NATIONAL CARDIAC REGISTRY

ANNUAL STATUS REPORT 2026

NATIONAL CARDIAC REGISTRY®

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on behalf of the Registry Steering Committee.

National Cardiac Registry Annual Report 2026, September 2026.

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NATIONAL CARDIAC REGISTRY®

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Glossary

ACS	Acute Coronary Syndrome
ACTCOR	The Australian Capital Territory Cardiac Outcomes Registry
ACSQHC	Australian Commission on Safety and Quality in Health Care
AIHW	The Australian Institute of Health and Welfare
ANZSCTS	The Australian & New Zealand Society of Cardiac and Thoracic Surgeons
CABG	Coronary Artery Bypass Graft
CADOSA	The Coronary Angiogram Database of South Australia
CCAP	Chronic Care for Aboriginal People
CQR	Clinical Quality Registry
CRoWA	Cardiac Registry of Western Australia
CSANZ	The Cardiac Society of Australia and New Zealand
CVD	Cardiovascular Disease
DAPT	Dual Antiplatelet Therapy
ECG	Electrocardiogram
HREC	Human Research Ethics Committee
IQR	Interquartile range
LLT	Lipid Lowering Therapy
LVEF	Left Ventricular Ejection Fraction
MACCE	Major Adverse Cardiac and Cerebrovascular Events
MACE	Major Adverse Cardiac Events
NCR	National Cardiac Registry
NCR Ltd.	National Cardiac Registry Limited
NSTEMI	Non-ST Elevation Myocardial Infarction
NSWCOR	New South Wales Cardiac Outcomes Registry
NTTCD	Northern Territory Top End Coronary Database
OHCA	Out of Hospital Cardiac Arrest
PCI	Percutaneous Coronary Intervention
PHN	Pre-hospital notification
PVD	Peripheral Vascular Disease
QCOR	Queensland Cardiac Outcomes Registry
STEMI	ST-Elevation Myocardial Infarction
VCOR	Victorian Cardiac Outcomes Registry

Message from the Chair of the Board

Dr Jim Leitch - Chair of the National Cardiac Registry Limited Board

This is my final year as chair of the NCR. I feel privileged to have been part of such a dynamic organisation making a difference to healthcare across Australia. The NCR brings together patients, hospitals, public and private, clinicians, administrators, researchers, and the states and territories along with the federal government. It is a model of health improvement by cooperative endeavour from all the participants in our complex health system. I thank them all especially those that contribute without financial benefit.

This year's report represents a step change in the NCR. Without high-quality data and reporting how can health outcomes be improved? This year the detailed data analysis provides some very important insights into health care delivery, with a new paradigm of identifying centres of excellence, and the factors that might underlie their outstanding results. Of course, we still carry out our core function of managing safety and variation, but registries can be much more than this. Let me draw attention to one example in the report.

A little under one quarter of the PCIs performed nationally are undertaken in patients presenting with acute myocardial infarction. These patients are younger, sicker and have worse outcomes than those presenting with less urgency and the even healthier elective PCI population. The national guidelines call for the occluded artery to be opened within 1 hour of hospital presentation, but this goal is met in only a little over half of our patients, with minimal change over the last 5 years. There is very large variation nationally. Can we do better or do we just accept that the Australian context is too difficult? Figure 27 demonstrates that some hospitals are more than 3 SD better at meeting the guideline than the population as a whole suggesting that there is room for substantial improvement. The report identifies some factors that are associated with more timely treatment (and no doubt with better outcomes). I encourage readers to examine this detailed analysis and to think about their local experience. The report cannot provide definitive advice but does offer opportunities for clinicians, sites and jurisdictions to compare themselves not only to the national results, but also to high performing sites and to potentially identify and introduce improved patterns of care.

I would like to take this opportunity to complement our indigenous committee for their groundbreaking role in developing guidelines for indigenous data sovereignty, not only for the NCR but also for the wider community. Ownership and trust are vital for this work. Finally, I would like to thank our consumer representatives for developing our patient orientated brochures and posters - these help communicate our work to the ultimate beneficiaries - our patients.

In my term as chair, I have seen a lot of progress, but I am confident the best is yet to come. Thank you all.

Message from the Chair of the Steering Committee

A/Prof Jeff Lefkovits & Dr Rohan Poulter - Chair and Deputy Chair

On behalf of the Registry Steering Committee, we are pleased to present this year's Annual Report. A national perspective is central to the strength of our clinical quality registry, enabling meaningful assessment of performance, outcomes and quality of cardiac procedures. In 2025, the Steering Committee has overseen the registry increase enrolments, mature in its design and implementation, expand the scope of its analyses and strengthen engagement with its key stakeholders.

We have welcomed the opportunity to contribute to major enhancements to the registry over the past 12 months. The introduction of risk adjustment for key outcome measures ensures that comparisons between sites are fair and clinically meaningful, giving participating hospitals and clinicians confidence that the benchmarks against which they are measured genuinely reflect quality of care rather than the characteristics of the patients they treat. This year's Report has been enhanced through its focus on priority areas for improvement and identification of characteristics of high-performing sites that achieve outstanding results in the acute treatment of ST elevation myocardial infarction.

The Steering Committee is also grateful for the opportunity to collaborate with the Indigenous Committee, promoting issues that matter most to Aboriginal and Torres Strait Islander communities in relation to quality of care and performance assessment, and ensuring that the registry's work reflects and serves the needs of Indigenous Australians.

As we reflect on the collective commitment of our contributors to harness data in service of better outcomes for every patient, we are grateful for the continued engagement and active participation of all jurisdictions. Looking ahead, the Steering Committee remains committed to deepening the quality, depth and impact of our data in support of excellence in PCI care for all Australians.

Executive Summary

The National Cardiac Registry (NCR) strengthens Australia's capacity to measure, benchmark, and improve cardiovascular care by capturing real-world data from over 146,000 percutaneous coronary intervention (PCI) procedures. With 68 public and private hospitals across all eight jurisdictions contributing to a consistent national minimum data set, the NCR provides a comprehensive view of national PCI care.

By monitoring eleven key quality indicators, including timely reperfusion, complications, and 30-day outcomes[1], the registry identifies local, jurisdictional, and national opportunities for clinical improvement. The NCR is aligned with the 2025 Australian clinical guideline for diagnosing and managing acute coronary syndromes[2], which provides the latest best practice recommendations. The Annual Status Report 2026 builds on previous analyses[3], by introducing risk-adjusted outcome reporting to enable more meaningful interpretation across different patient populations.

Collaboration remains the cornerstone of the registry, with clinicians, government health departments, and consumers working together to translate reporting into tangible improvements in patient care. Operations are managed by Monash University's School of Public Health and Preventive Medicine, at the Centre for Cardiovascular Research and Education in Therapeutics[4], to support the consistent collection and rigorous analysis of national data.

This work is further strengthened by the NCR Indigenous Committee, which leads the registry's approach to Indigenous Data Sovereignty and the ethical governance of Aboriginal and Torres Strait Islander data. These efforts complement the Australian Commission on Safety and Quality in Health Care's (ACSQHC) Acute Coronary Syndromes Clinical Care Standard[5], supporting the delivery of consistent care for all Australians.

As one of the ten existing clinical quality registries supported by the National CQR Program, the NCR is a vital piece of Australia's clinical quality infrastructure[6]. It is aligned with the National Strategy for Clinical Quality Registries 2020 – 2030[7], providing a scalable model for health service planning and policy development. As the registry matures, its enhanced analytical capabilities and future expansion into additional areas of cardiovascular care will further extend its contribution to clinical excellence and cardiac outcomes nationwide.

1 National Cardiac Registry (2024) *National Cardiac Registry Data Dictionary*, accessed 18 August 2026.

2 Heart Foundation (2025) *Australian clinical guideline for diagnosing and managing acute coronary syndromes 2025*, accessed 1 August 2026.

3 National Cardiac Registry (2025) *Annual Status Report 2025*, Monash University, accessed 20 August 2026.

4 Monash University (2026) *Monash REDCap*, accessed 18 August 2026.

5 Australian Commission on Safety and Quality in Health Care (2021) *National Safety and Quality Health Service Standards*, Australian Government, accessed 1 August 2026.

6 Department of Health, Disability and Ageing (2026) *National Clinical Quality Registry Program*, Australian Government, accessed 20 August 2026.

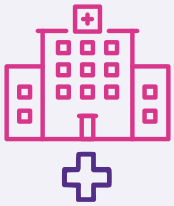
7 Department of Health (2020) *National Clinical Quality Registry and Virtual Registry Strategy*, accessed 1 August 2026.

1. National Cardiac Registry

53%
3%
of all **PCI procedures in Australia** are captured each year by the NCR[8]

8
States and Territories are participating in the NCR allowing for complete national coverage

62
hospitals contributed PCI data for inclusion in the analysis from January to December 2025



4
+4
new hospitals have contributed PCI data, which is now included for analysis in the 2026 annual report

24,596
individual patients have been included in the NCR analysis from January to December 2025

27,708
PCI procedures have been captured by the NCR from January to December 2025

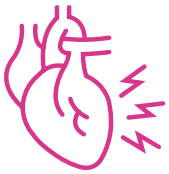
129,069
individual patients have been included in the NCR analysis since 2019

146,803
PCI procedures have been captured by the NCR since 2019

Increase Decrease No change
from previous year's reported figure

8 Australian Institute of Health and Welfare (2026), Heart, stroke and vascular disease: Australian facts, AIHW, Australian Government, accessed 18 August 2026.

1.1 Key Findings



52.8%
of PCIs were for **acute coronary syndromes (ACS)**
2.5% ↓

29.6%
of patients receiving a PCI had **diabetes**
↔

18.0%
of PCI procedures were performed **out-of-hours**
1.7% ↓

82.0%
of procedures utilised **radial access** during the PCI which is associated with fewer complications
↑ 1%

0.5%
of PCIs had an **in-hospital major bleeding** event post-PCI
↔

0.3%
in-hospital major bleeding rate when radial access was adopted
↔

55 minutes
was the **median door-to-PCI mediated reperfusion time for primary PCI** patients
1 min ↓

47 minutes
was the **median door-to-PCI mediated reperfusion time** for primary PCI patients when **pre-hospital notification (PHN) was utilised**
↔

1.8%
in-hospital mortality
↔

2.9%
of all PCIs were **unplanned cardiac readmissions**
↔

94.8%
discharged on dual antiplatelet therapy

96.3%
discharged on lipid lowering therapy
↔

84.4%
referred to **cardiac rehabilitation** post PCI procedure
↑ 0.3%

↑ Increase ↓ Decrease ↔ No change
from previous year's reported figure

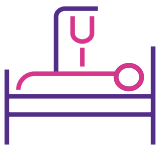
1.2 STEMI Key Findings

64 years
is the **average age** of a PCI patient in the **STEMI cohort**

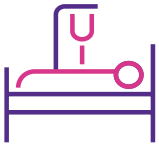
67 years
is the **average age** of a PCI patient in the **overall cohort**

56.9% ↑ 1.6%
of STEMI cases **achieved a door-to-PCI mediated reperfusion time within the 60 minutes target**

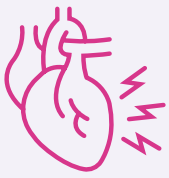
73% ↓ 1.1%
was the **rate of pre-hospital notification** (PHN) utilisation



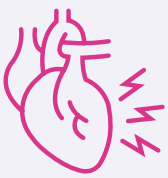
2.6% ↓ 0.5%
of the **overall cohort experience MACE** (major adverse cardiac events)



7.7%
of the **STEMI cohort experience MACE** (major adverse cardiac events)



8.1%
of **STEMI patients experience MACCE** (major adverse cardiac and cerebrovascular events)



2.8%
of the **overall cohort experience MACCE** (major adverse cardiac and cerebrovascular events)

24.2% ↑ 1.5%
of PCI patients presenting with STEMI symptoms are **women**

75.8% ↓ 1.5%
of PCI patients presenting with STEMI symptoms are **men**

↑ Increase ↓ Decrease ↔ No change
from previous year's reported figure

1.3 Women and Men PCI Key Findings

WOMEN	MEN
69 years was the **average age** of women receiving a PCI — 1 yr ↓	66 years was the **average age** of men receiving a PCI — ↔
77.4% of PCIs performed on women utilised the **radial access** approach — 0.6% ↑	83.7% of PCIs performed on men utilised the **radial access** approach — 1.3% ↑
0.8% of PCIs performed on **women had an in-hospital major bleeding event** post-PCI — ↔	0.4% of PCIs performed on **men had an in-hospital major bleeding event** post-PCI — ↔
16.7% was the rate of **severe obesity** for women — 0.9% ↓	11.1% was the rate of **severe obesity** for men — 0.6% ↓
33.0% was the rate of **diabetes** in women — 2% ↑	28.4% was the rate of **diabetes** in men — 0.4% ↑
1.9% was the rate of **in-hospital mortality** for women — 0.1% ↓	1.7% was the rate of **in-hospital mortality** for men — 0.1% ↑

Median times from symptom onset to **PCI mediated reperfusion 2025**

	Symptom Onset	First Medical Contact	Diagnostic ECG	Arrival at PCI Hospital	Reperfusion
Women	186 mins	110 mins	95 mins	56 mins	
Men	171 mins	101 mins	88 mins	55 mins	
Difference	**15 mins**	9 mins	7 mins	1 min	
	↓ 12 mins	↓ 3 mins	↔	↓ 1 min	

Increase Decrease No change
from previous year's reported figure

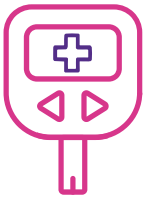
1.4 Aboriginal and Torres Strait Islander Peoples PCI Key Findings

3.3%
of the overall PCI cohort identified as Aboriginal and/or Torres Strait Islander peoples

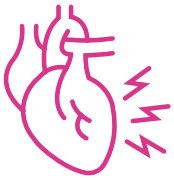
56 years
was the **average age** of PCI patients identifying as Aboriginal and/or Torres Strait Islander peoples

39.6%
of PCI procedures **were performed on women** identifying as Aboriginal and/or Torres Strait Islander peoples

60.4%
of PCI procedures **were performed on men** identifying as Aboriginal and/or Torres Strait Islander peoples



48.8%
of Aboriginal and/or Torres Strait Islander peoples undergoing PCI had **diabetes**



70%
of Aboriginal and/or Torres Strait Islander peoples who had a PCI presented with an **acute coronary syndrome (ACS)**

28.9%
of PCI patients identifying as Aboriginal and/or Torres Strait Islander peoples **had a previous PCI**

93.9%
was the rate of **procedure success** for Aboriginal and/or Torres Strait Islander peoples

2. Value, Impact and System Improvement

2.1 Value and Impact

The value of the NCR extends beyond national reporting. By bringing together PCI data from across Australia, the NCR provides a national benchmark that allows participating hospitals and jurisdictions to view their performance in a broader context, explore variation in care and outcomes, recognise areas of strong performance and identify opportunities for improvement.

NCR reporting can support clinical governance, quality improvement, service planning and decision making at hospital and jurisdictional levels. National benchmarking also creates opportunities for shared learning, helping jurisdictions and hospitals to understand differences in care across various settings and learn from areas where positive results have been achieved.

As participation and reporting continue to mature, there is an increasing opportunity to understand how registry findings are being used in practice and how national collaboration can support improvements in PCI care. The following jurisdictional perspectives highlight the value of NCR participation and national benchmarking, including examples of how NCR data and reporting are contributing to quality improvement and patient care.

ACT

The Australian Capital Territory Cardiac Outcomes Registry

Participation in the National Cardiac Registry (NCR) provides the Australian Capital Territory (ACT) with the opportunity to analyse local cardiovascular outcomes against nationally benchmarked data, enabling the identification of service gaps and opportunities for quality improvement.

