests
		<u>No benefit:</u> Personal: • Unpaid member of the Heart CSANZ Quality Standards Committee. • CSANZ Honorary Treasurer/Assistant Secretary. Non-personal: • Steering committee member of the Victorian Cardiac Outcomes Registry.
Darren Hicks Chair of the Consumer Advisory Panel	City of Bayswater	<u>Low-level benefit:</u> Personal: • Involved in a research trial (MiSmartHeart) with Monash University – I will be given a gift of $200 at the completion of this trial. <u>No benefit:</u> Personal: • Member of the SOLVECHD Consumer Advisory Group. • Member of the MyHeart MyLife Consumer Advisory Group.
Dr Cynthia Papendick Member of the Assessment and Diagnosis Subgroup	Emergency Physician, Royal Adelaide Hospital	<u>Low-level benefit:</u> Personal: • Honoraria from Roche for presenting research <$3500 over past three years. • Travel and accommodation support from Roche Diagnostics for presenting research <$15000 over past three years.

Member and role	Employment/Current Position	Declared Interests
	Associate Professor, University of Adelaide, School of Medicine	• Advisory Board member for Roche Diagnostics development of 6th Gen Troponin T assay, payment of $2400 USD over three years to provide advice regarding the conduct of data analysis and interpretation of the Elecsys® Troponin T high sensitivity Gen 6 assay. Non-personal: • Central Adelaide Local Health Network CEO Grant. • Restricted Educational Grant from Roche Diagnostics for analysis of pre and post implementation of high sensitivity troponin in SA Health, $300,000. • NHMRC Partnerships Project: Optimizing evidence translation in the high-risk time-critical environment of the emergency management for suspected cardiac chest pain (RAPIDx), (GNT 1191914) $1,230,000 + in kind. <u>No benefit:</u> Non-personal: • Steering committee member of the State-wide Cardiology Network of South Australia.
Resigned from position on 24th October 2022. Dr Greg Starmer Member of the Assessment and Diagnosis Subgroup	Clinical and Interventional Cardiologist, Cairns Base Hospital Adjunct Senior Lecturer, James Cook University, School of Medicine and Dentistry	<u>Low-level benefit:</u> Personal: • Speaker fees received from Bayer. • Membership of Medtronic Advisory Board 2019. Non-personal: • Hospitality meal for educational journal club. <u>No benefit:</u>

Member and role	Employment/Current Position	Declared Interests
		Non-personal: • Member of the Queensland State-wide Cardiac Clinical Network.
Joined 20th September 2022 Professor Liza Thomas Member of the Hospital Care and Reperfusion Subgroup	Interventional and Consultant Cardiologist, Westmead Hospital Principal Investigator, Westmead Applied Research Centre, Faculty of Medicine and Health, University of Sydney Conjoint Professor, University of Sydney and University of New South Wales	<u>Low-level benefit:</u> Personal: • Member of Pfizer's Tafamidis Advisory Board. • Advisory committee member for Sanofi Genzyme for Fabry disease. • Advisory committee member for Boehringer Ingelheim for heart failure therapies. • Advisory committee member for Bayer for chronic kidney disease and finerenone. • Advisory committee member for Novartis for heart failure therapies and biomarkers. • Paid speaker for Sanofi Genzyme for cardiac involvement in Fabry disease. • Paid speaker for Novartis for imaging in heart failure. • Paid speaker for Bayer for cardiovascular symposium. • Paid speaker for Shire for Fabry disease and cardiac manifestations. • Paid speaker for Janssen for diagnosing pulmonary hypertension. • Accommodation/meals/travel support from Pfizer for European Society of Cardiology (ESC) Congress (virtual). • Accommodation/meals/travel support from Bayer for ESC Congress. • Investigator initiated research (IIR) grant from Sanofi Genzyme. • IIR grant from Bayer. • IIR grant from Janssen. Non-personal: • Department of Health (Federal)/MRFF - International Clinical Trials Collaborations Program: Anticoagulation for Stroke Prevention In patients with Recent Episodes of perioperative Atrial Fibrillation after noncardiac surgery - The ASPIRE-AF trial, (2022/MRF2015330) $1,816,175.10.

Member and role	Employment/Current Position	Declared Interests
		• OHMR grant: Cardiovascular Collaborative Grant under the NSW Cardiovascular Research Capacity Program, Defining atrial muscle dysfunction for identifying patients with atrial cardiomyopathy, $1 million. • NHMRC Clinical Trials and Cohort Studies Grants: Atrial Myopathy and Embolic Stroke (AMES) trial (co-investigator), (2032210) $3,743,489.60.
Dr Edwina Wing-Lun Member of the Assessment and Diagnosis Subgroup	Interventional and Consultant Cardiologist, Royal Darwin Hospital Contractor Cardiologist, NT Cardiac, Darwin Private Hospital PhD Candidate, University of Sydney	<u>Low-level benefit:</u> Non-personal: • National Heart Foundation of Australia/2020 Strategic Grant - Women and Heart Disease, $1,000,000. <u>No benefit:</u> Non-personal: • Unpaid member of the Heart Foundation Northern Territory Local Advisory Board.
Associate Professor Sarah Zaman Member of the Hospital Care and Reperfusion Subgroup	Interventional Cardiologist & Clinical Academic, Westmead Hospital and the University of Sydney Honorary Academic, School of Clinical Sciences at Monash Health, Monash University	<u>Low-level benefit:</u> Personal: • Speaker honoraria received to talk at educational events: Heart Foundation Webinar (sponsored by Terry White Chemists). • Speaker honoraria from AstraZeneca, Boehringer Ingelheim, Amgen. • Advisory committee member for Therapeutic Guidelines (cardiovascular guidelines 2021). • Advisory committee member for sudden cardiac death clinical trial group for Medtronic 2021. • Advisory committee member for The Limbic for cardiovascular educational events.

Member and role	Employment/Current Position	Declared Interests
		Non-personal: • NSW Health/Elite Postdoctoral Researcher Grant: Women and Heart Disease - Problems and Solutions. • CSANZ-Bayer Young Investigator Research Grants: Australian New Zealand Spontaneous Coronary Artery Dissection (ANZ-SCAD) Registry. • Heart Foundation Strategic Grant – Women and Heart Disease. Primary Prevention of Cardiovascular Disease in Young and Middle-aged Women with Non-Traditional Risk Factors Utilising Coronary Artery Calcification, (ID: 105539) $1,000,000. • Heart Foundation Future Leader Fellowship Atherosclerotic Heart Disease in Women – Sex-Specific Prevention, Recognition and Management, (ID: 102627) $535,120.00. • Research grant of $50,000 received to my institution from Abbott Vascular (to be received in June 2022) to support the Spontaneous Coronary Artery Dissection Registry.
Assessment and Diagnosis Expert Subgroup Members		
Professor Louise Cullen Co-chair of the Expert Steering Group Chair of the Assessment and Diagnosis Subgroup	Pre-Eminent Staff Specialist, Emergency Medicine, Royal Brisbane and Women's Hospital Professor, Queensland University of Technology Professor (Clinical), University of Queensland	<u>Low-level benefit:</u> Personal: • Speaker fees from Abbott Diagnostics, Beckman Coulter, Siemens Healthineers. • Advisory Board member for Siemens Healthineers, GlyCardial Diagnostics, Radiometer, Abbott Diagnostics, Roche, Quidel/Ortho Diagnostics. Non-personal: • Cullen L, Parsonage W, Stephensen L, Starmer G, Greenslade J, Tyack Z, McKivett A, Chew D, Hillis G, Goodman A, Rahman Ihdayhid A, Mahoney R, Cramb S, McCreanor V. Clinical and health economics implications of routine CTCA for emergency department assessment of Aboriginal and Torres Strait Islander people at risk of acute coronary syndrome (The Powerful Pictures Study) NHMRC 2022 Medical Research Future Fund (MRFF) Cardiovascular Health Mission Grant, 20228112022/MRF2022811 $1,488,717.00.