In 2025, Canberra Health Services (CHS) undertook a multidisciplinary quality improvement (QI) project involving multiple internal departments and external stakeholders to improve primary ST-Elevation Myocardial Infarction (STEMI) percutaneous coronary intervention (PCI) Door-to-Balloon (DTB) times, in alignment with the updated ***Comprehensive Australian Clinical Guideline for Diagnosing and Managing Acute Coronary Syndromes****.*

Using comparative primary STEMI benchmark data from the 2025 NCR Annual Status Report, the project objectives were to:

1. *Improve primary STEMI PCI Door-to-Balloon (DTB) times from 90 minutes to the updated guideline target of 60 minutes.*
2. *Achieve the national benchmark target of 75% of primary STEMI PCI cases reaching the 60-minute DTB threshold, as reported through NCR-ACTCOR benchmarked data.*
3. *Improve First Medical Contact (FMC)-to-balloon times for primary STEMI patients transferred from non-PCI centres, reducing treatment times from the previous 120-minute target to the updated guideline target of 90 minutes from FMC.*

As a result of this initiative, Canberra Health Services reviewed, revised, and implemented localised, standardised clinical practices across the STEMI care pathway. These changes have led to significant improvements in both DTB and FMC-to-balloon performance metrics throughout 2025 and 2026 when compared with the baseline data first reported in the 2025 NCR Annual Status Report. The project demonstrates the value of NCR participation in supporting data-driven quality improvement initiatives and improving timely access to evidence-based cardiac care for ACT patients.

NSW

Agency for Clinical Innovation, NSW Government

The National Cardiac Registry Annual Status Report allows New South Wales to compare with sites nationally, with large-scale benchmarking providing an important incentive for hospital participation as clinicians are keen to understand results at a national level. Jurisdictional meetings also provide a platform to learn and communicate with other jurisdictions, including learning about different governance structures and ways of engaging hospitals and clinicians. This has included an invitation to view Western Australia's cardiac dashboard and how it has been used to drive clinical improvement.

The New South Wales Cardiac Outcomes Registry has provided some readiness for determining what is needed from the Single Digital Patient Record and, more broadly, establishing a state-level cardiovascular dataset.

NT

Cardiology Research Coordinator and Cardiac Quality Nurse, Cardiac Expansion Unit, Royal Darwin Hospital

The Northern Territory continues to contribute PCI data to the NCR from the Northern Territory Top End Database (NTCCD).

The data from the NTTCD is used to review aspects of PCI to determine areas of improvement and quality projects are undertaken to guide the improvement.

The PCI data that the NTTCD provides to the NCR ensures that the NT is contributing to a national dataset and which enables the NT to compare data to the national PCI data.

QLD

Queensland Cardiac Outcomes Registry, Statewide Cardiac Clinical Informatics Unit, Queensland Health

Queensland's contribution to the National Cardiac Registry means our outcomes are no longer judged in isolation, we can see how our PCI results compare against national benchmarks. That comparison drives genuine quality improvement, not just local reporting for its own sake. For a state as geographically spread out as ours, having a consistent national dataset also means regional patients get the same assessment of care quality as those in metropolitan centres.

VIC

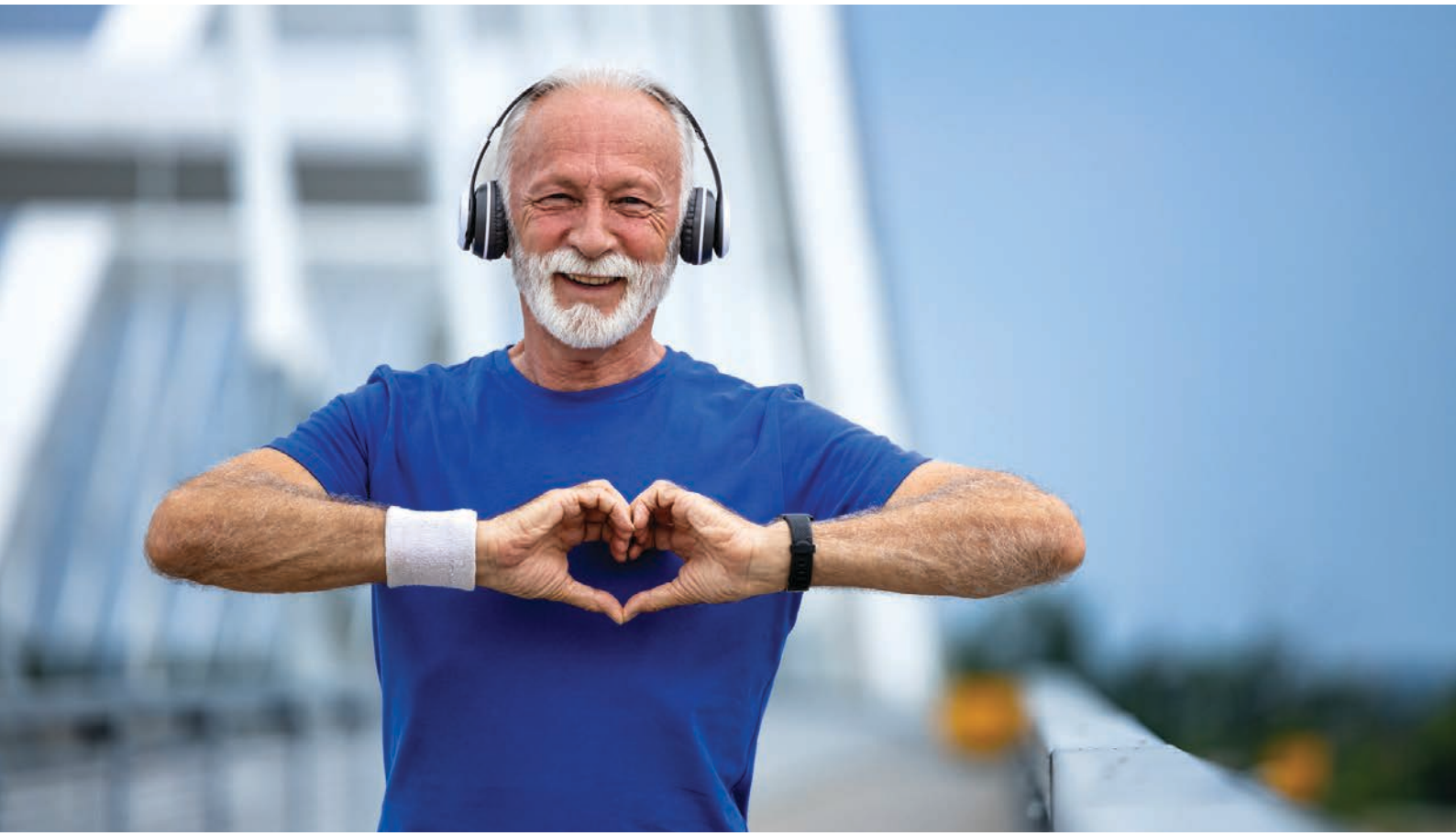
Victorian Cardiac Outcomes Registry, Monash University

Through participation in the NCR, Victoria has benchmarked state-based initiatives such as increasing rates of 'Same Day Discharge' following PCI against national data. Expanding Same Day Discharge directly reduces healthcare costs, optimises hospital capacity, and improves broader economic metrics. NCR data serve as an essential tool to measure how Australian hospitals perform and highlights key opportunities to align local practices with international standards.

WA

Cardiac Registry of Western Australia, Western Australia Health

Our participation in Western Australia has strengthened in the last two years. Our local work, in partnership with the National Cardiac Registry, has seen use of the local tool for collection increase. Collecting the data allows us to measure the quality of care across our PCI centres in Western Australia. Our plans for the next year include working to give individual clinicians more information back and work with the National Cardiac Registry on risk-adjusted outcomes reporting.



2.2 Improvements in care and outcomes

NCR participation continues to grow, with the Registry now capturing approximately 53% of PCI procedures performed across Australia, providing an increasingly comprehensive national view of PCI care[9]. Engagement directly with hospitals has also increased, including growing participation from private hospitals and health services, with a number of additional hospitals expected to contribute data in the 2026 upload.

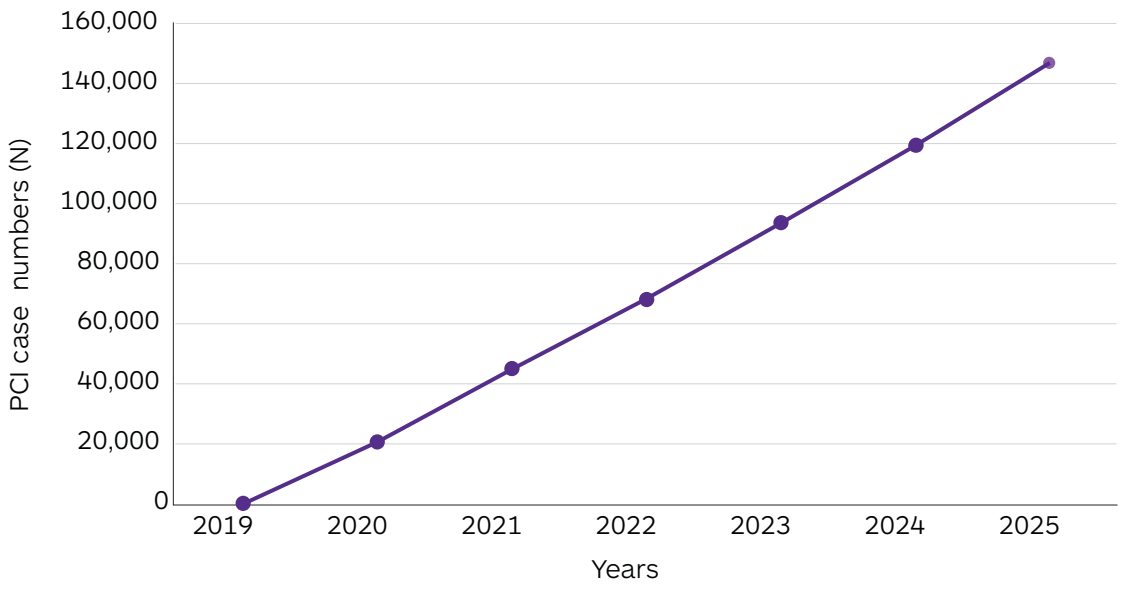
NCR data collected over time provide an opportunity to understand how PCI care is changing and where improvements are being observed. Trends include increasing use of radial access (Figure 12), alongside changes in time critical STEMI care (Figure 16), secondary prevention and cardiac rehabilitation referral (Figure 33) and outcomes following PCI (Figure 28-36). The analyses throughout this report highlight where positive results are being achieved, where care is improving and where further opportunities remain, providing a national perspective to support continued improvement in PCI care.

2.3 Growing National Participation

During 2025, the NCR collected data from 24,596 individual patients and 27,708 PCI procedures across 62 hospitals, comprising 42 public and 20 private hospitals. All 62 hospitals provided at least 75% of the NCR dataset, reflecting continued engagement with national data collection and reporting.

Since national data collection commenced in 2019, the NCR has captured 146,803 PCI procedures (Figure 1). Participation continues to grow across public and private hospitals, with additional hospitals preparing to contribute data in the 2026 upload.

Figure 1 - Growth in PCI procedures captured by the Registry, January 2019 – December 2025



9 Australian Institute of Health and Welfare (2026) *Procedures and healthcare interventions (ACHI 12th edition), Australia, 2024-25 [data cubes]*, accessed 26 August 2026.

2.4 Understanding Variation in Care

A key benefit of national reporting is the opportunity to understand how PCI care is delivered across different hospitals and jurisdictions. NCR data demonstrates areas of consistent and strong performance, as well as variation in selected aspects of care and outcomes. These differences may reflect patient populations, models of care, clinical practice and local health service characteristics, and provide important context for understanding PCI care across Australia.

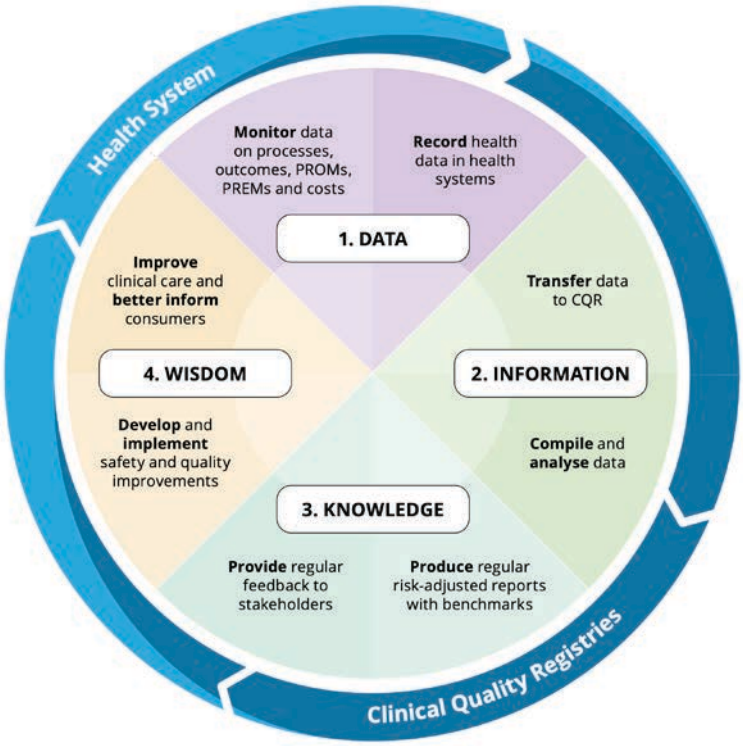
The analyses throughout this report explore variation in areas including timely reperfusion, cardiac rehabilitation referral and clinical outcomes, as well as the differences according to hospital characteristics (Tables 3B-3D and 7B-7D). Across Australia's large and diverse health system, differences in geography, service configuration and models of care provide important context when interpreting these findings. Examining variation alongside trends over time provides insight into how PCI care is evolving and where improvements are being seen across Australia.

2.5 The Clinical Quality Registry Feedback Loop

CQRs provide a structured approach to quality improvement by collecting and analysing information on clinical care and outcomes and reporting findings back to participating hospitals and jurisdictions. This allows clinicians and health services to review care against national benchmarks and guideline recommended practice, and identify areas for further investigation or improvement.

The CQR Feedback Loop (Figure 2) illustrates how regular reporting can support change in clinical practice[10]. Findings can inform local review and quality improvement activities, with ongoing data collection providing an opportunity to monitor changes in care and outcomes over time. This continuous cycle of measurement, feedback and review is central to the role of CQRs in supporting clinical quality improvement.

Figure 2: CQR Feedback Loop



10 Australian Commission on Safety and Quality in Health Care (2021) *National Safety and Quality Health Service Standards*, Australian Government, accessed 1 August 2026.

2.6 Characteristics of High Performing Sites

National benchmarking provides an opportunity to identify hospitals demonstrating strong results and consider what can be learned from their experience. While outcomes are important measures of quality, they can be influenced by patient and clinical factors; examining processes of care can provide additional insight into hospital performance and opportunities for improvement.

Across the NCR, hospitals demonstrate strong performance across key process areas of PCI care, including door-to-balloon times (Figure 18), radial access (Figure 13) and cardiac rehabilitation referral (Figure 33). Looking across multiple reporting periods can also identify where strong results are sustained and where meaningful improvements in care are occurring.

Understanding the factors associated with these results provides an opportunity for shared learning. Information from participating hospitals and jurisdictions can provide context on clinical processes, models of care and quality improvement activities, helping to identify approaches that may be relevant across the broader NCR network.

2.7 Translating NCR Findings into Improvement

NCR reporting provides an opportunity to move beyond identifying variation to understanding how findings can inform improvement. Drawing on national trends, benchmarking and insights from participating hospitals and jurisdictions, door-to-balloon performance provides a practical example of how registry findings can be translated into local quality improvement. Five areas have been identified:

1. Understand performance and variation

Review door-to-balloon results against national benchmarks, including median treatment times, achievement of recommended timeframes and patterns over time.

2. Optimise pre-hospital notification and early activation

Consider how effectively pre-hospital notification and early activation processes support timely assessment and preparation for PCI.

3. Strengthen the STEMI pathway

Review the pathway from first medical contact through to reperfusion, including coordination between ambulance services, emergency departments, cardiology and the cardiac catheter laboratory.

4. Focus on out-of-hours care

Explore differences between in-hours and out-of-hours treatment and identify system or process factors that may influence treatment times outside usual operating hours.

5. Learn from strong performance

Consider approaches associated with consistently strong results, including regular STEMI case review, effective multidisciplinary relationships, clinical champions and streamlined transfer to the cardiac catheter laboratory.

2.8 Variation and Outlier Management

The NCR uses a structured process to review potential variation identified through national reporting. Findings are considered alongside data quality, completeness and relevant clinical context to support appropriate interpretation before further review. This process provides a consistent approach to understanding variation while recognising differences in patient populations, clinical practice and health service delivery across Australia.

The NCR Variation Oversight Committee provides clinical and governance oversight of this process. Where further review is appropriate, the NCR works with the relevant jurisdiction to support validation and consideration of findings within the local context. Jurisdictions and participating hospitals can then determine whether further investigation or local quality improvement activities are appropriate. Ongoing reporting provides an opportunity to monitor findings and understand whether variation persists or changes over time.

2.9 Priority Improvement Areas

NCR reporting highlights areas where continued focus may support further improvement in PCI care. Priorities identified through national reporting include timely reperfusion for patients with STEMI, referral to cardiac rehabilitation and completeness of 30-day outcome data. These areas provide opportunities for continued collaboration between hospitals, jurisdictions and the NCR.

Timely reperfusion

Door-to-balloon times have improved, with variation continuing between hospitals and between in-hours and out-of-hours presentations (Figures 16-22B). Further exploration of pre-hospital notification, activation processes and STEMI pathways may help identify opportunities to support timely reperfusion, particularly outside usual operating hours.

Cardiac rehabilitation

Referral to cardiac rehabilitation is an important component of secondary prevention following PCI. NCR data show incremental positive change (Figure 33). Understanding the factors associated with higher referral rates, alongside jurisdictional approaches to referral and follow up, provide opportunities to support more consistent referral across participating hospitals.

30-Day outcome data

Complete 30-day outcome data is important to understand outcomes following PCI, including mortality, readmission and unplanned revascularisation. Improving completeness (Table 1) will increase the NCR's capacity to report these outcomes and support the continued development of risk-adjusted outcome reporting.

2.10 Trends in clinical practice

NCR data provide an opportunity to examine how selected aspects of PCI practice are changing across Australia. Trends over time provide insight into shifts in procedural approaches and models of care, complementing the quality indicators and outcomes throughout this report.

Radial access

The use of radial access has increased over time and is now the predominant access route for PCI with excellent results (Figure 12). This trend is consistent with guideline recommended practice and represents an important shift in PCI care nationally.

Same-day discharge

Same-day discharge following PCI is increasingly being considered for appropriately selected patients. NCR data provide insight into the use of same-day discharge across participating hospitals, with further analysis presented in Section 17.6.

2.11 Future Directions for Quality Improvement

The NCR will continue to strengthen its approach to national quality reporting through enhanced analytical capability and more meaningful interpretation of outcomes. Priorities include further development of risk-adjusted outcome reporting, improving the completeness of 30-day follow up and strengthening approaches to understanding variation in care and outcomes.

The NCR is also exploring opportunities to expand into additional areas of cardiovascular care, including cardiac implantable electronic devices (CIEDs) and rheumatic heart disease. Broadening the scope of the Registry has the potential to extend national quality reporting across the cardiovascular care landscape and support quality improvement in areas where a coordinated national approach would provide value.

3. Message from the School of Public Health and Preventive Medicine, Monash University

Professor Christopher Reid and Professor Dion Stub Co-Directors
- Centre for Cardiovascular Research and Education in Therapeutics (CCRET)

The National Cardiac Registry is an important part of Monash University's clinical quality registry portfolio within the School of Public Health and Preventive Medicine (SPHPM) and the Centre for Cardiovascular Research and Education in Therapeutics (CCRET). The NCR combines clinical expertise with national data and analysis to support a better understanding of PCI care and outcomes across Australia.

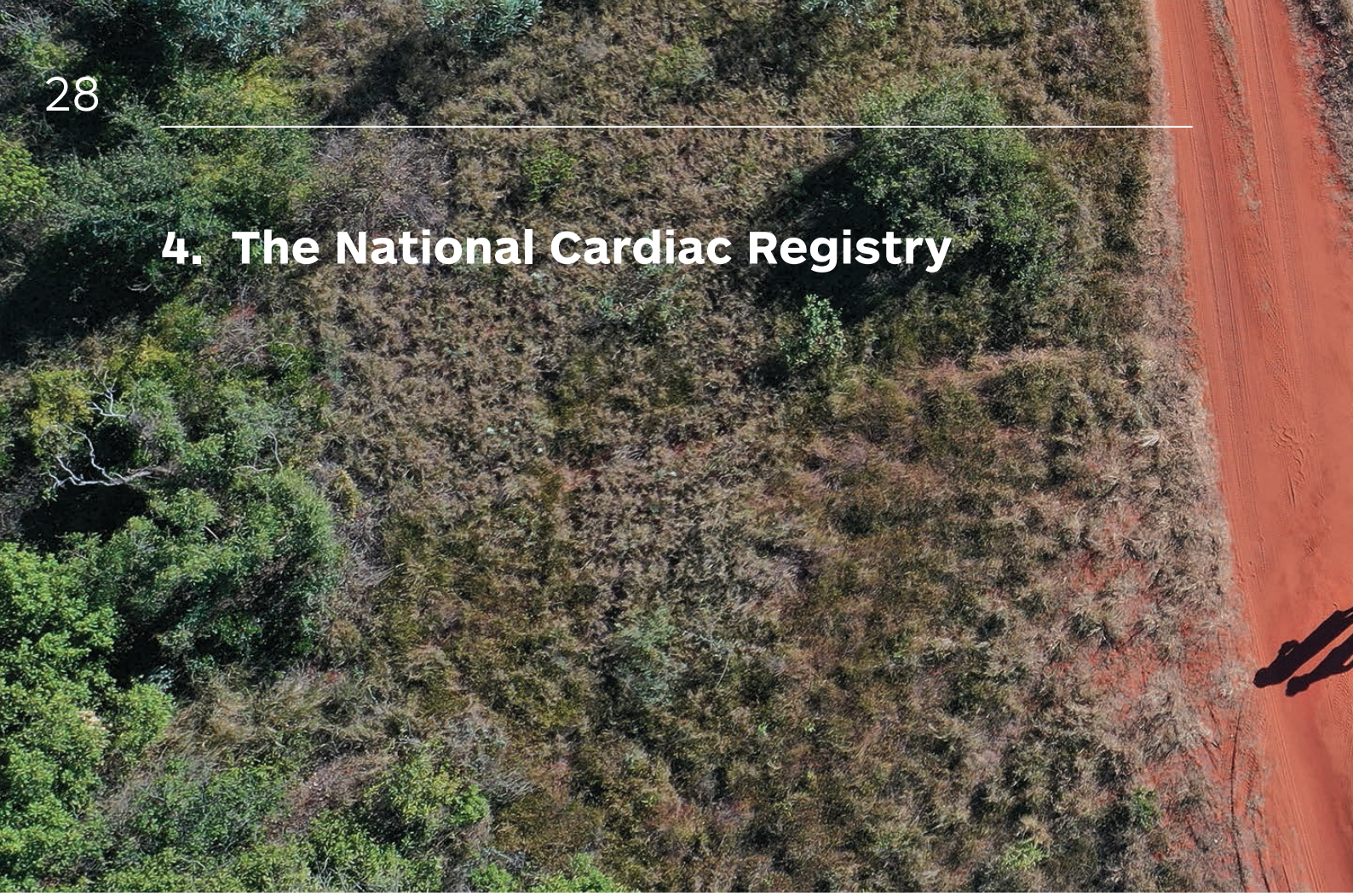
Since its establishment, Monash University has supported the national delivery of the NCR through registry management, data management and analysis, reporting, governance and infrastructure. Through CCRET and SPHPM, this work draws on expertise in cardiovascular medicine, clinical quality registries, biostatistics and population health, and is undertaken in collaboration with clinicians, jurisdictions, governments and consumers across Australia.

As participation and data completeness have increased, NCR reporting has developed to provide greater insight into patterns and variation in PCI care across Australia. Rigorous risk adjustment — accounting for differences in patient case-mix, clinical complexity and procedural risk between sites and jurisdictions is an crucial new addition to NCR reporting framework. Robust, risk-adjusted national benchmarking allows results to be interpreted with confidence, recognises genuine variation in outcomes, and supports shared learning across the network, while analysis over time can identify changes in clinical practice and opportunities for further improvement.

The value of the NCR also extends beyond procedural outcomes alone. Increasing emphasis is being placed on measures of appropriateness – whether PCI is undertaken in accordance with accepted clinical indications and guideline recommendations – alongside broader indicators of high-quality care, such as guideline-directed pharmacotherapy at discharge, timely access to treatment, and adherence to recognised care pathways. Reporting against this fuller set of structure, process and outcome measures, consistent with internationally recognised frameworks for quality-of-care evaluation, provides a more complete picture of care across the patient journey and strengthens the NCR's capacity to identify not only whether outcomes differ, but why, and where improvement efforts are best directed.

Continued development of data quality, analytical methods and reporting – including refinement of risk-adjustment models and expansion of appropriateness and quality-of-care measures – will increase the NCR's capacity to support clinical quality improvement and health system decision making. CCRET and SPHPM remain committed to supporting this work and to ensuring the NCR continues to provide clinically relevant, methodologically rigorous national reporting that contributes to the quality and safety of cardiovascular care in Australia.

4. The National Cardiac Registry



2016-18

Ischaemic Heart Disease prioritised by ACSQHC

National registry concept established

National data framework developed

2019

NCR Project team established – Monash University

Inaugural Steering Committee meeting with representation from all States and Territories

2020-21

NCR Indigenous Committee established

NCR Platform launched nationally

NCR Ltd incorporated

2022

All States and Territories contributing

First public-facing Annual Status Report

2023

Private hospital participation commenced

NCR exceeds 70,000 PCI procedures

2024

NCR Direct Entry Model established

REDCap data entry tool developed

Partnership with Her Heart

2025-2026

68 hospitals contributed since 2019

Over 146,000 PCI procedures

Risk-adjusted outcome reporting introduced

5. Message from the Chair of the NCR Indigenous Committee

Mr David Follent – Chair of the NCR Indigenous Committee

This year has been a significant period for the National Cardiac Registry (NCR) Indigenous Committee as we continue to strengthen Indigenous leadership, governance and self-determination across the work of the Registry.

A major focus for the Committee has been the development of an Indigenous Data Sovereignty Framework in partnership with Gullidala, an Indigenous-led not-for-profit social enterprise. This work recognises that Indigenous data is far more than information. It represents our peoples, our communities, our stories and our experiences of health and healthcare.

For a national clinical registry, the way Indigenous data is collected, governed, interpreted and used matters. Through this work, we are seeking to ensure that Aboriginal and Torres Strait Islander peoples have a meaningful voice in decisions about data relating to our communities, and that the NCR uses this information in ways that are respectful, culturally safe and ultimately contribute to better cardiovascular health outcomes.

Importantly, this work is about more than developing a framework. It is about embedding the principles of Indigenous Data Sovereignty into the way the NCR operates and strengthening Indigenous governance, accountability and leadership throughout the Registry.

I would like to acknowledge and sincerely thank the members of the NCR Indigenous Committee. Each member brings unique knowledge, experience, perspectives and connections to community. It is this collective wisdom that shapes and strengthens our work. The generosity with which members share their expertise, challenge our thinking and contribute to our shared purpose is deeply valued. The progress we have made is a reflection of our collective effort and commitment.

We also extend our gratitude to Gullidala for the leadership, knowledge and partnership they have brought to this important work, and to our colleagues and partners across the NCR who continue to listen, learn and work alongside the Committee.

As we look ahead, we are excited by the opportunities before us. However, achieving meaningful and lasting change cannot rest with one committee, one organisation or one part of the health system alone. It requires a collective commitment across Australia.

Our call to action is to everyone who collects, holds, analyses or uses clinical data relating to Aboriginal and Torres Strait Islander peoples: work with us. Listen to Indigenous voices. Strengthen Indigenous governance. Respect the principles of Indigenous Data Sovereignty. Ensure that the knowledge generated through our data is returned in ways that benefit our people and our communities.

There is enormous opportunity in what comes next. Together, we can build a National Cardiac Registry that not only measures outcomes, but helps to improve them. We can create a national approach in which Indigenous leadership, knowledge and self-determination are embedded in how we understand, monitor and improve cardiovascular health.

We look forward to continuing this journey together.

6. Participating Hospitals (2019-2025)

ACT

The Canberra Hospital

NSW

Coffs Harbour Hospital

Concord Repatriation General Hospital

Dubbo Hospital

Gosford Hospital

Lismore Base Hospital

Nepean Hospital

Orange Hospital

Port Macquarie Hospital

Tweed Valley Hospital

Wollongong Hospital

NT

Royal Darwin Hospital

QLD

Cairns Hospital

Gold Coast University Hospital

Ipswich Hospital

Mackay Base Hospital

Princess Alexandra Hospital

Royal Brisbane and Women's Hospital

Sunshine Coast University Hospital

The Prince Charles Hospital

Townsville University Hospital

SA

Ashford Hospital

Calvary Adelaide Hospital

Lyell McEwin Hospital

Royal Adelaide Hospital

The Queen Elizabeth Hospital

TAS

Hobart Private Hospital

Launceston General Hospital

Royal Hobart Hospital

VIC

Albury Hospital

Austin Hospital

Ballarat Hospital

Bendigo Health

Box Hill Hospital

Cabrini Health

Epworth Healthcare (Eastern)

Epworth Healthcare (Geelong)

Epworth Healthcare (Richmond)

Footscray Hospital

Frankston Hospital

Holmesglen Private Hospital

Jessie McPherson Private Hospital

Knox Private Hospital

Latrobe Regional Hospital

Melbourne Private Hospital

Mulgrave Private Hospital

Northern Hospital

Northern Private Hospital

Peninsula Private Hospital

Royal Melbourne Hospital

St John of God Ballarat

St John of God Bendigo

St John of God Berwick

St John of God Geelong

St Vincent's Hospital Melbourne

St Vincent's Private Hospital, Melbourne

St Vincent's Private Hospital, Werribee

Sunshine Hospital

The Alfred Hospital

Victorian Heart Hospital

University Hospital Geelong

Warringal Private Hospital

Western Private Hospital

WA

Fiona Stanley Hospital

Royal Perth Hospital

Sir Charles Gairdner Hospital

7. Data and Reporting

Dynamic Reporting

The NCR reporting approach continues to evolve alongside the maturity of the Registry, providing hospitals, jurisdictions and governments with timely and meaningful information to support clinical governance, quality improvement and service planning.

In addition to the Annual Status Report, the NCR reporting platform allows users to explore trends, benchmark results and view key quality indicators. Supplementary jurisdictional reports provide further comparison of hospital and jurisdiction results against the national cohort.

Opportunities to further enhance reporting are being explored, including more timely dashboards, expanded reporting functionality and tailored user access.

NCR Platform Design

The NCR platform supports the capture, hosting and reporting of national PCI data, with flexibility to adapt as the Registry develops. It supports Comma Separated Value (CSV) uploads, interactive reporting and customisable filters, providing the infrastructure for data contribution from participating jurisdictions and hospitals (Figures 3 and 4).

Recent improvements have focused on an expanded dataset, strengthened security measures and infrastructure enhancements. Recommendations from the comprehensive security review have been progressively implemented, supporting the ongoing security and integrity of the NCR platform and data.