Member and role	Employment/Current Position	Declared Interests
		• International Federation of Clinical Chemistry and Laboratory Medicine (IFCC) Committee on Clinical Applications of Cardiac Bio-Markers (C-CB) member 2023 – 2026. • Queensland Advancing Clinical Research Fellowship. Queensland Health. 2023-2026, $249,648. • NHMRC Development Grant: Development of a first-in class therapeutic for protecting the ischaemic heart, (GNT 126982) $926,673.00. • NHMRC Partnerships Project: Difficult peripheral intravenous catheter insertion: Australian consideration for sustainable implementation of ultrasound guided procedures, (GNT 1180193) $1,497,197.00. • NHMRC Partnerships Project: Optimizing evidence translation in the high-risk time-critical environment of the emergency management for suspected cardiac chest pain (RAPIDx), (GNT 1191914) $1,230,000 + in kind. • Emergency Medicine Foundation: Coronary Artery Disease in Aboriginal and Torres Strait Islander People, (EMLE-202R36-2021-STARMER) $100,000. • NHMRC Ideas Grant: Biosensor based clinical-decision support for patients with heart failure, (GNT 2002576) $691,933.40. • Emergency Medicine Foundation JumpStart Grant: Relief of chest pain in the Emergency Department (RELIEF). Co-investigator (Grant ID: EMJS-363R34-2020-BROWNLEE) $36,396. • NHMRC Partnerships Project: The Limit of Detection in the Emergency Department Trial: A stepped-wedge cluster randomization trial for rapid assessment of patients with suspected acute coronary syndrome in the Emergency Department, (GNT 1193269) $532,120. • Medical Research Future Fund (MRFF) Rapid Applied Research Translation Program: Validation of an accelerated diagnostic protocol for Aboriginal and Torres Strait Islander patients presenting to an emergency department (ED) with suspected acute coronary syndrome, $235,254. • MRFF Rapid Applied Research Translation Program: The Limit of Detection in the Emergency Department Trial (LEGEND), $194,682. • Emergency Medicine Foundation Capacity Building Grant: Capacity Building Grant II: Emergency & Trauma Centre, Royal Brisbane and Women's Hospital, $70,000. • Support for cardiac biomarker evaluation from Siemens, Abbott Diagnostics, Beckman Coulter.

Member and role	Employment/Current Position	Declared Interests
Dr Atef Asham	General Practitioner, Practice Principal, Deer Park Medical Centre Research Investigator, Baker Heart and Diabetes Institute	Low-level benefit: No interests declared No benefit: Personal: • Chair of the RACGP Cardiology Specific Interests Group. • Concurrent involvement with the ACDPA Absolute Cardiovascular Risk guideline update.
Dr Angus Baumann Member of the Assessment and Diagnosis Subgroup since January 2023 Member of the Hospital Care and Reperfusion Subgroup	Consultant Cardiologist, Department of Medicine, Alice Springs Hospital Flinders University Rural Clinical School, Flinders University, South Australia	Low-level benefit: Personal: • Financial support from Abbott to run a not-for-profit Echocardiography Course • Speaking Fee from Victorian Heart Hospital for an educational session No benefit: • State representative board member (NT) of the National Cardiac Registry (NCR)
Professor Sally Inglis	Professor, IMPACCT – Improving Palliative, Aged and Chronic Care through Clinical Research and Translation, University of Technology Sydney, Faculty of Health	High-level benefit: Non-personal: • Heart Foundation Future Leader Low-level benefit: Non-personal:

Member and role	Employment/Current Position	Declared Interests
		• NHMRC Partnership Grant safe@home: effectiveness and cost effectiveness of telemonitoring and virtual care supported by primary care for people living with chronic disease in low socioeconomic neighbourhoods for reducing ambulance ramping, readmission and GP clinic block, 2023/GNT2023359, $1,125,678.18. • MRFF Cardiovascular Grant. Replenishing enzymatic cofactor NAD+ in Heart Failure: Rescuing an engine out of fuel, 2022/MRF2024161, $1,499,523.00. • Maridulu Budyari Gumal - The Sydney Partnership for Health, Education, Research and Enterprise (SPHERE): Tele-PC Study. Telehealth: examining cardiovascular patient and clinician experiences of receiving and delivering care during the pandemic to inform 21st Century cardiac care, $40,450. • Heart Foundation Future Leader: Evaluating inequities in access to specialised care and services for people with peripheral arterial disease (PAD) in rural and remote Australia and trialling a telehealth self-care-management program for underserved PAD patients, (ID: 102821) $659,980. <u>No benefit:</u> Personal: • CSANZ Chair of Cardiovascular Nurses Council (2016-2022). • CSANZ Chair of the Professional and Ethical Standards Committee (2022-2025). • Deputy Chair, Executive Committee, NSW Cardiovascular Research Network (2021-2027). • Member, CSANZ Quality and Standards Committee (2020-2026).
Associate Professor Lisa Kuhn	Associate Professor of Nursing, Australian Catholic University, School of Nursing, Midwifery and Paramedicine	<u>Low-level benefit:</u> Non-personal: • Auric Innovation Grant, Cabrini Foundation, Acute Behavioural Disturbance in the Emergency Department, $146,993.

Member and role	Employment/Current Position	Declared Interests
	Registered Nurse and Chair (Nursing), Monash Emergency Research Collaborative (MERC), Monash Health	• MRFF-Clinical Trials Activity Grant, 2022: Just Say No to the Just in Case Cannula: An Implementation Science Trial with Roadmap for National Roll Out. Identifier: 2023389, 2023-2028, A$2,895,091.00. <u>No benefit:</u> Personal: • Member of the Editorial Board of the Australian Critical Care Journal. • Member of the College of Emergency Nursing Australasia (CENA) Research Committee.
Dr Cynthia Papendick Member of the Expert Steering Group	Emergency Physician, Royal Adelaide Hospital Associate Professor, University of Adelaide, School of Medicine	<u>Low-level benefit:</u> Personal: • Honoraria from Roche for presenting research <$3500 over past three years. • Travel and accommodation support from Roche Diagnostics for presenting research <$15000 over past three years. • Advisory Board member for Roche Diagnostics development of 6th Gen Troponin T assay, payment of $2400 USD over three years to provide advice regarding the conduct of data analysis and interpretation of the Elecsys® Troponin T high sensitivity Gen 6 assay. Non-personal: • Central Adelaide Local Health Network CEO Grant. • Restricted Educational Grant from Roche Diagnostics for analysis of pre and post implementation of high sensitivity troponin in SA Health, $300,000. • NHMRC Partnerships Project: Optimizing evidence translation in the high-risk time-critical environment of the emergency management for suspected cardiac chest pain (RAPIDx), (GNT 1191914) $1,230,000 + in kind.