Figure 3: Platform key attributes

Browser based	Dynamic reporting
User credentialing	Cloud hosting
Upload via CSV template	Multi-factor authentication
Anytime download of data	De-identified

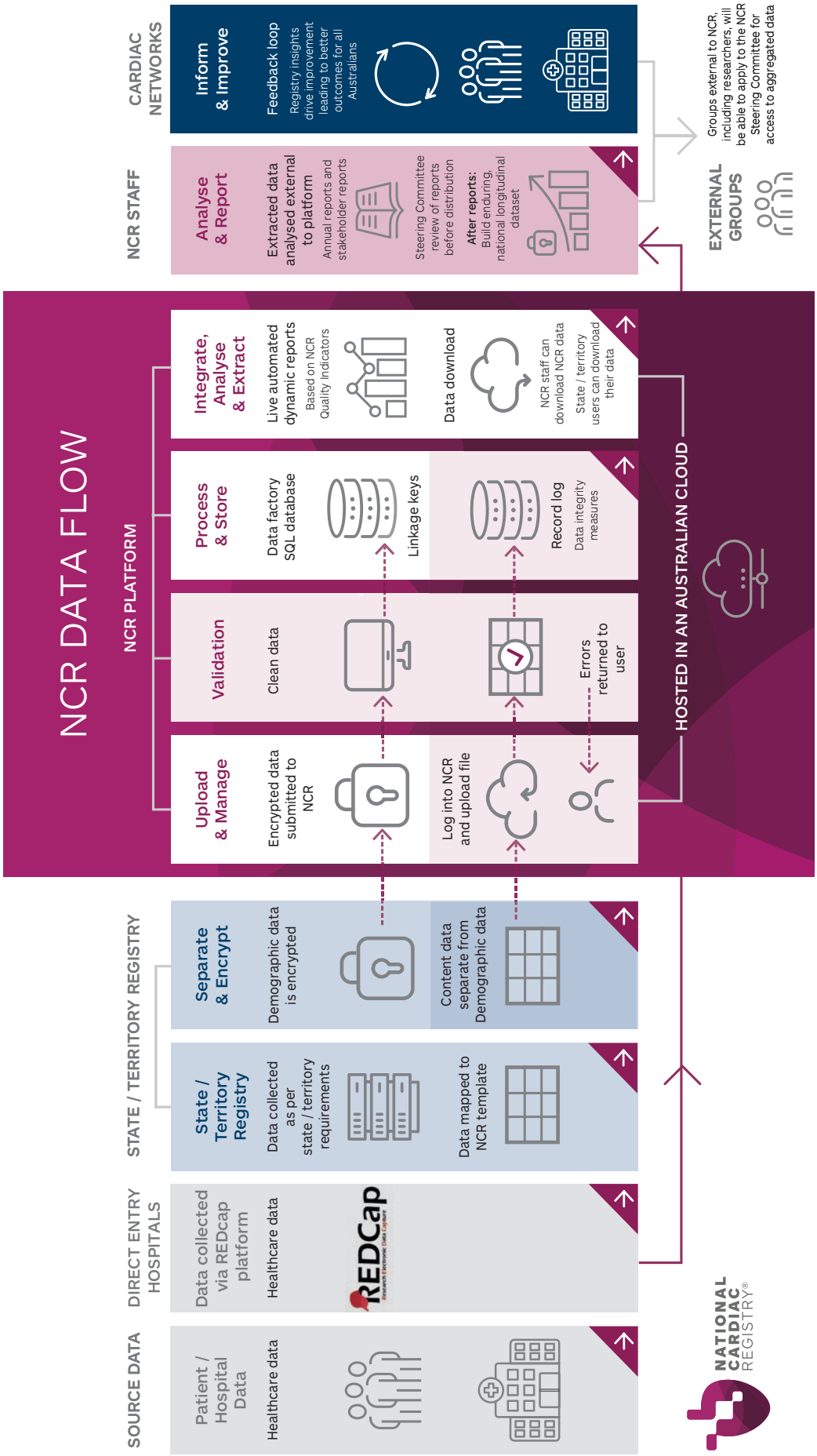
REDCap Data Entry Tool

The NCR's bespoke REDCap data entry tool provides hospitals with a pathway to contribute data directly where submission through a State or Territory based participating registry is not available (Figure 4). The secure, web-based tool supports data quality at the point of entry and can adapt as NCR data requirements evolve.

Hosted and managed within Australia by Monash University, the tool supports data collection across individual hospitals and hospital groups, with functionality for reporting and data extracts[11].

11 Monash University (2026) *Monash REDCap*, accessed 18 August 2026.

Figure 4: The NCR Data Flow



8. Data Governance, Security and Ethics

Data Management and Security

The NCR applies a nationally consistent approach to data management, supported by governance frameworks developed in collaboration with participating States and Territories. The NCR Data Management Plan and Data Governance Framework guide the collection, storage, access and use of NCR data.

These frameworks incorporate the principles of the Five Safes Framework[12], supporting the responsible management and use of registry data while maintaining appropriate safeguards for privacy, confidentiality and security.

Ethics

The NCR maintains Human Research Ethics Committee (HREC) approval under the National Mutual Acceptance (NMA) Scheme (link HREC NMA), supporting a consistent ethical approach to participation across Australia while accommodating State and Territory requirements.

The NCR operates under a waiver of consent for data contributed through participating jurisdictional registries, while hospitals participating through the Direct Entry Model operate under an opt-off consent model. Local governance approvals are obtained where required to support participation in accordance with relevant ethical and legislative requirements.

12 Australian Institute of Health and Welfare (2023) *The Five Safes framework*, accessed 15 August 2026.

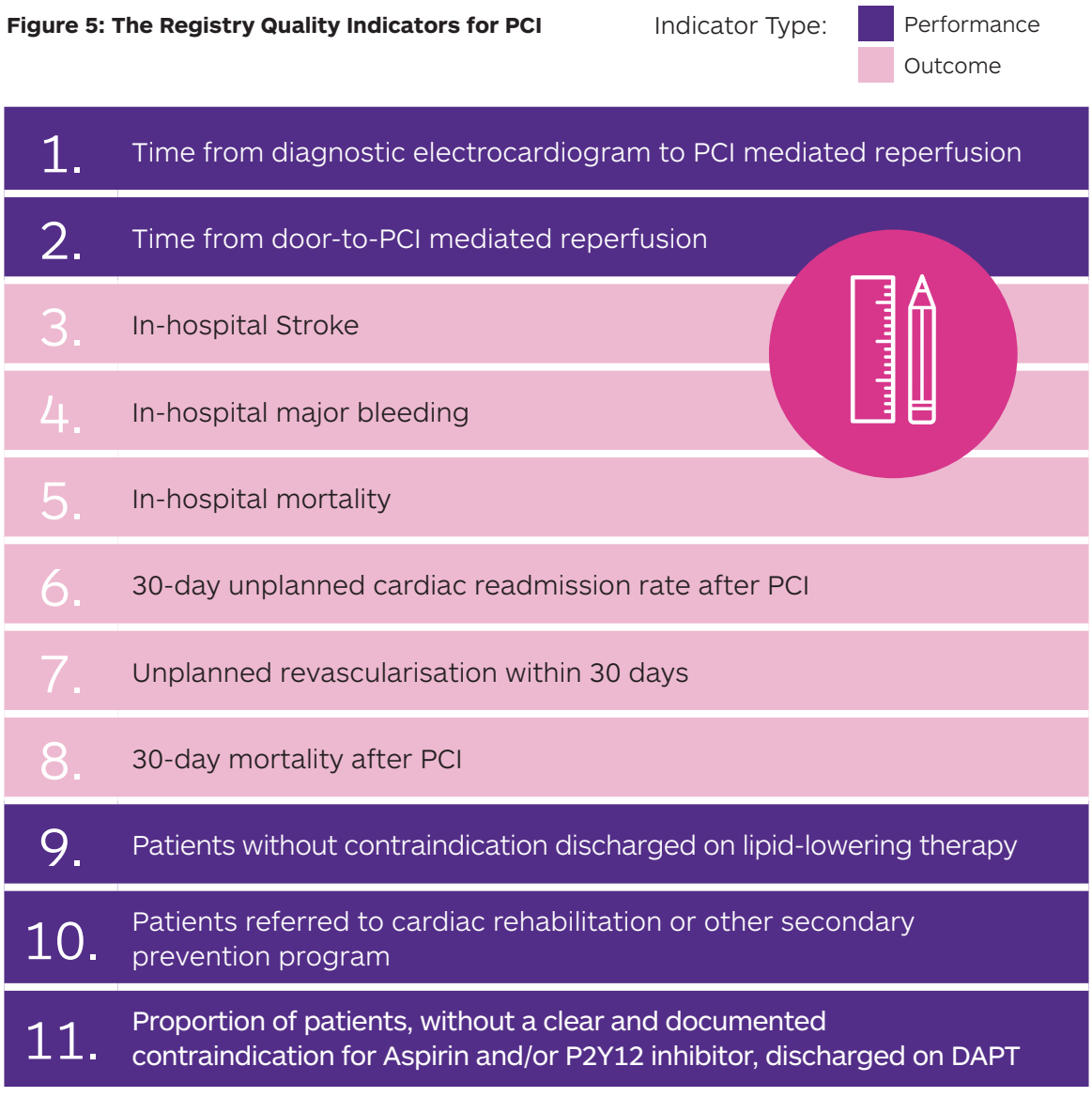
9. NCR Quality Indicators

Quality Indicators (QIs) provide a structured approach to measuring the quality of care and outcomes for patients undergoing PCI. The NCR's eleven QIs span the patient journey, capturing measures of timely reperfusion, procedural care, secondary prevention, in-hospital complications and 30-day outcomes (Figure 5).

The eleven NCR QIs were endorsed by the NCR Steering Committee following a review of national and international clinical standards, guidelines and established cardiac registry models. This included the Acute Coronary Syndromes Clinical Care Standards, Canadian Cardiovascular Society Quality Indicators for PCI, European Society of Cardiology Guidelines, SWEDEHEART and the National Institute for Cardiovascular Outcomes Research (UK), alongside the Australian CADOSA, QCOR and VCOR registries.

The QIs and supporting dataset were subsequently reviewed and endorsed in 2023 by an expert advisory group with representation from all Australian jurisdictions. The next review is planned for 2026, supporting continued clinical relevance and alignment with evolving standards and guideline recommended care.

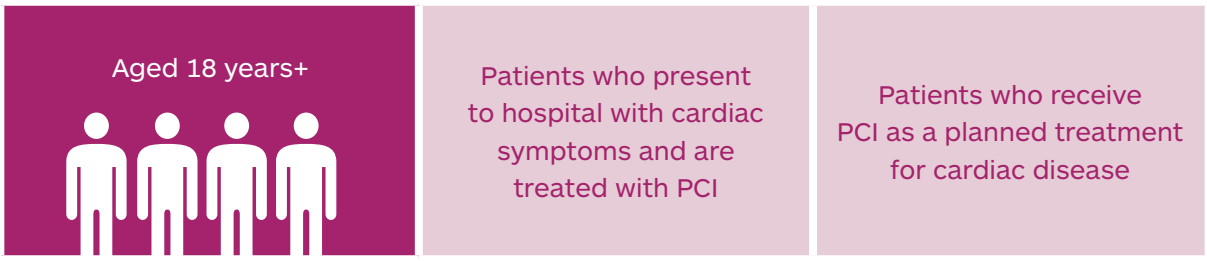
Figure 5: The Registry Quality Indicators for PCI



9.1 Data completeness

The NCR reports on all eleven Quality Indicators, with data availability varying across indicators according to jurisdictional collection and follow up arrangements. Table 1 presents the jurisdictions and hospitals contributing data to each indicator, while Figure 6 outlines the eligible patient cohorts.

Figure 6: Eligible Participants



Data availability is highest for in-hospital measures, with greater variation for Quality Indicators requiring 30-day follow up. Jurisdictions continue to strengthen follow up collection processes and supporting infrastructure, increasing the NCR's capacity to report outcomes beyond the hospital admission.

Table 1: Registry Quality Indicators (QIs) and data completeness 2025

	Indicator Type	Quality Indicator	Data completeness (%)	Hospitals contributing to QI	State/ Territories included in 2025 QI reports
1	Performance	Time from diagnostic electrocardiogram to PCI mediated reperfusion	100	50	8
2	Performance	Time from door-to-PCI mediated reperfusion	100	50	8
3	Outcome	Peri-PCI stroke	100	62	8
4	Outcome	In hospital major bleeding	97	60	8
5	Outcome	In hospital mortality	98	61	8
6	Outcome	30-day unplanned cardiac readmission rate after PCI	69	43	5
7	Outcome	Unplanned revascularisation within 30 days	69	43	5
8	Outcome	30-day mortality after PCI	87	54	7
9	Performance	Patients without contra indication discharged on lipid-lowering therapy	84	52	7
10	Performance	Patients referred to cardiac rehabilitation or other secondary prevention program	97	60	8
11	Performance	Proportion of patients without a clear and documented contraindication for Aspirin and/or a P2Y12 inhibitor, discharged on DAPT	84	52	7

10. Cardiovascular Disease in Australia

Cardiovascular disease (CVD) in Australia encompasses a range of conditions affecting the heart and blood vessels, including coronary heart disease, stroke and other vascular conditions. Coronary heart disease occurs when the coronary arteries supplying blood to the heart become narrowed or blocked, and can present as angina or acute coronary syndrome, including heart attack.

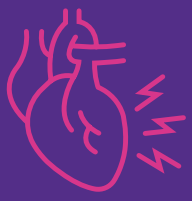
CVD remains a major contributor to illness, hospitalisation and mortality in Australia. Approximately 1.3 million Australians are living with CVD, with an estimated 634,000 hospitalisations and 42,300 deaths attributed to cardiovascular conditions annually, based on the latest reporting from the Australian Institute of Health and Welfare (AIHW)[13]. Cardiovascular disease contributes to the overall burden of disease and health system expenditure, reinforcing the importance of prevention, timely treatment and ongoing management.

10.1 Management of Cardiovascular Disease

Prevention and management of CVD involve addressing modifiable risk factors, including smoking, high blood pressure, abnormal blood lipids, physical inactivity and diet. Management may include lifestyle changes and medicines to reduce cardiovascular risk, alongside ongoing care for people with established disease.

For people with coronary heart disease, treatment depends on the clinical presentation and severity of disease. This may include medical therapy and, where appropriate, procedures to restore blood flow to the heart, including percutaneous coronary intervention (PCI) or coronary artery bypass graft surgery (CABG). PCI is an important treatment for narrowed or blocked coronary arteries and is the current focus of clinical quality reporting within the NCR.

10.2 Percutaneous Coronary Intervention



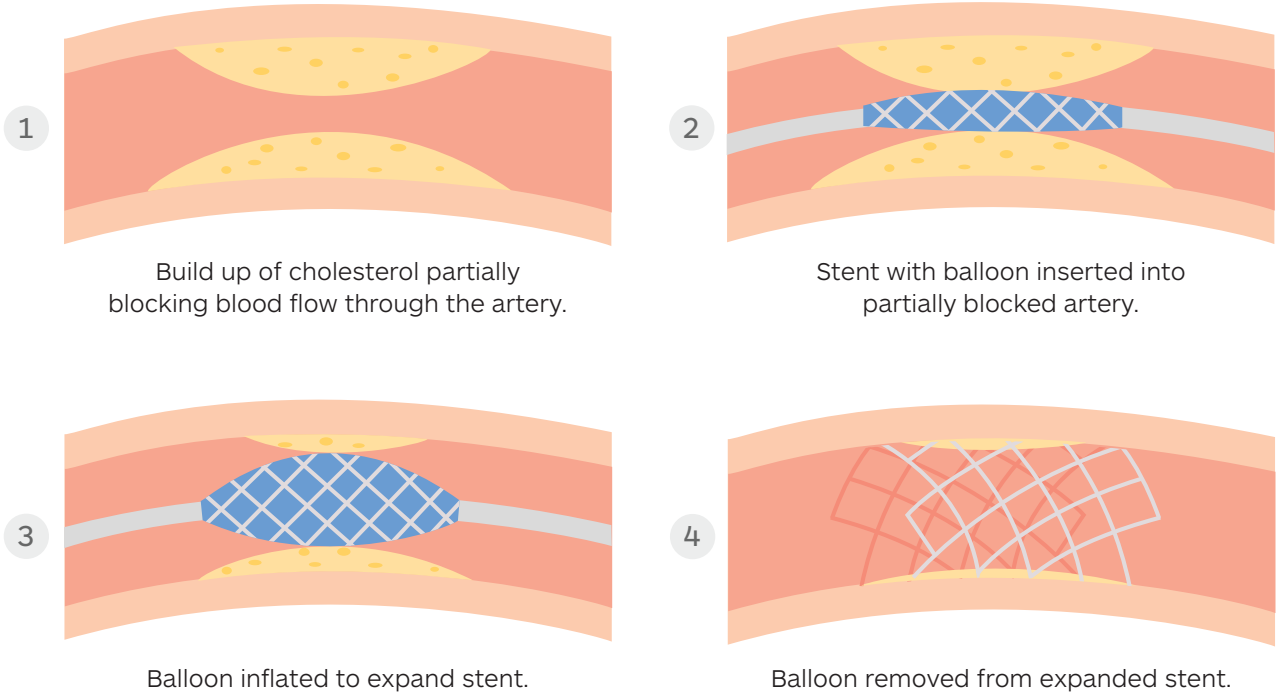
Percutaneous Coronary Intervention (PCI)
is a non-surgical procedure to relieve the narrowing or blockage of the coronary arteries and improve blood supply to the heart

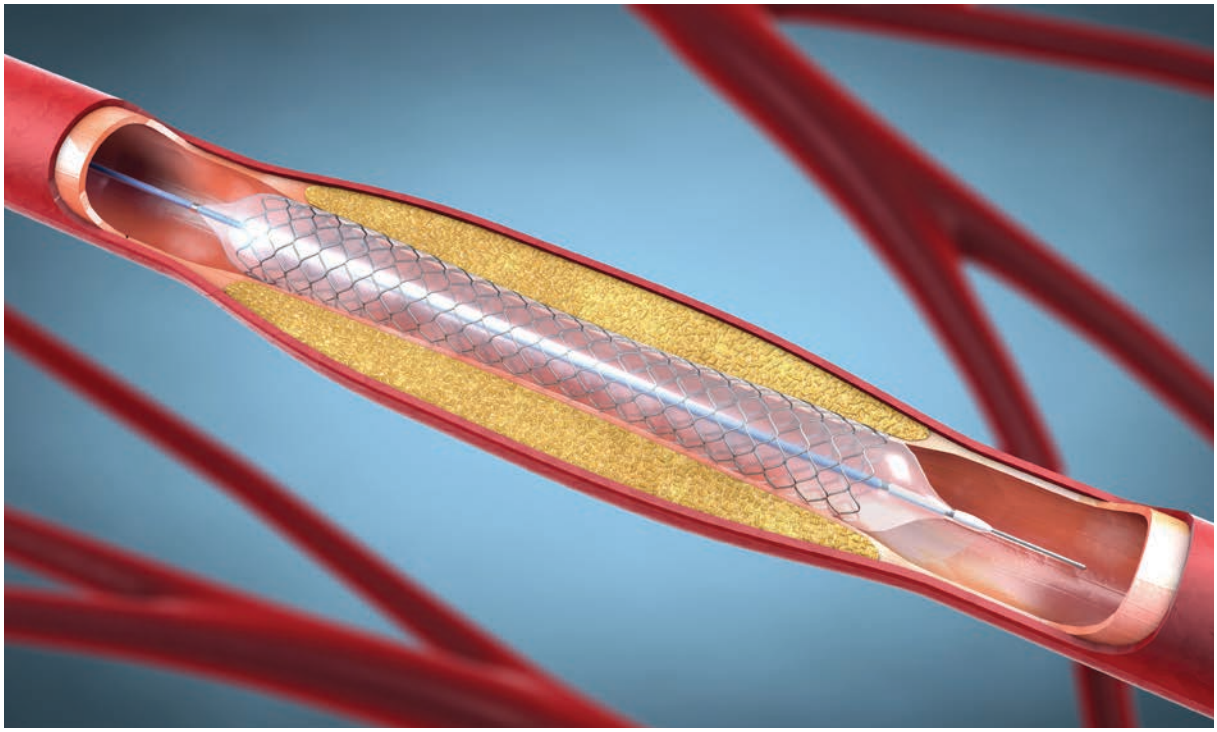
Percutaneous coronary intervention (PCI) is a minimally invasive procedure used to restore blood flow through narrowed or blocked coronary arteries. It is commonly used in the treatment of coronary heart disease, including for patients presenting with acute coronary syndromes such as heart attack

During PCI, a catheter is guided through an artery, usually from the wrist or groin, to the affected coronary artery. A small balloon is used to widen the narrowed area and, in most cases, a stent is placed to help keep the artery open and maintain blood flow to the heart.

13 Australian Institute of Health and Welfare (2026) *Heart, stroke and vascular disease: Australian facts*, accessed 31 August 2026.

Figure 7: Percutaneous Coronary Intervention with stent insertion





11. Message from the Heart Foundation

David Anderson - Interim Chief Executive Officer, Heart Foundation

At the Heart Foundation, our vision is Health for Every Heart: a future where everyone in Australia can achieve their best possible cardiovascular health by 2050.

That vision depends on quality data to show what works, where improvement is needed and how every Australian can access the best possible care.

That is why the National Cardiac Registry is so important, and why I am pleased to commend this latest report.

It shows the NCR is strengthening Australia's understanding of cardiovascular care:

- It now captures about 53% of Australian PCI procedures, building a stronger national picture of care
- 62 hospitals across all states and territories contributed data in 2025, supporting benchmarking and quality improvement
- Timely heart attack treatment can improve further, including greater use of pre-hospital notification to speed life-saving care
- Risk-adjusted outcome reporting is helping compare outcomes more meaningfully across patient populations and services

The report also shows encouraging progress in the collection, governance and visibility of First Nations cardiovascular data, helping services better understand inequities and target improvement. However, it also confirms that First Nations people continue to experience a far higher prevalence of cardiovascular disease.

I was also heartened to read Dr Jim Leitch's foreword, which acknowledged the Heart Foundation and Cardiac Society of Australia and New Zealand *Australian Guidelines for the Management of Acute Coronary Syndromes 2025* and its role in helping clinicians diagnose and manage people with suspected or confirmed acute coronary syndromes.

It must always be remembered that every NCR data point is a person, family and community. By turning evidence into action, the NCR helps bring Health for Every Heart closer for all.

Heart Foundation

12. Clinical Findings

NCR data provide a national view of the characteristics, clinical presentation, treatment and outcomes of patients undergoing PCI across participating Australian hospitals.

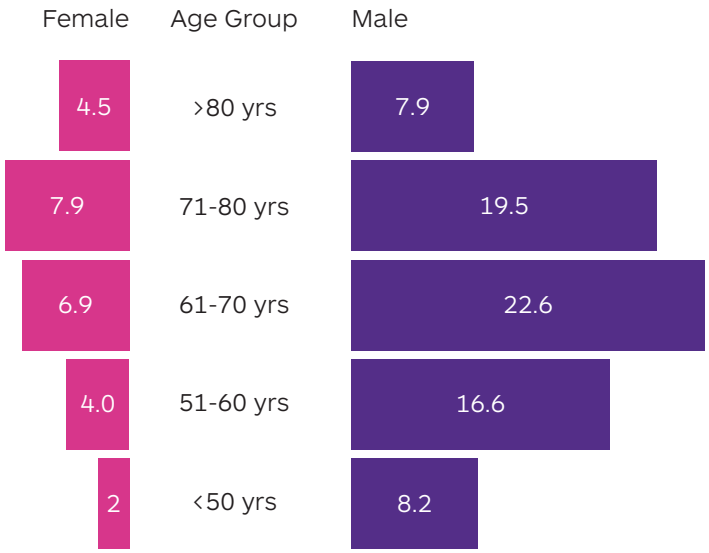
12.1 Clinical Profile of Patients Undergoing PCI

Patient Characteristics

In 2025, a higher proportion of PCI procedures were undertaken in public hospitals (78.7%) than in private hospitals (21.3%), consistent with the previous reporting period. The distribution by sex also remained relatively stable, with men accounting for 74.1% of procedures and women 25.9% (Table 2A). The median age was 67 years (IQR: 58, 75) for men and 71 years (IQR: 62, 68) for women, with women continuing to be older at the time of PCI.

The highest frequency of PCI between 2019 and 2025 remained among men in their 60s and women in their 70s (Figure 8A), with 14.8% of patients undergoing more than one PCI procedure.

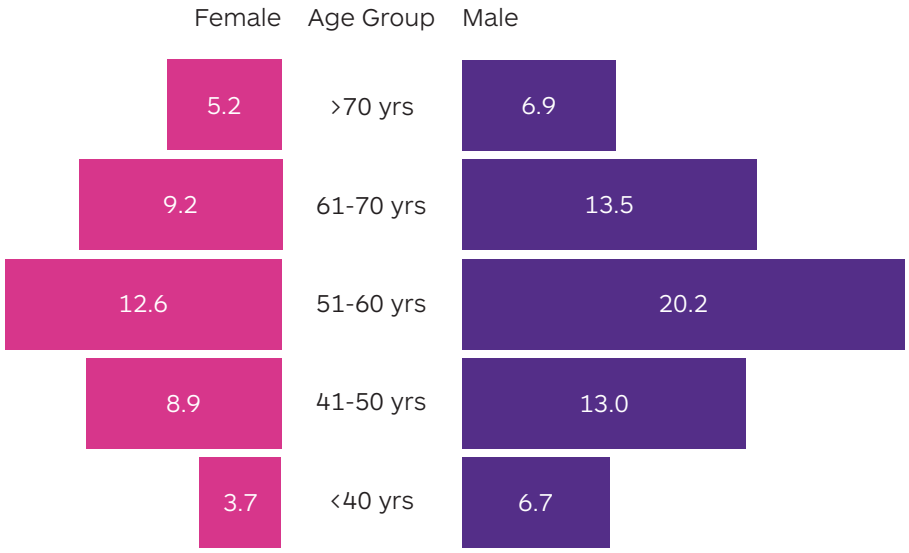
Figure 8A: Age group and sex (2020 - 2025)



Between 2020 and 2025, 3.3% of patients undergoing PCI identified as Aboriginal and/or Torres Strait Islander People, increasing from 3.1% in the previous reporting period. Within this cohort, men accounted for 60.4% of procedures and women accounted for 39.6% of procedures. The median age was similar for men and women, at 55 years (IQR: 48, 64) for men, and 56 years (IQR: 47, 65) for women. The highest frequency of PCI remained among patients in their 50s for both men and women (Figure 8B).

Within the cohort, diabetes was more frequently reported among women (60.3%) than men (41.2%). Previous PCI was more frequent among men (29.8%) than women (27.5%), as was previous CABG (7.0% for men and 6.4% for women). Rates of peripheral vascular disease were similar for men (5.1%) and women (5.5%).

Figure 8B: Aboriginal and/or Torres Strait Islander distribution of PCI by age group and sex (2020 - 2025)



Trends in patient demographics and clinical features (2019 – 2025)

Patient characteristics from 2019 – 2025 are summarised in Table 2A. Across the reporting period, median age increased slightly following the inclusion of private hospital data, while the prevalence of diabetes remained relatively stable, small increases were seen in 2024 and 2025. Previous PCI increased over time, while peripheral vascular disease and previous CABG decreased slightly. The distribution of procedures between men and women remained relatively consistent across the reporting period.

Table 2A: Patient characteristics and trends 2019 – 2025

Patient characteristics	PUBLIC			PUBLIC & PRIVATE			
	2019	2020	2021	2022	2023	2024	2025
	N=13,519	N=15,559	N=16,302	N=20,606	N=23,359	N=25,495	N=27,708
Age - years (mean +/- SD)	64.6 +/- 12.1	64.5 +/- 12.2	64.7 +/- 12.1	66.4 +/- 11.9	66.5 +/- 12.0	66.6 +/- 12.1	66.9 +/- 12.0
Sex - women (%)	24.2	25.1	25.5	24.6	25.6	24.7	25.9
Diabetes (%)	27.0	27.3	27.4	26.1	27.0	28.8	29.6
Peripheral vascular disease (%)	5.1	4.5	3.6	3.5	3.9	3.9	4.0
Previous PCI (%)	24.6	25.1	25.4	28.1	28.6	28.7	31.3
Previous CABG (%)	7.1	6.5	6.3	5.9	6.0	5.7	5.6

Patient characteristics by clinical presentation 2025

Patient characteristics by clinical presentation are characterised in Table 2B across ST-elevation myocardial infarction (STEMI), non-ST-elevation acute coronary syndromes (NSTEACS) and non-acute coronary syndromes (non-ACS).

Patients presenting with STEMI continued to be younger and had lower rates of diabetes, peripheral vascular disease and severe obesity than patients with other clinical presentations. Previous revascularisation was also less frequent, with 15.1% having undergone previous PCI and 2.3% previous CABG. Moderate to severe left ventricular dysfunction remained more common among patients presenting with STEMI (34.0%), compared with 15.8% for NSTEACS and 13.7% for non-ACS. Cardiogenic shock (6.9%) and out-of-hospital cardiac arrest (OHCA) (6.2%) were also more frequent among the STEMI cohort, reflecting the higher acuity of these presentations.

Table 2B: Patient characteristics by clinical presentation 2025

Patient characteristics	STEMI (N=6,471)	NSTEACS (N=8,136)	Non-ACS (N=13,068)	All (N=27,675)**
Age - years (mean +/- SD)	63.9 +/- 12.6	66.3 +/- 12.5	68.8 +/- 10.9	66.9 +/- 12.0
Sex - women (%)	24.2	28.4	25.1	25.9
Sex - men (%)	75.8	71.6	74.9	74.1
Diabetes (%)	25.2	31.9	30.3	29.6
Peripheral vascular disease* (%)	2.6	4.4	4.3	4.0
Severe obesity (BMI≥35kg/m^2) (%)*	10.5	14.0	12.6	12.5
Previous PCI (%)	15.1	26.7	42.3	31.3
Previous CABG (%)	2.3	6.8	6.3	5.6
Moderate or severe LV dysfunction (LVEF<45%) (%)*	34.0	15.8	13.7	19.8
Cardiogenic shock (%)	6.9	1.0	0.7	2.2
Out-of-hospital cardiac arrest (%)	6.2	0.6	0.9	2.0
Estimated glomerular filtration rate ≤30mls/min (%)*	3.2	4.2	3.0	3.4

*Missing data for peripheral vascular disease (N=3,653), severe obesity (N=1,073), moderate or severe left ventricular dysfunction (N=7,014) and estimated glomerular filtration rate (N=7,350). **Missing data (N=33).

Aboriginal and Torres Strait Islander Patient Characteristics by Clinical Presentation

Patient characteristics by clinical presentation for Aboriginal and Torres Strait Islander patients are presented for the combined 2020 – 2025 period in Table 2C, across STEMI, NSTEACS and non-ACS presentations.

Within this cohort, patients presenting with STEMI continued to be younger and had lower rates of diabetes, peripheral vascular disease and severe obesity than those presenting with NSTEACS or non-ACS. Previous PCI and CABG were also less frequent among STEMI presentations. Moderate to severe left ventricular dysfunction was more common among patients presenting with STEMI (35.9%), followed by NSTEACS (20.5%) and non-ACS (21.5%). Cardiogenic shock and OHCA were also more frequent among STEMI presentations, consistent with the higher acuity of these presentations.

Table 2C: Aboriginal and Torres Strait Islander Patient characteristics by clinical presentation 2020 – 2025

Patient characteristics	STEMI (N=1,413)	INSTEACS (N=1,859)	Non-ACS (N=1,404)	All (N=4,676)
Age - years (mean +/- SD)	53.0 +/- 11.8	55.7 +/- 12.0	59.4 +/- 11.5	56.0 +/- 12.0
Sex - women (%)	34.7	42.8	40.4	39.6
Sex - men (%)	65.3	57.2	59.6	60.4
Diabetes (%)	38.6	53.7	52.6	60.4
Peripheral vascular disease* (%)	3.6	4.9	7.2	5.2
Severe obesity (BMI≥35kg/m^2) (%)*	15.2	19.9	21.1	18.8
Previous PCI (%)	15.4	26.8	45.3	28.9
Previous CABG (%)	2.8	8.7	8.3	6.8
Moderate or severe LV dysfunction (LVEF<45%) (%)*	35.9	20.5	21.5	25.8
Cardiogenic shock (%)	5.8	1.1	0.9	2.5
Out-of-hospital cardiac arrest (%)	5.4	0.5	1.1	2.2
Estimated glomerular filtration rate ≤30mls/in (%)*	2.9	7.9	6.0	6.0

*Missing data for peripheral vascular disease (N=2,903), severe obesity (N= 4,405), moderate or severe left ventricular dysfunction (N=3,813), estimated glomerular filtration rate (N=2,495).

Patient Characteristics by Hospital Type

Patient characteristics are presented according to hospital volume, availability of on-site cardiac surgery and hospital location in Tables 2D-2F.

Hospital Volume

In 2025, low-volume hospitals accounted for 9.0% of PCI procedures, with activity distributed across public and private hospitals in both metropolitan and non-metropolitan locations.

Patient characteristics varied across hospital volume groups, with higher volume hospitals treating a greater proportion of patients with moderate to severe left ventricular dysfunction (21.1% in high volume, 19.3% in medium volume and 12.4% in low volume hospitals). Cardiogenic shock was also more frequent in high volume hospitals (2.5%) than medium volume (1.9%) and low volume hospitals (1.3%). A similar pattern was observed for OHCA and severe renal impairment.