Member and role	Employment/Current Position	Declared Interests
		No benefit: Non-personal: • Steering committee member of the State-wide Cardiology Network of South Australia.
Professor Hans Schneider	General Physician, General Medicine Unit, Alfred Health Director of Pathology, Alfred Health Head of Clinical Biochemistry, Alfred Pathology Service, Alfred Health	Low-level benefit: Non-personal: • Support for ASPREE (ASPirin in Reducing Events in the Elderly) trial from Abbott. • NHMRC: (AI) Is highly-sensitive troponin testing advancing clinical practice, improving outcomes and cost-effective in the investigation and management of chest pain in the Emergency Department?, (GNT 1122792) $1,193,965.80.
Resigned from position on 24th October 2022 Dr Greg Starmer Member of the Expert Steering Group	Clinical and Interventional Cardiologist, Cairns Base Hospital Adjunct Senior Lecturer, James Cook University, School of Medicine and Dentistry	Low-level benefit: Personal: • Speaker fees received from Bayer. • Membership of Medtronic Advisory Board 2019. Non-personal: • Hospitality meal for educational journal club. No benefit:

Member and role	Employment/Current Position	Declared Interests
		Non-personal: • Member of the Queensland State-wide Cardiac Clinical Network.
Dr Edwina Wing-Lun Member of the Expert Steering Group	Interventional and Consultant Cardiologist, Royal Darwin Hospital Contractor Cardiologist, NT Cardiac, Darwin Private Hospital PhD Candidate, University of Sydney	<u>Low-level benefit:</u> Non-personal: • National Heart Foundation of Australia/2020 Strategic Grant - Women and Heart Disease, $1,000,000. <u>No benefit:</u> Non-personal: • Unpaid member of the Heart Foundation Northern Territory Local Advisory Board.
Hospital Care and Reperfusion Expert Subgroup Members		
Professor David Brieger Chair of the Hospital Care and Reperfusion Subgroup Co-chair of the Expert Steering Group	Head of Coronary Care, Concord Repatriation General Hospital Professor in Medicine, Concord Clinical School, ANZAC Research Institute, The University of Sydney	<u>Low-level benefit:</u> Personal: • Speaker/consulting honoraria and/or research grant support from Amgen, AstraZeneca, Bayer, Boehringer Ingelheim, BMS, Eli Lilly, Merck and Sanofi. • Advisory committee member for The Limbic for cardiovascular educational events. Non-personal: • NHMRC: Centre for Research Excellence in Cardiovascular Outcomes Improvement, (GNT 1111170) $2,500,000.

Member and role	Employment/Current Position	Declared Interests
		• Department of Health (Federal)/MRFF - International Clinical Trials Collaborations Program: Anticoagulation for Stroke Prevention In patients with Recent Episodes of perioperative Atrial Fibrillation after noncardiac surgery - The ASPIRE-AF trial, (2022/MRF2015330) $1,816,175.10. • NHMRC Synergy Grant: Solving the long-standing evidence-practice gap associated with cardiac rehabilitation and secondary prevention of coronary heart disease (SOLVE CHD), (GNT 118230) $5,000,000. • NHMRC: COLchicine CARDIovascular Outcomes in Acute Coronary Syndrome (COLCARDIO-ACS) Study, (GNT 1187193) $4,238,895. • NHMRC Ideas Grant: Learning what works and for which patients: efficient framework and novel technologies for precision comparative effectiveness research, (GNT 1184304) $587,183. • Support for research analysis of heart failure data sets from Novartis. <u>No benefit:</u> Personal: • Chair of The Australasian Cardiac Outcomes Registry Limited (ACOR) Ltd. Board of Directors
Dr Angus Baumann Member of the Assessment and Diagnosis Subgroup since January 2023	Consultant Cardiologist, Department of Medicine, Alice Springs Hospital Flinders University Rural Clinical School, Flinders University, South Australia	<u>Low-level benefit:</u> Personal: • Financial support from Abbott to run a not-for-profit Echocardiography Course • Speaking Fee from Victorian Heart Hospital for an educational session <u>No benefit:</u> • State representative board member (NT) of the National Cardiac Registry (NCR)

Member and role	Employment/Current Position	Declared Interests
Resigned from position on 13th September 2022. Professor Stephen Duffy Member of the Expert Steering Group	Interventional and Structural Cardiologist, The Alfred Hospital Adjunct Professor, Centre of Cardiovascular Research and Education in Therapeutics, Monash University,	<u>Low-level benefit:</u> Personal: • Payment or other support as proctor for transcatheter aortic valve implantation (TAVI) procedures for Medtronic. Non-personal: • NHMRC Centre of Research Excellence in Cardiovascular Outcomes Improvement (GNT 1111170), $2,500,000.00. • Clinical Lead, Melbourne Interventional Group Registry (MIG). The MIG acknowledges funding from Abbott Vascular, AstraZeneca, Biotronik, Boston Scientific, Johnson & Johnson, Medtronic, Pfizer, Schering-Plough, Sanofi-Aventis, Servier, St. Jude Medical, and Terumo. <u>No benefit:</u> Personal: • Unpaid member of the Heart CSANZ Quality Standards Committee. • CSANZ Honorary Treasurer/Assistant Secretary. Non-personal: • Steering committee member of the Victorian Cardiac Outcomes Registry.
Mr James Edelman	Cardiothoracic Surgeon, Fiona Stanley Hospital	<u>Low-level benefit:</u> Personal: • Speaker fees from Bristol Myers Squibb for Lung Cancer Expert Panel (single event August 2024). • Speaker fees from Medtronic.

Member and role	Employment/Current Position	Declared Interests
	Senior Clinical Lecturer, The University of Western Australia	• Speaker fees from AstraZeneca for the Lung Cancer Expert Panel (single event June 2022). Non-personal: • Board member of Heart Lung Research Institute of Western Australia which in the past has received educational grants from Medtronic, Abbott and Edwards.
Adam Livori	Lead Pharmacist, Medicine and Continuing Care, Grampians Health PhD Candidate, Centre for Medicine Use and Safety, Monash University	<u>High-level benefit:</u> Personal: • Central research PhD scholarship from Monash University 2022-2025. <u>Low-level benefit:</u> Personal: • Paid speaker for Australian Centre for Heart Health for medicine adherence and heart failure management. • Paid speaker for Pharmaceutical Society of Australia for medicine adherence and heart failure management. • Paid speaker for Novartis providing education and case studies on heart failure management. • Paid speaker for Society of Hospital Pharmacists of Australia for foundation, extension and masterclass webinars in cardiology pharmacy. • Paid reviewer – Australian Injectable Drugs Handbook and Don't Rush to Crush, both publications from Society of Hospital Pharmacists of Australia. • Research support from Safer Care Victoria (paid to Ballarat Health Services). <u>No benefit:</u> Personal:

Member and role	Employment/Current Position	Declared Interests
		• Chair of the Cardiology Leadership Committee for Society of Hospital Pharmacists of Australia. • Faculty member of Safer Care Victoria Heart Failure Collaborative. • Member of the Cardiac Clinical Network leadership committee for Safer Care Victoria. • Member of Australian Cardiovascular Alliance Big Data Flagship. • Founding member of European Society of Clinical Pharmacy Cardiology Practice Group.
Professor Ian Scott	Former Director of Internal Medicine and Clinical Epidemiology, Princess Alexandra Hospital Professor in Clinical Decision-making, University of Queensland Adjunct Professor of Medicine, Queensland University of Technology	<u>Low-level benefit:</u> Non-personal: • NHMRC Centre of Research Excellence Grant: Centre of Research Excellence in Wiser Wound Care, (GNT 1196436) $ 2,500,000. • Metro South Hospital and Health Service Research Support Scheme Grant: Personalised medicine in action: applying machine learning to develop personalised medication dosing. • RELEASE (REdressing Long-tErm Antidepressant uSE) trial: MRFF 2020 Clinician Researchers: Applied Research in Health; NHMRC 2021 Partnership Projects, $1,000,000. • Optimising medicine information handover after discharge (OPTI-MED study) MRFF 2022 Quality, Safety and Effectiveness of Medicine Use and Medicine Intervention by Pharmacists Initiative, $1,498,330. • NASCENT: Translating AI research to clinical practice; National infrastructure for real-time clinical AI trials. MRFF 2023 National Critical Research Infrastructure Initiative, $2,994,539. <u>No benefit:</u> Personal: • Past Chair, Queensland Clinical Networks Executive • Past Chair of the Australian Deprescribing Network. • Member of the Quality and Safety Committee of the Royal Australasian College of Physicians (RACP).

Member and role	Employment/Current Position	Declared Interests
		• Past Member of the MBS Review Taskforce for Cardiac Services.
Jeanine Stewart	ACS Nurse Practitioner, The Prince Charles Hospital	None declared
Joined 20th September 2022 Professor Liza Thomas Member of the Expert Steering Group	Interventional and Consultant Cardiologist, Westmead Hospital Principal Investigator, Westmead Applied Research Centre, Faculty of Medicine and Health, University of Sydney Conjoint Professor, University of Sydney and University of New South Wales	<u>Low-level benefit:</u> Personal: • Member of Pfizer's Tafamidis Advisory Board. • Advisory committee member for Sanofi Genzyme for Fabry disease. • Advisory committee member for Boehringer Ingelheim for heart failure therapies. • Advisory committee member for Bayer for chronic kidney disease and finerenone. • Advisory committee member for Novartis for heart failure therapies and biomarkers. • Paid speaker for Sanofi Genzyme for cardiac involvement in Fabry disease. • Paid speaker for Novartis for imaging in heart failure. • Paid speaker for Bayer for cardiovascular symposium. • Paid speaker for Shire for Fabry disease and cardiac manifestations. • Paid speaker for Janssen for diagnosing pulmonary hypertension. • Accommodation/meals/travel support from Pfizer for European Society of Cardiology (ESC) Congress (virtual). • Accommodation/meals/travel support from Bayer for ESC Congress. • Investigator initiated research (IIR) grant from Sanofi Genzyme. • IIR grant from Bayer. • IIR grant from Janssen. Non-personal: • Department of Health (Federal)/MRFF - International Clinical Trials Collaborations Program: Anticoagulation for Stroke Prevention In patients with Recent Episodes of perioperative Atrial

Member and role	Employment/Current Position	Declared Interests
		Fibrillation after noncardiac surgery - The ASPIRE-AF trial, (2022/MRF2015330) $1,816,175.10. • OHMR grant: Cardiovascular Collaborative Grant under the NSW Cardiovascular Research Capacity Program, Defining atrial muscle dysfunction for identifying patients with atrial cardiomyopathy, $1 million. • NHMRC Clinical Trials and Cohort Studies Grants: Atrial Myopathy and Embolic Stroke (AMES) trial (co-investigator), (2032210) $3,743,489.60.
Associate Professor Sarah Zaman Member of the Expert Steering Group	Interventional Cardiologist & Clinical Academic, Westmead Hospital and the University of Sydney Honorary Academic, School of Clinical Sciences at Monash Health, Monash University	<u>Low-level benefit:</u> Personal: • Speaker honoraria received to talk at educational events: Heart Foundation Webinar (sponsored by Terry White Chemists). • Speaker honoraria from AstraZeneca, Boehringer Ingelheim, Amgen. • Advisory committee member for Therapeutic Guidelines (cardiovascular guidelines 2021). • Advisory committee member for sudden cardiac death clinical trial group for Medtronic 2021. • Advisory committee member for The Limbic for cardiovascular educational events. Non-personal: • NSW Health/Elite Postdoctoral Researcher Grant: Women and Heart Disease - Problems and Solutions. • CSANZ-Bayer Young Investigator Research Grants: Australian New Zealand Spontaneous Coronary Artery Dissection (ANZ-SCAD) Registry. • Heart Foundation Strategic Grant – Women and Heart Disease. Primary Prevention of Cardiovascular Disease in Young and Middle-aged Women with Non-Traditional Risk Factors Utilising Coronary Artery Calcification, (ID: 105539) $1,000,000. • Heart Foundation Future Leader Fellowship Atherosclerotic Heart Disease in Women – Sex-Specific Prevention, Recognition and Management, (ID: 102627) $535,120.00.

Member and role	Employment/Current Position	Declared Interests
		• Research grant of $50,000 received to my institution from Abbott Vascular (to be received in June 2022) to support the Spontaneous Coronary Artery Dissection Registry.
Recovery and Secondary Prevention Expert Subgroup Members		
Professor Tom Briffa Chair of the Recovery and Secondary Prevention Subgroup Member of the Expert Steering Group	Professor, School of Population and Global Health, University of Western Australia Head of Cardiovascular Research Group and Centre for Health Services Research, The University of Western Australia Honorary Professorial Fellow, The George Institute for Global Health	<u>Low-level benefit:</u> Non-personal: • MRFF Cardiovascular Health Mission Research Grant: Guardian Angel: Implementation of a peer support program for people with heart disease, (MRFF2007669) $655,522.17. • Heart Foundation Secondary Prevention Strategic Grant: Secondary Prevention for All in Need (SPAN) after myocardial infarction: a comparative effectiveness randomised trial, (ID: 105531) $999,034. • NHMRC Partnerships Project: Optimizing evidence translation in the high-risk time-critical environment of the emergency management for suspected cardiac chest pain (RAPIDx), (GNT 1191914) $1,230,000 + in kind. • NHMRC Synergy Grant: Solving the long-standing evidence-practice gap associated with cardiac rehabilitation and secondary prevention of coronary heart disease (SOLVE CHD), (GNT 118230) $5,000,000. • NHMRC/MRFF International Clinical Trial Collaborations Grant: The Early valve replacement in severe ASYmptomatic aortic stenosis (EASY AS) trial, (GNT 1170844) $1,827,443. • HCF Research Foundation Grant: Better use of angiography in managing undifferentiated chest pain, $240,000. • Abbott Australasia: Outcomes in patients treated with Bioresorbable Vascular Scaffolds in public hospitals of Western Australia, $17,550. • NHMRC: The appropriateness of coronary investigation in myocardial injury and type 2 myocardial infarction (ACT-2), (GNT 1146512). • NHMRC: Is highly-sensitive troponin testing advancing clinical practice, improving outcomes and cost-effective in the investigation and management of chest pain in the Emergency Department? (GNT 1122792) $1,193,965.80.