Table 2D: Patient characteristics by hospital volume 2025

Patient characteristics	Low volume <250	Medium Volume 250-500	High volume >250	All
	(N=2,496)	(N=7,221)	(N=17,991)	(N=27,708)
Age - years(mean+/-SD)	67.7 +/- 11.8	67.4 +/- 11.7	66.6 +/- 12.1	66.9 +/- 12.0
Sex - women (%)	28.4	24.9	25.9	25.9
Sex - men (%)	71.6	75.1	74.1	74.1
Diabetes (%)	28.2	26.7	30.9	29.6
Peripheral vascular disease (%)*	2.7	4.1	4.2	4.0
Severe obesity(BMI≥35kg/m^2) (%)*	13.7	13.0	12.2	12.5
Previous PCI (%)	31.9	31.1	31.4	31.3
Previous CABG	4.4	5.8	5.6	5.6
Moderate or severe LV dysfunction (LVEF<45%) (%)*	12.4	19.3	21.1	19.8
Cardiogenic shock (%)	1.3	1.9	2.5	2.2
Out-of-hospital cardiac arrest (%)	0.8	1.9	2.3	2.0
Estimated glomerular filtration rate ≤30mls/min (%)*	3.4	2.7	3.7	3.4

*Missing data for peripheral vascular disease (N=3,653), severe obesity (N=1,073), moderate or severe left ventricular dysfunction (N=7,014) and estimated glomerular filtration rate (N=7,350). **Missing data (N=33).

On-site Cardiac Surgery

In 2025, 60.6% of PCI procedures were undertaken in hospitals with on-site cardiac surgery. Patients treated at these hospitals had higher rates of diabetes (30.2% compared with 28.6%) and previous CABG (6.1% compared with 4.7%), while moderate to severe left ventricular dysfunction was less frequent (18.5% compared with 21.6%).

Table 2E: Patient characteristics by on-site CABG vs off-site CABG hospitals 2025

Patient characteristics	On-site CABG (N=16,786)	Off-site CABG (N=10,922)	All (N=27,708)
Age - years (mean+/-SD)	67.3 +/- 11.9	66.4 +/- 12.0	66.9 +/- 12.0
Sex - women (%)	24.9	27.4	25.9
Sex - men (%)	75.1	72.6	74.1
Diabetes (%)	30.2	28.6	29.6
Peripheral vascular disease (%)*	4.0	4.0	4.0
Severe obesity (BMI≥35kg/m²) (%)*	11.6	14.0	12.5
Previous PCI (%)	32.6	29.4	31.3
Previous CABG	6.1	4.7	5.6
Moderate or severe LV dysfunction (LVEF<45%) (%)*	18.5	21.6	19.8
Cardiogenic shock (%)	2.1	2.5	2.2
Out-of-hospital cardiac arrest (%)	1.8	2.5	2.0
Estimated glomerular filtration rate ≤30mls/min (%)*	3.3	3.5	3.4

*Missing data for peripheral vascular disease (N=3,653), severe obesity (N=1,073), moderate or severe left ventricular dysfunction (N=7,014) and estimated glomerular filtration rate (N=7,350).

Hospital Location

In 2025, non-metropolitan hospitals accounted for 20% of PCI procedures, with 17 participating hospitals located outside of Australian capital cities. Patients treated in non-metropolitan hospitals had higher rates of peripheral vascular disease (5.8% compared with 3.7%) and severe obesity (14.1% compared with 12.1%) than those treated in metropolitan hospitals. A higher proportion of STEMI presentations was also observed in non-metropolitan hospitals (26.4% compared with 22.6%).

Table 2F: Patient characteristics by metro vs non-metro hospitals 2025

Patient characteristics	Metro (N=22,156)	Non-metro (N=5,552)	All (N=27,708)
Age - years (mean+/-SD)	66.9 +/- 12.0	67.0 +/- 11.8	66.9 +/- 12.0
Sex - women (%)	25.4	27.9	25.9
Sex - men (%)	74.6	72.1	74.1
Diabetes (%)	30.0	28.0	29.6
Peripheral vascular disease (%)*	3.7	5.8	4.0
Severe obesity (BMI≥35kg/m²) (%)*	12.1	14.1	12.5
Previous PCI (%)	32.1	28.4	31.3
Previous CABG	5.6	5.4	5.6
Moderate or severe LV dysfunction (LVEF<45%) (%)*	19.0	22.5	19.8
Cardiogenic shock (%)	2.2	2.6	2.2
Out-of-hospital cardiac arrest (%)	2.0	2.4	2.0
Estimated glomerular filtration rate ≤30mls/min (%)*	3.4	3.5	3.4

*Missing data for peripheral vascular disease (N=3,653), severe obesity (N=1,073), moderate or severe left ventricular dysfunction (N=7,014) and estimated glomerular filtration rate (N=7,350).

Patient Characteristics by Sex

Differences in patient characteristics between women and men remained consistent with previous reporting periods. Women were on average three years older than men undergoing PCI and had higher rates of diabetes (33.0% compared with 28.4%) and severe obesity (16.7% compared with 11.1%). Previous revascularisation was more frequent among men, including previous PCI (33.0% compared with 26.5%) and CABG (6.1% compared with 3.9%).

Table 2G: Patient characteristics by sex 2025

Patient characteristics	Men (N=20,539)	Women (N=7,169)	All (N=27,708)
Age - years (mean+/-SD)	66.2 +/- 11.9	69.2 +/- 12.0	66.9 +/- 12.0
Diabetes (%)	28.4	33.0	29.6
Peripheral vascular disease (%)*	3.9	4.2	4.0
Severe obesity (BMI≥35kg/m^2) (%)*	11.1	16.7	12.5
Previous PCI (%)	33.0	26.5	31.3
Previous CABG	6.1	3.9	5.6
Moderate or severe LV dysfunction (LVEF<45%) (%)*	20.3	18.1	19.8
Cardiogenic shock (%)	2.2	2.2	2.2
Out-of-hospital cardiac arrest (%)	2.2	1.6	2.0
Estimated glomerular filtration rate ≤30mls/min (%)*	2.6	5.7	3.4
Out-of-hospital cardiac arrest (%)	2.0	3.0	2.2
Estimated glomerular filtration rate ≤30mls/min (%)*	3.8	4.1	3.8

*Missing data for peripheral vascular disease (N=3,653), severe obesity (N=1,073), moderate or severe left ventricular dysfunction (N=7,014) and estimated glomerular filtration rate (N=7,350).

13. Message from Her Heart

Professor Linda Worrall-Carter, Founder and Director, Her Heart

Sex-disaggregated National Cardiac Registry data are essential to understanding the care women receive across the percutaneous coronary intervention (PCI) pathway. Without them, important differences in presentation, treatment and outcomes can be obscured.

In 2024, building on its existing reporting, the NCR approached Her Heart to collaborate on a dedicated Women and PCI analysis using combined 2020–2023 data. In 2025, the collaboration expanded, using data collected during 2024 to examine differences between women and men across more stages of the PCI journey.

This collaboration led to the development of *The Cardiac Equity Report: Women and PCI in Australia.* It provides a clearer picture of women's experiences across the PCI journey and identifies where differences persist and care can be improved. The key findings show women were older, presented with greater clinical complexity, were less likely to receive radial access and experienced higher rates of major bleeding and in-hospital mortality.

Click here to access the full report: *The Cardiac Equity Report: Women and PCI in Australia*

National reporting helps clinicians identify variation, supports research into why differences occur, and provides evidence to guide policy and quality improvement.

Priorities for action

The findings identify five areas for improvement:

- **Improve early recognition:** Improve awareness and recognition of cardiovascular symptoms in women to reduce delays in presentation and treatment.
- **Increase equity in treatment:** Support consistent access to best-practice PCI care, including the use of radial access where clinically appropriate.
- **Target women at higher risk:** Strengthen pathways for women who present at an older age or with diabetes, severe obesity and other comorbidities.
- **Improve the use of data:** Continue sex-disaggregated reporting, national benchmarking and risk-adjusted analysis to identify variation and measure progress.
- **Strengthen collaboration:** Continue working with clinicians, health services, researchers, policymakers and women with lived experience to translate evidence into action.

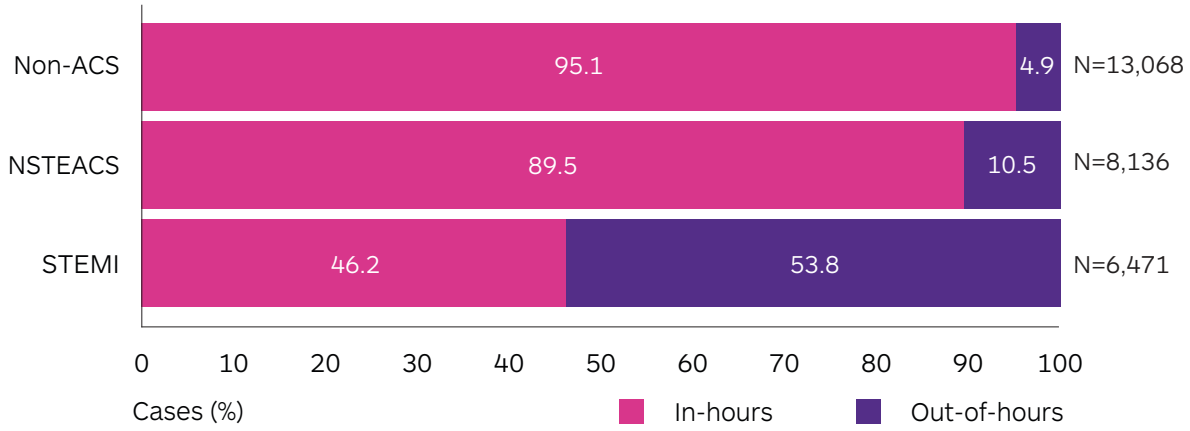
Women must remain visible in cardiovascular data. We must now turn these findings into measurable improvements in the timeliness, equity and quality of cardiovascular care for women across Australia.

Her Heart

14. Clinical Presentation

In 2025, 18.0% (N=4,975) of PCI procedures (N=27,675) were performed out-of-hours, decreasing slightly from 19.7% (N=5,029) of PCI procedures (N=25,478) in 2024. Out-of-hours activity continued to be highest among STEMI presentations, with 53.8% of STEMI procedures occurring out-of-hours, compared with 10.5% of NSTEACS and 4.9% of non-ACS procedures.

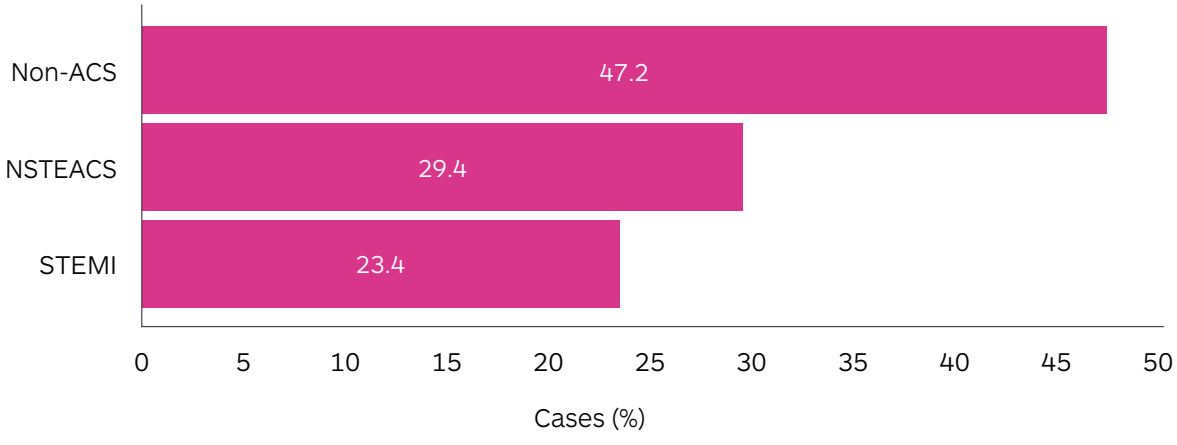
Figure 9: Proportion of cases in-hours and out-of-hours by clinical presentation 2025



ACS presentations accounted for 52.8% of PCI procedures in 2025, comprising 23.4% STEMI and 29.4% NSTEACS, compared with 55.3% in the previous reporting period. ACS activity continued to differ across hospital sectors, accounting for 61.7% of PCI activity in public hospitals and 20.1% in private hospitals.

Of all ACS procedures captured by the NCR, 68.1% were undertaken in high volume hospitals (>500 procedures per year), with 25.2% undertaken in medium volume (250-500 procedures per year) and 2.9% in low volume hospitals (<250 procedures per year). The proportion of ACS cases across individual hospitals ranged from 3.9% to 88.3%, with all participating hospitals treating ACS patients in 2025.

Figure 10: PCI cases by clinical presentation 2025

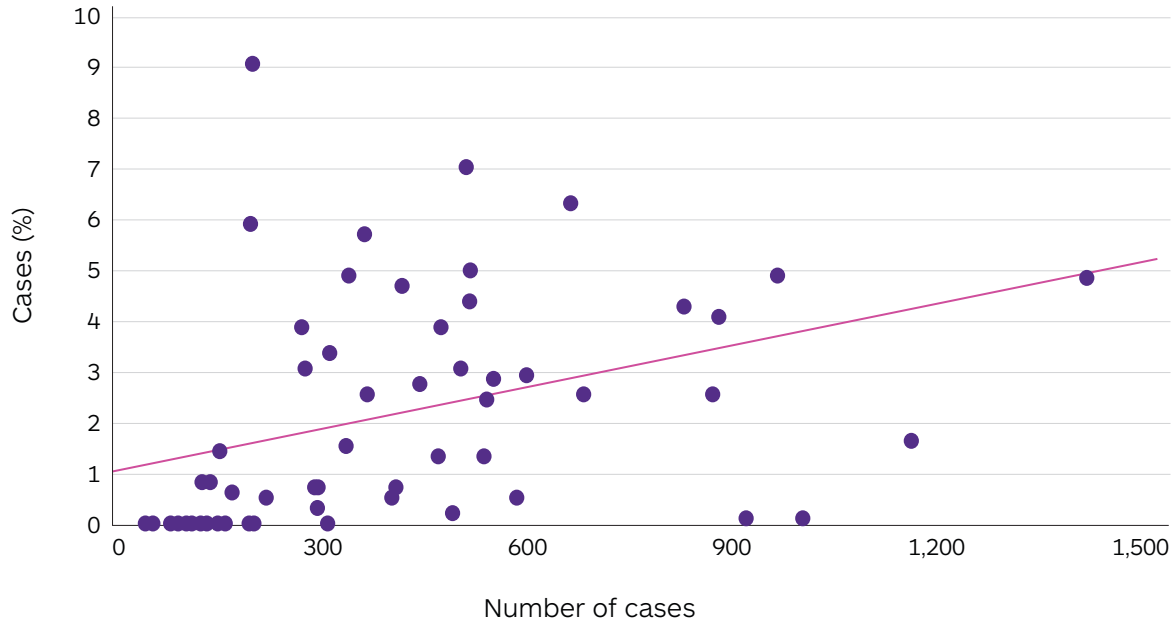


14.1 Cardiogenic Shock and/or Intubated OHCA

Patients presenting with cardiogenic shock and/or intubated out-of-hospital cardiac arrest (OHCA) are reported as a distinct clinical cohort due to the complexity of their presentation and care. In 2025, these patients accounted for 2.7% of PCI cases (N=613), remaining stable from the previous year. The proportion varied across participating hospitals, ranging from 0% to 8.9% (increasing from an upper range of 6.8% in 2024).

The majority of these cases (97.4%) were managed in public hospitals. They represented 3.5% of PCI activity in public hospitals and 0.3% in private hospitals.

Figure 11: Shock and/or intubated OHCA cases by hospital volume 2025*



*6 hospitals excluded due to missing intubation data.