Member and role	Employment/Current Position	Declared Interests
		• Government of Western Australia, Department of Health: West Australian Cardiac Outcomes Registry (WACOR): Does routine stratification for competing risks at the time of diagnosis of Acute Coronary Syndromes improve outcomes and lower health care costs? • Government of Western Australia, Department of Health: RTP - Round 11 - Cost effectiveness of extending the Phase 3 community pulmonary rehabilitation program beyond the recommended 10 weeks. • Government of Western Australia, Department of Health: The RADICAL project: Impact of Rapid Access to cardiology Determined multi-modality testing among Individuals presenting with new onset Chest pain: improving quality, efficiency and cost effectiveness at Royal Perth Hospital. <u>No benefit:</u> Personal: • Unpaid member of the Heart Foundation Clinical Committee.
Kimberley Bardsley	ACS Nurse Practitioner, The Prince Charles Hospital, Brisbane	<u>Low-level benefit:</u> Personal: • Member of AstraZeneca Advisory Board Oct 2020. • Meal support from Novartis, AstraZeneca and Boehringer Ingelheim. <u>No benefit:</u> Personal: • Member of the CSANZ COVID-19 Cardiovascular Nursing Care Consensus Statement Working Group.

Member and role	Employment/Current Position	Declared Interests
Dr Sasha Bennett Member of the Expert Steering Group	Executive Officer, NSW Therapeutic Advisory Group St Vincent's Hospital Cardiac Rehabilitation	Low-level benefit: Non-personal: • MRFF Quality, Safety and Effectiveness of Medicine Use and Medicine Intervention by Pharmacists Grant: A systems-approach to enhancing community-based medication review. • MRFF 2020 Dementia, Ageing and Aged Care Grant: Knowledge brokers for evidence translation to improve quality use of medicines in residential aged care, $1,952,566.00.
Professor David Brieger Co-chair of the Expert Steering Group Chair of the Hospital Care and Reperfusion Subgroup	Head of Coronary Care, Concord Repatriation General Hospital Professor in Medicine, Concord Clinical School, ANZAC Research Institute, The University of Sydney	Low-level benefit: Personal: • Speaker/consulting honoraria and/or research grant support from Amgen, AstraZeneca, Bayer, Boehringer Ingelheim, BMS, Eli Lilly, Merck and Sanofi. • Advisory committee member for The Limbic for cardiovascular educational events. Non-personal: • NHMRC: Centre for Research Excellence in Cardiovascular Outcomes Improvement, (GNT 1111170) $2,500,000. • Department of Health (Federal)/MRFF - International Clinical Trials Collaborations Program: Anticoagulation for Stroke Prevention In patients with Recent Episodes of perioperative Atrial Fibrillation after noncardiac surgery - The ASPIRE-AF trial, (2022/MRF2015330) $1,816,175.10. • NHMRC Synergy Grant: Solving the long-standing evidence-practice gap associated with cardiac rehabilitation and secondary prevention of coronary heart disease (SOLVE CHD), (GNT 118230) $5,000,000. • NHMRC: COLchicine CARDIovascular Outcomes in Acute Coronary Syndrome (COLCARDIO-ACS) Study, (GNT 1187193) $4,238,895.

Member and role	Employment/Current Position	Declared Interests
		• NHMRC Ideas Grant: Learning what works and for which patients: efficient framework and novel technologies for precision comparative effectiveness research, (GNT 1184304) $587,183. • Support for research analysis of heart failure data sets from Novartis. <u>No benefit:</u> Personal: • Chair of The Australasian Cardiac Outcomes Registry Limited (ACOR) Ltd. Board of Directors
Professor Robyn Clark Member of the Recovery and Secondary Prevention Subgroup	Matthew Flinders Emeritus Professor, Flinders University Adjunct Professor, South Australian Health and Medical Research Institute (SAHMRI) Adjunct Professor, University of South Australia Adjunct Professor, Queensland University of Technology	<u>High-level benefit:</u> Non-personal: • Heart Foundation Future Leader Fellow <u>Low-level benefit:</u> Personal: • Member of the Boehringer Advisory Board Boston 2019. • Accommodation/meals/travel support as member of the Boehringer Advisory Board Boston 2019. Non-personal: • NHMRC Partnerships Project: The Country Heart Attack Prevention Project, (GNT 1169893) $3.2 million. Novartis/Astra Zeneca are partners in this study. • Heart Foundation Partnership Engagement Grant: The Country Heart Attack Prevention (CHAP) Project, (ID: 102325) $150,000.

Member and role	Employment/Current Position	Declared Interests
		• NHMRC Partnerships Project: Heart Matters: Heart Safe Communities partnership to improve cardiovascular awareness and response to symptoms in regions at highest risk of heart attacks, (GNT 1180282) $ 905,714.50. • Heart Foundation Vanguard Grant: Standardised ACS discharge and medication education using Avatars to prevent 30-day readmission, (ID: 102990) $149,452. • The Pinnaroo Project, $17,000. • National Breast Cancer Award: Heart in Breast Cancer, $700,000. • The Hospital Research Foundation: The CREW Project, $148,000. • Flinders Foundation: Cardiac Rehabilitation for CR4ALL, $25,000. • Safe@Home Telemonitoring Hospital Avoidance Program (ARC Digital Health CRC), $1,200,868.
Professor Julie Redfern	Professor and Director, Institute for Evidence-Based Healthcare, Bond University Professor of Public Health, Faculty of Medicine and Health, The University of Sydney	<u>Low-level benefit:</u> Non-personal: • NHMRC Investigator Grant Level 2: Modernising cardiac rehabilitation and secondary prevention of heart disease, (GNT 2007946) $2,872,570. • NHMRC Synergy Grant: Solving the long-standing evidence-practice gap associated with cardiac rehabilitation and secondary prevention of coronary heart disease (SOLVE CHD), (GNT 118230) $5,000,000. • NSW Health, Cardiovascular Senior Researcher Grant: Providing a peer support program to people with heart disease across NSW: An implementation project. 2022-2024, $750,000. • MRFF Cardiovascular Health Mission Research Grant: Guardian Angel: Implementation of a peer support program for people with heart disease, (MRFF2007669) $655,522.17. • NHMRC Partnership Grant: FirstCPR - Improving health outcomes for people suffering out of hospital cardiac arrest, (GNT 1168950) $1,469,341.20. • NHMRC Partnership Grant: QUality improvement in primary care to prevent hospitalisations and improve Effectiveness and efficiency of care for people Living with heart disease (QUEL), (GNT 1140807) $828,305.

Member and role	Employment/Current Position	Declared Interests
		• Heart Foundation Secondary Prevention Strategic Grant. Secondary Prevention for All in Need (SPAN) after myocardial infarction: a comparative effectiveness randomised trial, (ID: 105531) $999,034. • MRFF PHCRI Primary Health Care Research Application: Health4Me: Improving adolescent physical activity and nutrition behaviours via primary care, (MRFF2006315) $511,750.50. • Endometriosis Australia Research Grant: Co-designing a lifestyle-focused and supportive text message intervention for those or people with endometriosis: ENDOTEXT-ME. Endometriosis Australia, $27,094. • NHMRC Partnership Grant: Partnership for precision prevention in CAD (PPP-CAD), (GNT 2005790) $1,413,166. • NHMRC Project Grant: Sex disparities in management of myocardial infarction, (GNT 1147430) $615,585. • NHMRC Investigator Grant L2. Solving the long-standing evidence-practice gap associated with cardiac rehabilitation and secondary prevention of coronary heart disease SOLVE-CHD, (GNT2007946) $ 2,872,570. • MRFF Clinician Researchers Grant. Adoption, impact and sustainability of evidence-based practice into health care: Co-design and evaluation of projects, systems and processes, (MRF2023723) $299,118.943. • MRFF International Clinical Trial Collaborations. Personalised Exercise-Rehabilitation FOR people with Multimorbidity - The PERFORM trial, (ID2024999) $2,999,443. • MRFF Preventive and Public Health Research Initiative. Adolescent-led transformation of preventive and public health research using citizen science, (MRF2023165) $799,815. • Preventive and Public Health Research Initiative. HeartPath+: Targeting self-efficacy and health literacy through patient education to prevent recurrent heart events in Australians with heart disease, (MRF2022907) $598,381. • MRFF Effective Treatments and Therapies [PANDA Trial: Physical Activity in Nature for Cardiometabolic Diseases in People Aged 45y+, (MRF2023914) $1,491,204.51. • MRFF Cardiovascular Health Mission. Identifying and addressing barriers and enablers to implementing best-practice cardiac rehabilitation: the Quality Improvement in Cardiac Rehabilitation (QUICR) Cluster- Randomised Controlled Trial, (GNT2016170) $894,000

Member and role	Employment/Current Position	Declared Interests
		No benefit: Personal: • CSANZ Co-Chair Clinical and Preventive Cardiology Council; Member Education Trust; Member ACOR Board; Member Scientific Committee, Co-Chair Science Commttee. • Australian Cardiovascular Alliance (ACvA) Co-Director Implementation and Policy Flagship; Chair Scientific Advisory Committee. • World Heart Federation Member Science Committee. • National Heart Foundation of Australia Alumni. • Heart Lung Circulation Editorial Board Member. • Queensland Cardiovascular Research Network Member of Executive Steering Committee.
Dr Ling Zhang	Practicing registered nurse and Research Associate, Faculty of Medicine and Health, Sydney Nursing School, The University of Sydney	Low-level benefit: Non-personal: • Heart Foundation Vanguard Grant: Standardised ACS discharge and medication education using Avatars to prevent 30-day readmission, (ID: 102990) $149,452.
Consumer Advisory Panel Members		
Darren Hicks Chair of the Consumer Advisory Panel	City of Bayswater	Low-level benefit: Personal: • Involved in a research trial (MiSmartHeart) with Monash University – I will be given a gift of $200 at the completion of this trial.

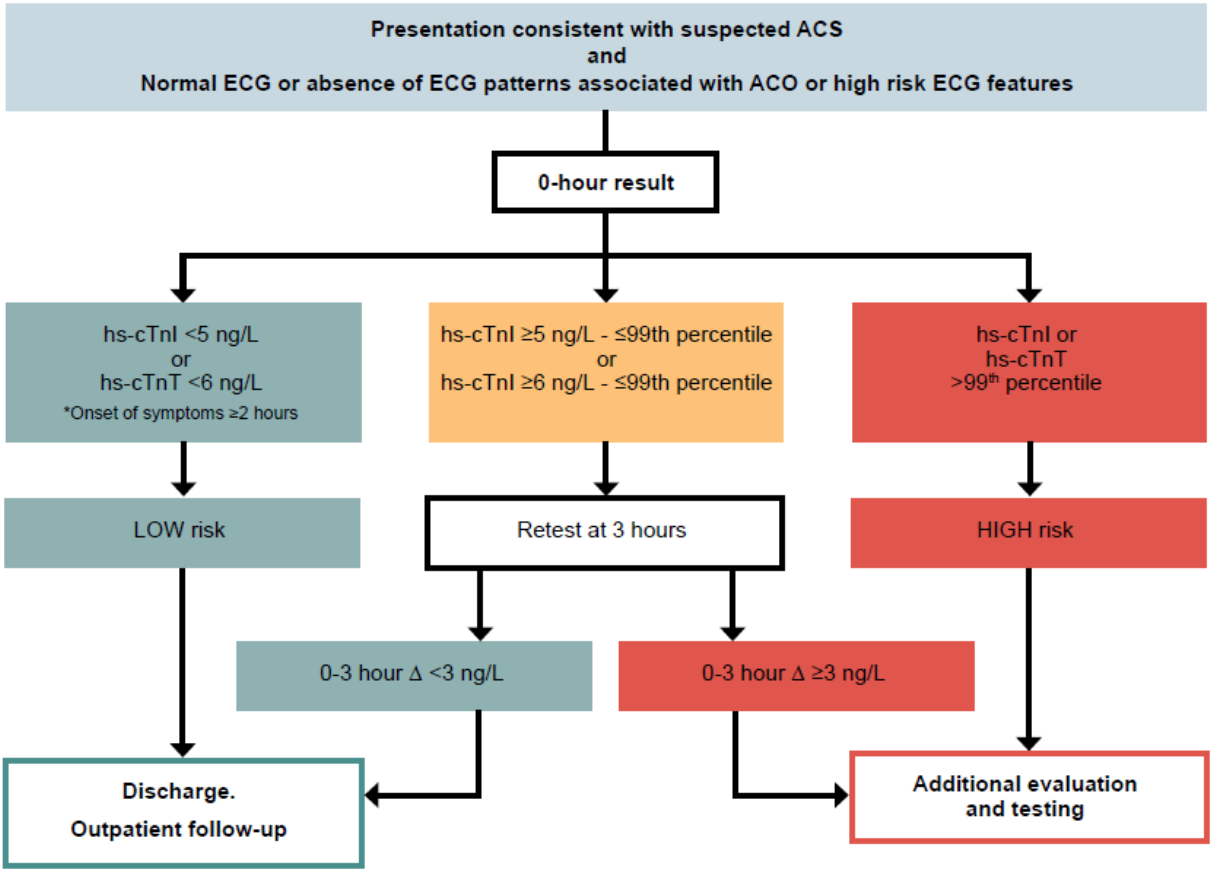
Member and role	Employment/Current Position	Declared Interests
		No benefit: Personal: • Member of the SOLVECHD Consumer Advisory Group. • Member of the MyHeart MyLife Consumer Advisory Group.
David Follent	NSW Agency for Clinical Innovation (ACI), Pillar of NSW Health	No benefit: Personal: • Chairperson of the National Association of Aboriginal and Torres Strait Islander Health workers and Practitioners (NAATSIHWP) • Chairperson of the National Cardiac Registries Indigenous Advisory committee
Sarah Hatzivlastou	Property Accountant, CHP Management Retired nurse	Low-level benefit: Personal: • Volunteer co-investigator on a project/grant with Deakin University and SOLVE-CHD No benefit: Personal: • Member of the SOLVECHD Consumer Advisory Group
Sharon Kort	CSIRO on secondment to Department of Industry, Science, Education and Research	None declared