15. Procedural Characteristics

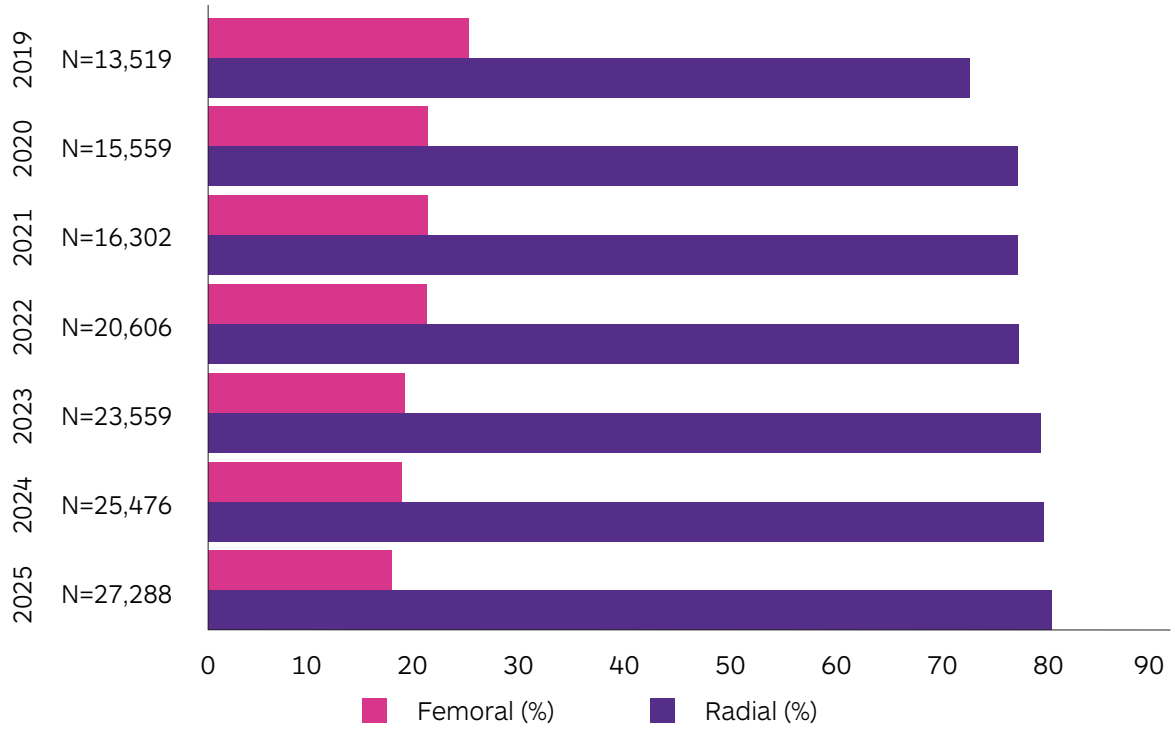
This section presents key procedural characteristics of PCI across participating hospitals and patient groups.

15.1 Access Site

PCI is performed by accessing the arterial system, most commonly through the radial artery in the wrist or the femoral artery in the groin. Radial access is recommended in clinical guidelines and is associated with lower risk of bleeding and vascular complications in patients where appropriate.

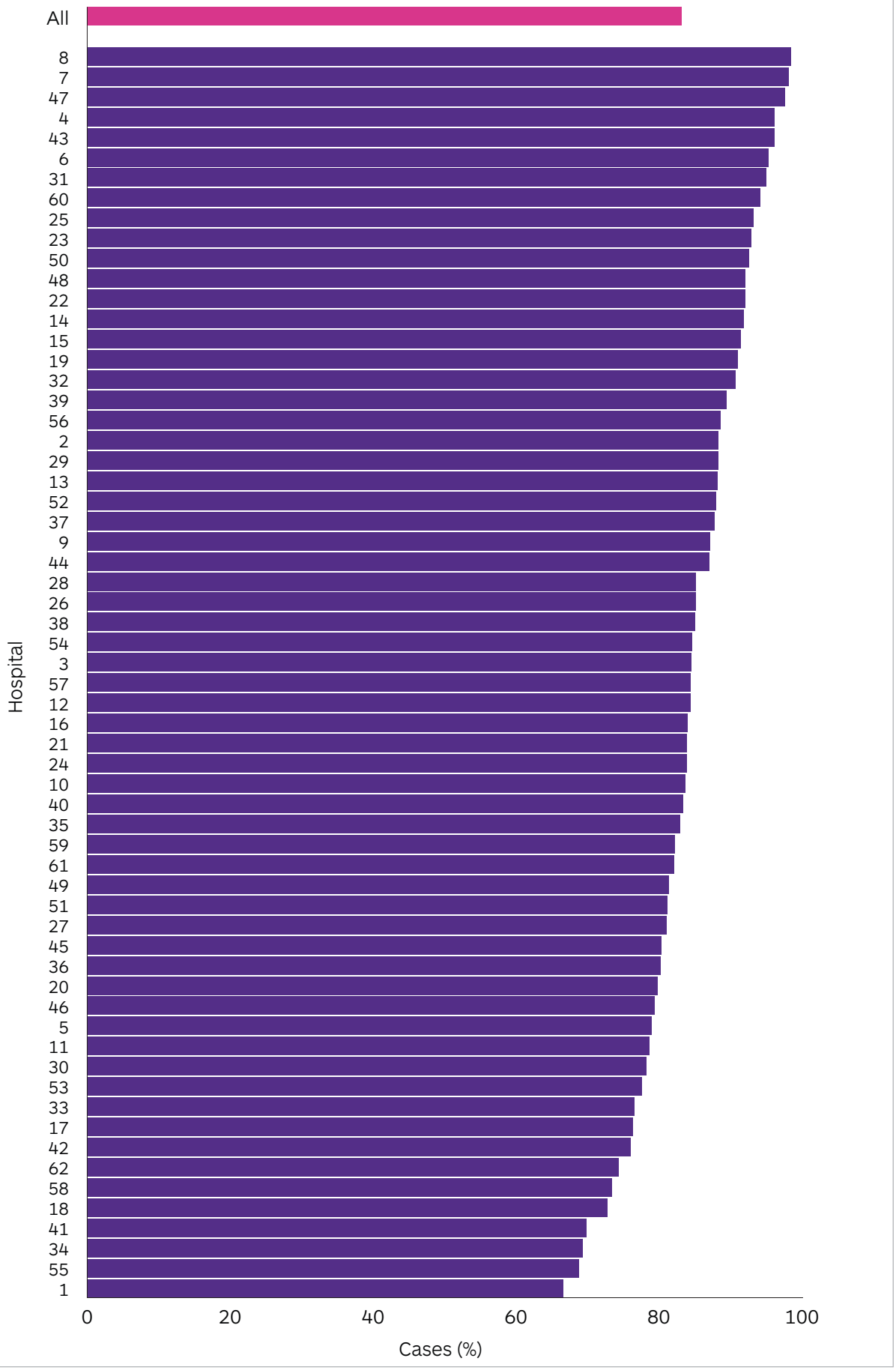
In 2025, radial access was used for 82.0% of PCI procedures, continuing its established use as the principal arterial access route. Femoral access accounted for 17.7% of procedures, while brachial access remained uncommon at 0.3%. Figure 12 shows changes in arterial access across the seven-year reporting period.

Figure 12: Arterial access routes 2019-2025



Across participating hospitals, radial access ranged from 65.7% to 97.1% of procedures (Figure 13). Radial access also varied by clinical presentation, being used in 84.7% for STEMI, 83.9% for NSTEACS and 79.5% of non-ACS procedures.

Figure 13: Arterial access route by hospital 2025



Use of arterial access increased among both women and men in 2025. Radial access was used in 83.7% of procedures among men, increasing from 82.4% in 2024, and 77.4% among women, increasing from 76.8%. A difference in radial access utilisation between men and women remained.

Figure 14: Radial access trend by sex 2021 to 2025

15.2 Procedural Success

Procedural success is defined by the NCR as successful treatment of all lesions without a major adverse cardiac event (MACE). In 2025, 93.1% of procedures met this definition, unchanged from 2024, and remaining consistently high across recent reporting periods.

In-stent restenosis was 5.3% in 2025, a rate comparable to previous years (4.8% in 2024 and 5.0% in 2023). Procedural success, in-stent restenosis and use of mechanical ventricular support are further examined by clinical presentation, hospital characteristics and sex in Tables 3A-3E.

Clinical Presentation

Procedural success varied by clinical presentation, with 89.3% of STEMI procedures meeting the definition of procedural success, compared with 94.6% for NSTEACS and 94.1% for non-ACS procedures. The difference should be considered in the context of the greater clinical acuity and complexity of patients presenting with STEMI. Patients presenting with STEMI received mechanical ventricular support more often (2.2%) than NSTEACS (0.5%) and non-ACS patients (0.4%).

Table 3A: Procedural data by clinical presentation 2025

Procedural data	STEMI (N=6,342)	NSTEACS (N=8,002)	Non-ACS (N=12,914)	All (N=27,258)***
Radial access (%)*	84.7	83.9	79.5	82.0
Femoral access (%)*	15.1	15.8	20.1	17.7
Drug-eluting stent(s) (%)*	87.8	87.1	88.1	87.7
In-stent restenosis (%)*	3.8	6.6	5.2	5.3
Mechanical ventricular support required (%)**	2.2	0.5	0.4	0.8
Lesion success (%)*	95.5	96.1	95.6	95.7
Procedural success (%)*	89.3	94.6	94.1	93.1

*Missing data (N=417) **Missing data (N=337) ***N=33.

Hospital Volume

Differences in procedural characteristics across hospital volume groups were generally small in 2025. The clearest differences observed were for in-stent restenosis and mechanical ventricular support. In-stent restenosis was highest in low volume hospitals (6.3%), representing a modest year on year increase (6.0% in 2024 and 5.0% in 2023). Mechanical ventricular support remained highest in high volume hospitals (1.2%).

Table 3B: Procedural data by hospital volume 2025

Procedural data	Low volume <250	Medium volume 250-500	High volume >500	All
	(N=2,460)	(N=7,183)	(N=17,648)	(N=27,291)*
Radial access (%)*	85.9	82.3	81.4	82.0
Femoral access (%)*	13.9	17.3	18.3	17.7
Drug-eluting stent(s) (%)*	89.1	88.0	87.5	87.7
In-stent restenosis (%)*	6.3	5.4	5.1	5.3
Mechanical ventricular support required (%)**	0.0	0.4	1.2	0.8
Lesion success (%)*	93.9	95.3	96.1	95.7
Procedural success (%)*	92.5	92.6	93.4	93.1

*Missing data (N=417) **Missing data (N=337).

On-site Cardiac Surgery

Procedural characteristics remained broadly similar between hospitals with and without on-site cardiac surgery in 2025. The treatment of in-stent restenosis did not vary greatly between hospitals with and without on-site cardiac surgery. Procedural success remained higher in hospitals with on-site cardiac surgery (94.0%) than those without (91.7%). Mechanical ventricular support was used in 1.1% and 0.6% of procedures, respectively.

Table 3C: Procedural data by on-site CABG vs off-site CABG hospitals 2025

Procedural data	On-site CABG	Off-site CABG	All
	(N=16,470)	(N=10,821)	(N=27,291)*
Radial access (%)*	78.8	87.0	82.0
Femoral access (%)*	21.0	12.6	17.7
Drug-eluting stent(s) (%)*	87.6	88.0	87.7
In-stent restenosis (%)*	5.2	5.3	5.3
Mechanical ventricular support required (%)**	1.1	0.6	0.8
Lesion success (%)*	96.5	94.5	95.7
Procedural success (%)*	94.0	91.7	93.1

*Missing data (N=417) **Missing data (N=337).

Hospital Location

Procedural characteristics remained similar across metropolitan and non-metropolitan hospitals. The treatment of in-stent restenosis lesions and procedural success remained similar between metropolitan and non-metropolitan hospitals. Mechanical ventricular support was used in 0.9% of procedures in metropolitan hospitals and 0.5% in non-metropolitan hospitals.

Table 3D: Procedural data by metro vs non-metro hospitals 2025

Procedural data	Metro	Non-metro	All
	(N=21,830)	(N=5,461)	(N=27,291)*
Radial access (%)*	81.3	85.0	82.0
Femoral access (%)*	18.4	14.6	17.7
Drug-eluting stent(s) (%)*	88.2	86.1	87.7
In-stent restenosis (%)*	5.3	5.0	5.3
Mechanical ventricular support required (%)**	0.9	0.5	0.8
Lesion success (%)*	95.8	95.5	95.7
Procedural success (%)*	93.2	92.7	93.1

*Missing data (N=417) **Missing data (N=337).

Procedural Characteristics by Sex

Procedural characteristics remained broadly similar between men and women in 2025. Lesion and procedural success rates were comparable between men and women, while the rate of in-stent restenosis was slightly higher in men (5.5%) than women (4.6%). Use of mechanical ventricular support was 0.9% among men and 0.8% among women.

Table 3E: Procedural data by sex 2025

Procedural data	Men	Women	All
	(N=20,231)	(N=7,060)	(N=27,291)*
Radial access (%)*	83.7	77.4	82.0
Femoral access (%)*	16.1	22.2	17.7
Drug-eluting stent(s) (%)*	87.3	88.9	87.7
In-stent restenosis (%)*	5.5	4.6	5.3
Mechanical ventricular support required (%)**	0.9	0.8	0.8
Lesion success (%)*	95.6	96.0	95.7
Procedural success (%)*	93.2	93.0	93.1
Left main lesion (%)*	2.0	2.1	2.0

*Missing data (N=417) **Missing data (N=337).

16. Message from Steering Committee Consumer Representative

Ms Karen Carey - Steering Committee Consumer Representative

The NCR continues to embed the consumer voice across its work, ensuring that the perspectives and experiences of patients are considered in Steering Committee discussions, strategic decision-making and the development of key NCR initiatives.

Consumer Representatives bring an important perspective to the NCR, helping to maintain a clear focus on why the Registry exists and ensuring that the focus includes outcomes that are important to consumers and the community. The NCR uses high-quality data to drive safer, more equitable and better outcomes for all Australians.

Over the past year, our consumer representatives have continued to contribute effectively, providing valuable insight into the co-design and development of several key NCR projects. Their contribution has helped shape the NCR's future direction, including opportunities with other registries, enhanced reporting capabilities and the development of risk-adjusted reporting.

"NCR data has enormous potential to demonstrate the safety and quality of cardiovascular care in Australia. However, data only creates impact when the messages are accessible and meaningful to the people who need them."

Karen Carey says "As consumers, we need clear, understandable information that enables us to participate confidently in decisions about our health. When the consumer voice is incorporated from the outset, complex findings can be translated into meaningful information that reaches the right people and supports informed decision-making."

Karen has also contributed to the development of consumer-friendly resources designed to strengthen public understanding of NCR data and improve the accessibility and impact of key health messages.

"Consumers need PCI care to be high quality, safe, accessible, equitable and cost-effective. Providing patients with clear information about the context, safety and complication rates associated with PCI enables genuinely informed conversations and shared decision-making with their clinicians.

I am pleased to continue working with the NCR to ensure that important health messages are communicated clearly and effectively to consumers, hospitals and healthcare professions."

Through continued consumer engagement, the NCR is strengthening the connection between registry data, clinical practice and the experiences of the people ultimately affected by that care. This partnership will remain an important part of the NCR's commitment to using data to improve cardiovascular healthcare across Australia.

17. Percutaneous Coronary Intervention for Acute STEMI

ST-elevation myocardial infarction (STEMI) is a time critical presentation requiring rapid reperfusion to minimise myocardial damage and improve patient outcomes. The section examines key aspects of PCI for acute STEMI, including primary PCI activity, treatment timeframes, pre-hospital notification and key intervals across the STEMI care pathway.

17.1 Primary PCI

Primary PCI is an emergency procedure to restore blood flow through a blocked coronary artery in patients presenting with acute STEMI. It is the preferred reperfusion strategy where it can be delivered within recommended timeframes[14]. Primary PCI is defined as PCI performed within 12 hours of symptom onset in patients presenting acutely to a health service or via ambulance.

In 2025, STEMI accounted for 23.4% of procedures (N=6,471), with primary PCI accounting for 69.6% of STEMI procedures (N=4,506). STEMI cases were reported by 55 hospitals that submitted data for the 2025 reporting period.

Primary PCI activity continued to occur predominantly in public hospitals (96.0%), with 74.5% performed in high volume hospitals and 80.1% in metropolitan hospitals. Women accounted for 23.4% of primary PCI cases.