Member and role	Employment/Current Position	Declared Interests
Michael McGowan	Health, Safety & Training Coordinator, Glencore Coal, Bulga Open Cut	None declared
Jarod McMaugh	Pharmaceutical Society of Australia	<u>High-level benefit:</u> Personal: • Employed by the Pharmaceutical Society of Australia – role involves providing education, policy work, and project delivery on behalf of governments and Primary Health Networks for the utilisation of pharmacists in the health system. <u>Low-level benefit:</u> Non-personal: • Delivers health-related education as part of my employed role with the Pharmaceutical Society of Australia. None have been related to cardiovascular health in the last three years. Not paid by any organisation to speak in this capacity. <u>No benefit:</u> Personal: • Director of Pharmacists Support Service (a mental health service for pharmacists).
Resigned from position on 30th May 2023 Rodney Turner	Nil	<u>Low-level benefit:</u> Personal: • Advisory committee member for The George Institute for Global Health.
Lea Zeestraten	Nil	None declared

Supplementary material 4: *High sensitivity troponin in the evaluation of patients with acute coronary syndrome* (high-STEACS) algorithm

If the first high-sensitivity cardiac troponin (hs-cTn) value is <5 ng/L, MI is low risk. If the value is >5 ng/L but less than the sex-specific 99th percentile upper range limit (URL), a second high-sensitivity cardiac troponin I (hs-cTnI) measurement is performed three hours from the time of presentation. If the change from the first measurement is <3 ng/L and the value remains below the sex-specific 99th percentile URL, MI is low risk.

Early presenters are defined as those presenting within two hours of chest pain onset and such people require serial testing. This strategy was evaluated in a step-wedge randomised implementation trial reporting from seven hospitals and 31,492 people [7]. Implementation was associated with an increase in the proportion of people discharged from the ED (50–71%), and a reduced length of stay (10.1 to 6.8 hours) without an increase in adverse events at 30 days.



Supplementary figure 2: High-STEACS algorithm [7-11]. *Note: The 99th sex-specific percentile is assay-specific. Hs-cTnI assay metrics for risk evaluation have been evaluated on selected assays. Abbreviations: ACO, acute coronary occlusion; ACS, acute coronary syndromes; ECG, electrocardiogram; hs-cTnI, high-sensitivity cardiac troponin I; hs-cTnT, high-sensitivity cardiac troponin T.*

Supplementary material 5: Additional validated risk assessment tools

Emergency department assessment of chest pain score (EDACS)

EDACS is a scoring system derived from Australia and New Zealand studies, incorporating readily available clinical information. It requires the person to have a non-ischaemic ECG and serial conventional cardiac troponin (cTn) values ≤99th percentile over two hours (Supplementary table 2) [12]. Validation studies and a systematic review show those people classified as low-risk by the EDACS pathway (~30% of people) have a 30-day MACE rate of <1% [13-17].

History, electrocardiogram, age, risk factors, and troponin (HEART) score

The HEART score uses the clinician's interpretation of the history with other readily available clinical data to risk-stratify people with good prognostic accuracy and it may be used to define a cohort not requiring additional cardiac testing (Supplementary table 2) [18-22]. In a US implementation study of the HEART pathway, a HEART score <3 combined with a non-ischaemic ECG and 0- and 3-hour cTn <99th percentile identified 30.7% of people as low-risk and eligible for early discharge, with a 30-day rate of death from MI of 0.4% [23]. As sex-specific considerations are not included in the HEART scoring system, its effectiveness in men and women may not be equal [24, 25]. Although the HEART score correlates with patient outcomes, in First Nation peoples, those with low HEART scores of 0-3 were three times more likely to have 30-day MACE than non-indigenous Australians [26].

Supplementary table 2: EDACS and HEART scores.

EDACS low risk 0–15 points; non-low risk ≥16 points		**HEART score low risk 0–3 points; non-low risk ≥4 points**	
Age, years		**History**	
18–45	2	High suspicion	2
46–50	4	Moderate suspicion	1
51–55	6	Low suspicion	0
56–60	8	**ECG**	
61–65	10	ST segment deviation	2
66–70	12	Paced, LBBB, RBBB, LVH	1
71–75	14	Normal or nonspecific changes	0
76–80	16	**Age, years**	
81–85	18	>65	2
86+	20	45–65	1
Male sex	6	<45	0
Age 18–65 and either ≥3 risk factors or known CAD	4	**Risk factors**	
Diaphoresis	3	≥3 or known CAD	2
Pain radiating to arm or shoulder	5	1–2	1
Pain worsened with inspiration	-4	0	0
Pain reproducible by palpation	-6	**Troponin**	
		>3x normal limit	2
		1–3x normal limit	1
		≤ normal limit	0

Abbreviations: CAD, coronary artery disease; ECG, electrocardiogram; EDACS, Emergency department assessment of chest pain score; HEART, History, electrocardiogram, age, risk factors, troponin; LBBB, left bundle branch block; LVH, left ventricular hypertrophy; RBBB, right bundle branch block.

Other scores

The *Improved assessment of chest pain trial* (ImpACT) protocol is another strategy that supports accelerated assessment of people using contemporary troponin assay results over two hours with selective exercise stress testing in people at intermediate risk. The protocol has been shown to safely reduce ED/hospital length of stay [27]. For all First Nations peoples, an inpatient cardiac testing protocol is recommended [28].

The *No Objective Testing* (NOT) rule identifies people who are at low risk of ACS and could be discharged without further cardiac testing (Supplementary table 3) [29]. It was specifically developed to be applied after MI had been ruled out using ECG and troponin results (either high-sensitivity or contemporary assays) and safely identifies low-risk people as those aged <50 years with <3 risk factors and no prior coronary artery disease (CAD) or MI [30].

The *Two-hour accelerated diagnostic protocol to assess patients with chest pain symptoms using contemporary troponins as the only biomarker* (ADAPT) pathway combines a TIMI score of 0, a non-ischaemic ECG, and 0- and 2-hour cTn concentrations <99th percentile to identify people at low-risk (30-day MACE risk <1%), but does so with less efficacy than the HEART and EDACS pathways (Supplementary table 4) [31-33].

The GRACE and TIMI scores were initially developed for risk stratification for managing NSTEACS but have also been studied for evaluating people with acute chest pain. However, they have inferior sensitivity and negative predictive value to the HEART score and EDACS, and are not recommended for risk stratification of people with suspected ACS [34].

Supplementary table 3: NOT rule and TIMI.

NOT rule **Low risk = 0**		**TIMI score** **In ADAPT – Low risk score = 0** **In m-ADAPT – Low risk score = 0 or 1**	
Age ≥50 years	1	**Age >65 years**	1
≥3 risk factors Hypertension Current smoker Hypercholesterolaemia Diabetes Family history of cardiovascular disease	1	**≥3 Cardiovascular risk factors** Hypertension Current smoker Hypercholesterolaemia Diabetes Family history of cardiovascular disease	1
Prior history of CAD	1	**≥2 angina episodes in the last 24 hours**	1
Prior history of MI	1	**Elevated cardiac biomarkers**	1
		ST-segment deviation on an ECG	1
		Use of aspirin within the last seven days	1
		Known CAD	1

Abbreviations: ADAPT, Two-hour accelerated diagnostic protocol to assess patients with chest pain symptoms using contemporary troponins as the only biomarker; CAD, coronary artery disease; mADAPT, Modified two-hour accelerated diagnostic protocol to assess patients with chest pain symptoms using high-sensitivity troponins as the only biomarker; MI, myocardial infarction; NOT, no objective testing; TIMI, Thrombolysis in myocardial infarction.

Supplementary table 4: Summary of low-risk features.

Low risk (<1% 30-day risk for death or MACE)	
hs-cTn based	
T-0	T-0 hs-cTn below the assay limit of detection or 'very low' concentration if symptoms present for at least two hours
T-0 and 1- or 2-hour delta	T-0 hs-cTn and 1- or 2-hour delta are both below the assay 'low' thresholds (>99th % NPV for 30-day MACE)
High-STEACS	T-0 <5 ng/L hs-cTnI or <6 ng/L hs-cTnT or T-0 5 ng/L to 99th % hs-cTnI/0-6 ng/L hs-cTnT and T-3 change ≤3 ng/L
Clinical decision pathway based	
HEART pathway	HEART score ≤3 and 0/3 cTn/hs-cTn < assay 99th percentile
EDACS	EDACS score ≤16 and 0/2 cTn/hs-cTn < assay 99th percentile
ADAPT	TIMI score 0 and 0/2 cTn/hs-cTn < assay 99th percentile
mADAPT	TIMI score 0/1 and 0/2 cTn/hs-cTn < assay 99th percentile
NOT rule	0 factors

Abbreviations: ADAPT, Two-hour accelerated diagnostic protocol to assess patients with chest pain symptoms using contemporary troponins as the only biomarker; cTn, cardiac troponin; EDACS, Emergency department assessment of chest pain score; HEART, history, electrocardiogram, age, risk factors, troponin; hs-cTn, high-sensitivity cardiac troponin; MACE, major adverse cardiovascular events; mADAPT, Modified two-hour accelerated diagnostic protocol to assess patients with chest pain symptoms using high-sensitivity troponins as the only biomarker; NOT, no objective testing; NPV, negative predictive value; STEACS, ST-segment elevation acute coronary syndromes; TIMI, Thrombolysis in myocardial infarction.

Sites using clinical score-based clinical decision pathway and hs-cTn assays

For sites with access to hs-cTn assays, use of a high sensitivity troponin-based clinical decision pathway (CDP) is recommended. Adaption of the performance of some clinical score-based strategies with hs-cTn assay results has been reported [14, 31]. A variation of the EDACS pathway using a single measurement of troponin with a hs-cTn assay may identify 30% of people as low risk [14]. The modified ADAPT score, using hs-cTn and a TIMI risk score of 0 or 1 identifies ~40% of people as low risk [31].

Supplementary material 6: Shared decision-making

Shared decision-making (SDM) involves discussion and collaboration between a person and their healthcare provider. It brings together the person's values, goals and preferences with the best available evidence about benefits, risks and uncertainties of treatment, to reach the most appropriate healthcare decisions for that person [35].

Clinicians working collaboratively with people who have been comprehensively assessed as suitable for discharge after presentation for suspected ACS using SDM will help to achieve optimal clinical outcomes, allay anxiety, and improve a person's experience. SDM is well supported and encouraged in cardiovascular research and practice, despite more work being needed about how to best implement it and to achieve the best outcomes [36-40].

A three-step approach to implement SDM in clinical practice involves introducing choice, describing options, often with decision aids, and assisting people to explore their preferences [41]. SDM requires effective person-clinician communication to bring together the best available evidence about treatment options, including risks, benefits and uncertainties with a person's' values, goals and preferences to help them to achieve their desired outcomes [35, 39].

Discharge advice based on SDM is more likely to be understood and followed because agreement is reached between peoples' preferences and treatment decisions [42].

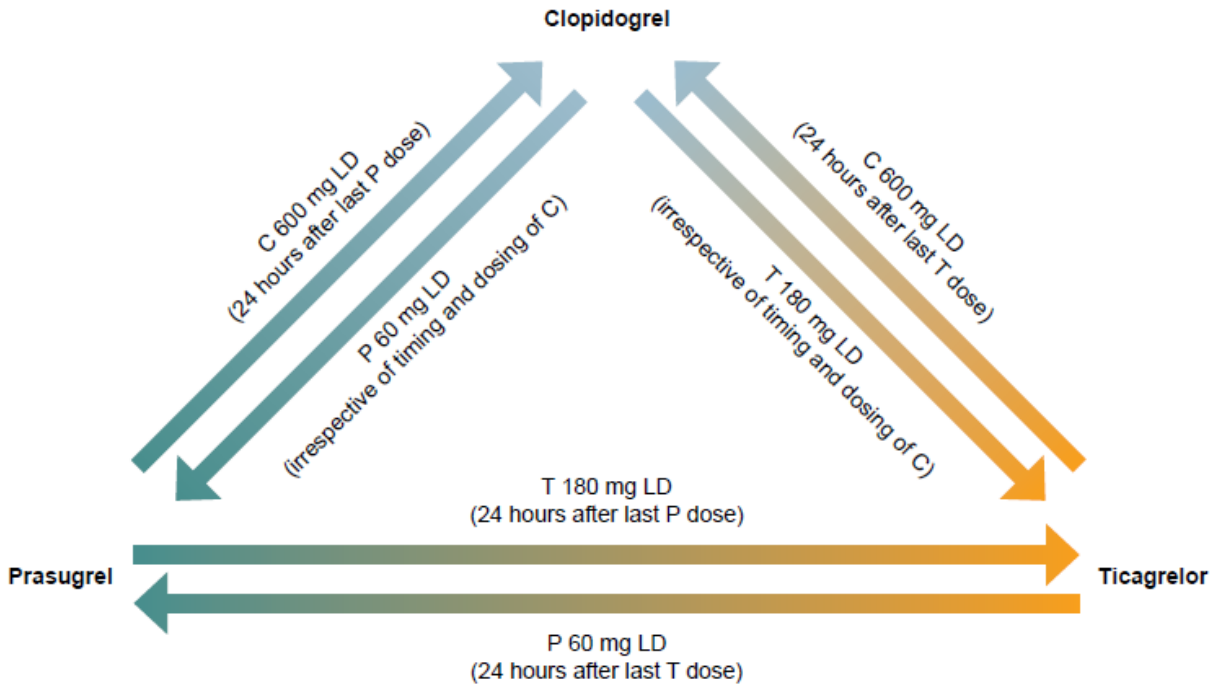
Resources available to support shared decision making:

1. *The chest pain choice decision aid: a randomized trial*
2. *The HAS-Choice study: utilizing the HEART score, an ADP, and shared decision-making to decrease admissions in chest pain patients*

Supplementary material 7: Platelet P2Y12 inhibitor therapy

Supplementary table 5: Dosing table for P2Y12 inhibitors.

Drug	Dose type	Dosing	Comment
Clopidogrel	Loading dose	300–600 mg orally	300 mg dose noted for people post fibrinolysis.
	Maintenance	75 mg orally daily	
Prasugrel	Loading dose	60 mg orally	
	Maintenance	10 mg orally daily	5 mg if <60 kg, 5 mg if >75 years of age, if deemed necessary.
Ticagrelor	Loading dose	180 mg orally	
	Maintenance	90 mg orally twice daily	



Supplementary figure 3: Dosing strategies when switching between P2Y12 inhibitors. Adapted with permission from Wolters Kluwer Health, Inc.*[43]*. Abbreviations: C, clopidogrel; LD, loading dose; P, prasugrel; T, ticagrelor.

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