Table 4A: Primary PCI cases as a proportion of overall case numbers by hospital types 2025

	Primary PCI rate
Hospital types	**N (%)**
Low volume <250	128 (2.8)
Medium volume 250-500	1023 (22.7)
High volume >500	3355 (74.5)
On-site CABG	2655 (58.9)
Off-site CABG	1851 (41.1)
Metro	3608 (80.1)
Non-metro	898 (19.9)
Public	4328 (96.0)
Private	178 (4.0)
All	**4506 (100.0)**

*PCI for STEMI (N=4,506) includes STEMI patients presenting within 12 hours of symptom onset and includes inter-hospital transfers and patients with a STEMI onset whilst a current in-patient.

14 Australian Commission on Safety and Quality in Health Care (2024) *Australian Framework for National Clinical Quality Registries 2024*, accessed 1 August 2026.

After primary PCI the most common pathways were PCI performed 1-7 days after STEMI without prior lysis (9.3%) and PCI performed 12-24 hours after STEMI without lysis (6.5%).

Table 4B: PCI for STEMI subcategories 2025*

	Primary PCI rate
	N (%)
Primary PCI (<12hours, no lysis)	4506 (69.6)
PCI for STEMI 12-24hrs (no lysis)	423 (6.5)
Pharmaco-invasive PCI (<24hrs, previous lysis, stable)	388 (6.0)
Rescue PCI (<24hrs, previous lysis, unstable)	359 (5.5)
PCI for STEMI (1-7 days following lysis)	193 (3.0)
PCI for STEMI (1-7 days no prior lysis)	602 (9.3)

N=6,471 *58 missing cases for PCI indication

Primary PCI activity continued to vary considerably across hospitals in 2025, ranging from 0.4% to 34.8% of overall PCI activity, as shown in Figure 15.

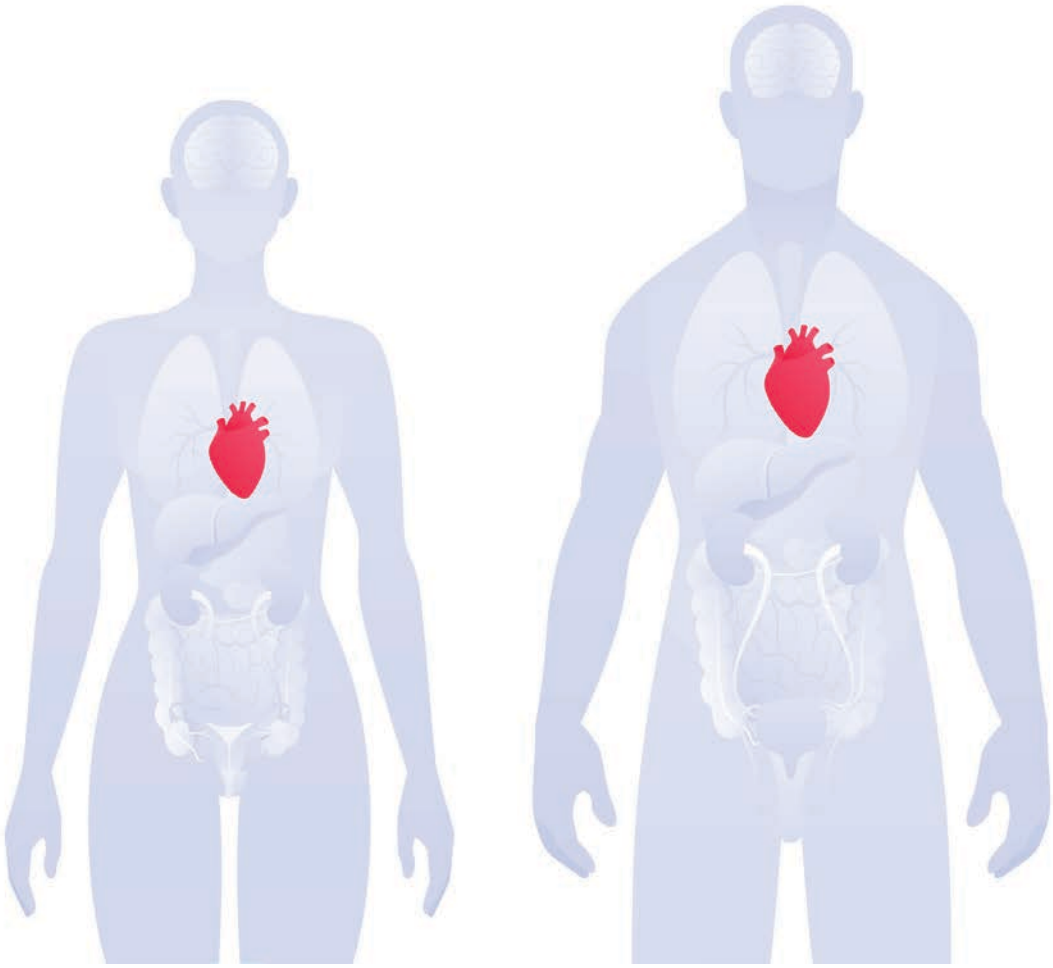
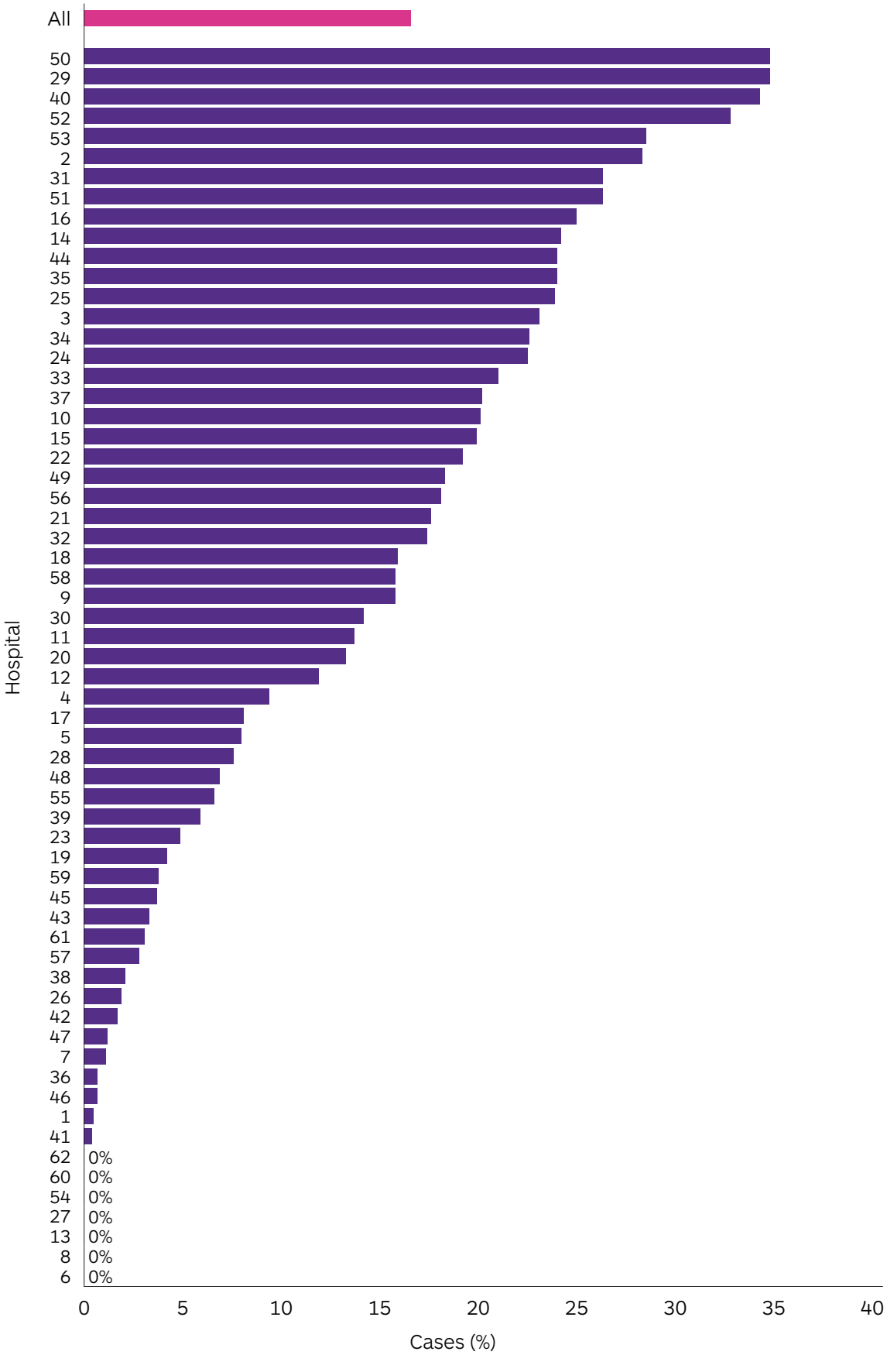


Figure 15: Primary PCI cases as a proportion of overall case numbers by hospital*



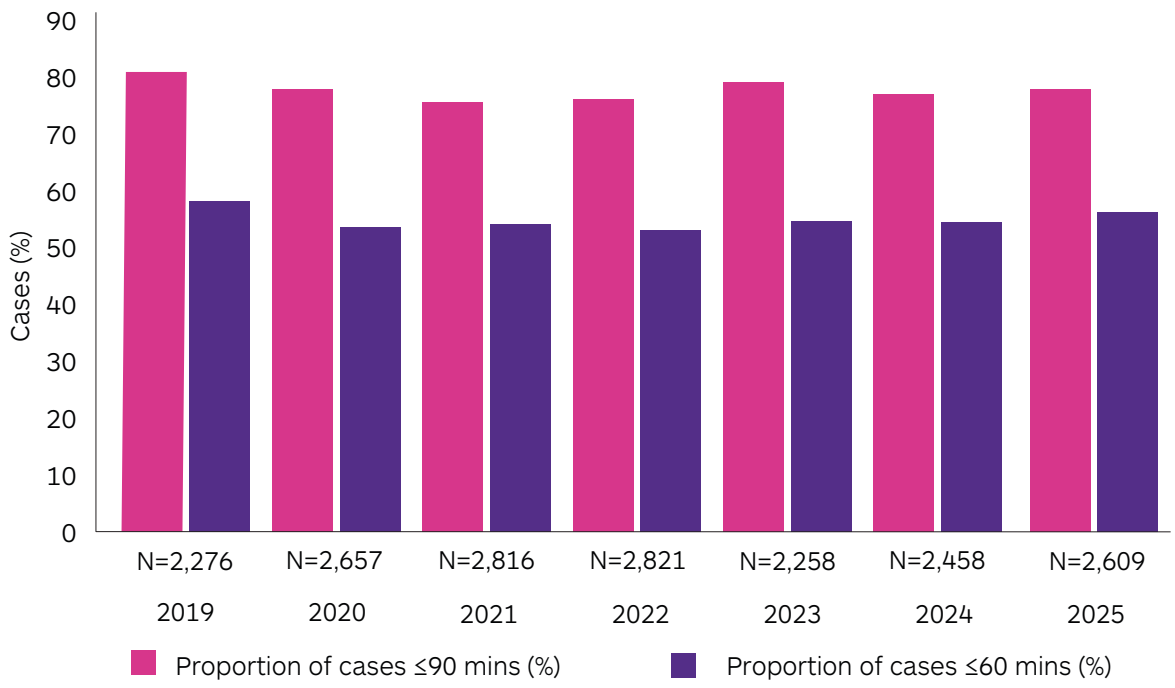
*58 missing cases for PCI indication. Sites 6, 8, 13, 27, 41, 54, 60 and 62 had no primary PCI cases.

17.2 Reperfusion Times in primary PCI

Timely reperfusion is a key component of care for patients undergoing primary PCI for STEMI. The NCR measures the proportion of patients achieving door-to-PCI mediated reperfusion within 60 minutes and within 90 minutes.

In 2025, 56.9% of primary PCI cases achieved reperfusion within 60 minutes and 77.9% within 90 minutes, compared with 55% and 77.4% in 2024. The overall median door-to-PCI mediated reperfusion time was 55 minutes (Table 5A). Trends in door-to-PCI mediated reperfusion times from 2019 to 2025 are presented in Figure 16.

Figure 16: Time from door-to-PCI mediated reperfusion for primary PCI cases 2019-2025*



*Primary PCI for STEMI presentations excluding all inter-hospital arrivals and patients with STEMI onset whilst a current in-patient.

Reperfusion times varied by hospital volume, with the longest median time in low-volume hospitals (69 minutes), compared with 52 minutes in medium volume and 55 minutes in high volume hospitals. Non-metropolitan hospitals had longer median door-to-PCI mediated reperfusion times (60 minutes) compared to metropolitan hospitals (54 minutes).

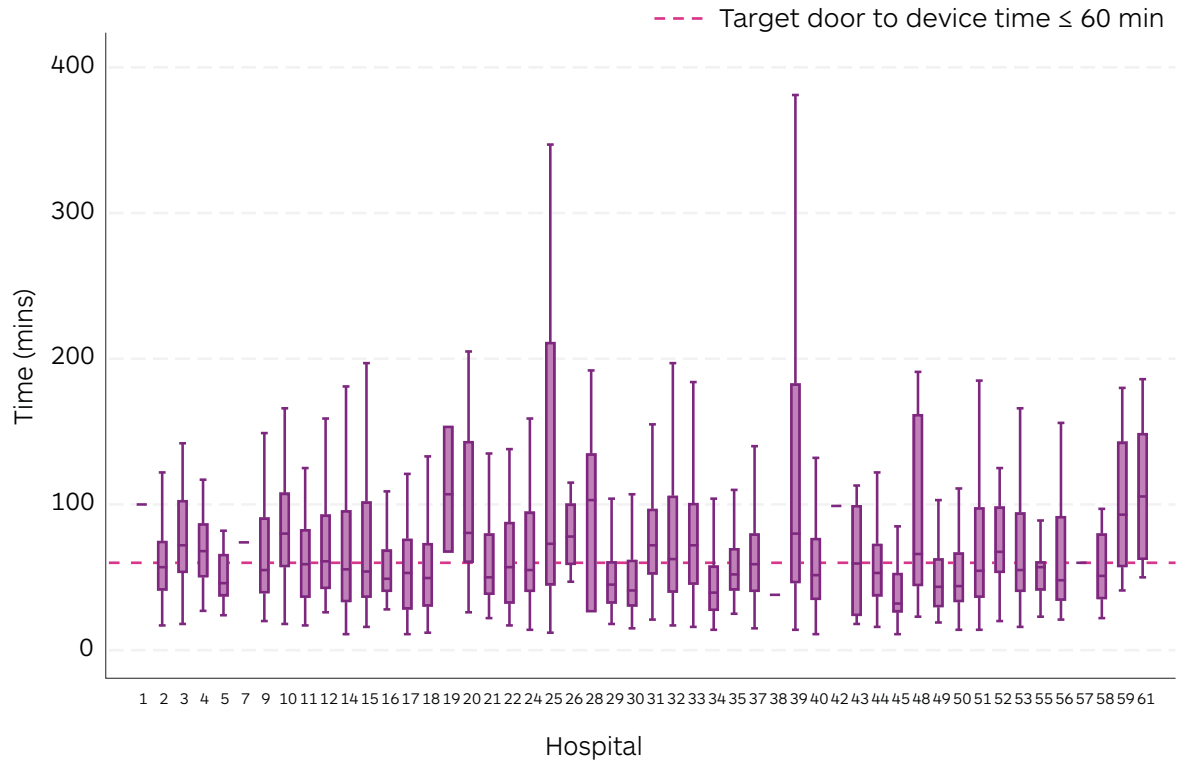
Table 5A: Time from door-to-PCI mediated reperfusion for primary PCI cases 2025*

Door-to-PCI mediated reperfusion time	All primary PCI cases (N=3,608)
Median - mins (IQR)	55 (37, 85)
Proportion of cases ≤90 mins (%)	77.9
Proportion of cases ≤60 mins (%)	56.9

*Primary PCI for STEMI presentations excluding all inter-hospital arrivals and patients with STEMI onset whilst a current in-patient. 54 sites contributed primary PCI data in 2025.

Door-to-PCI mediated reperfusion times also varied across hospitals. In 2025, 29 of 50 hospitals achieved a median reperfusion time of ≤60 minutes, while seven hospitals had fewer than five primary PCI cases.

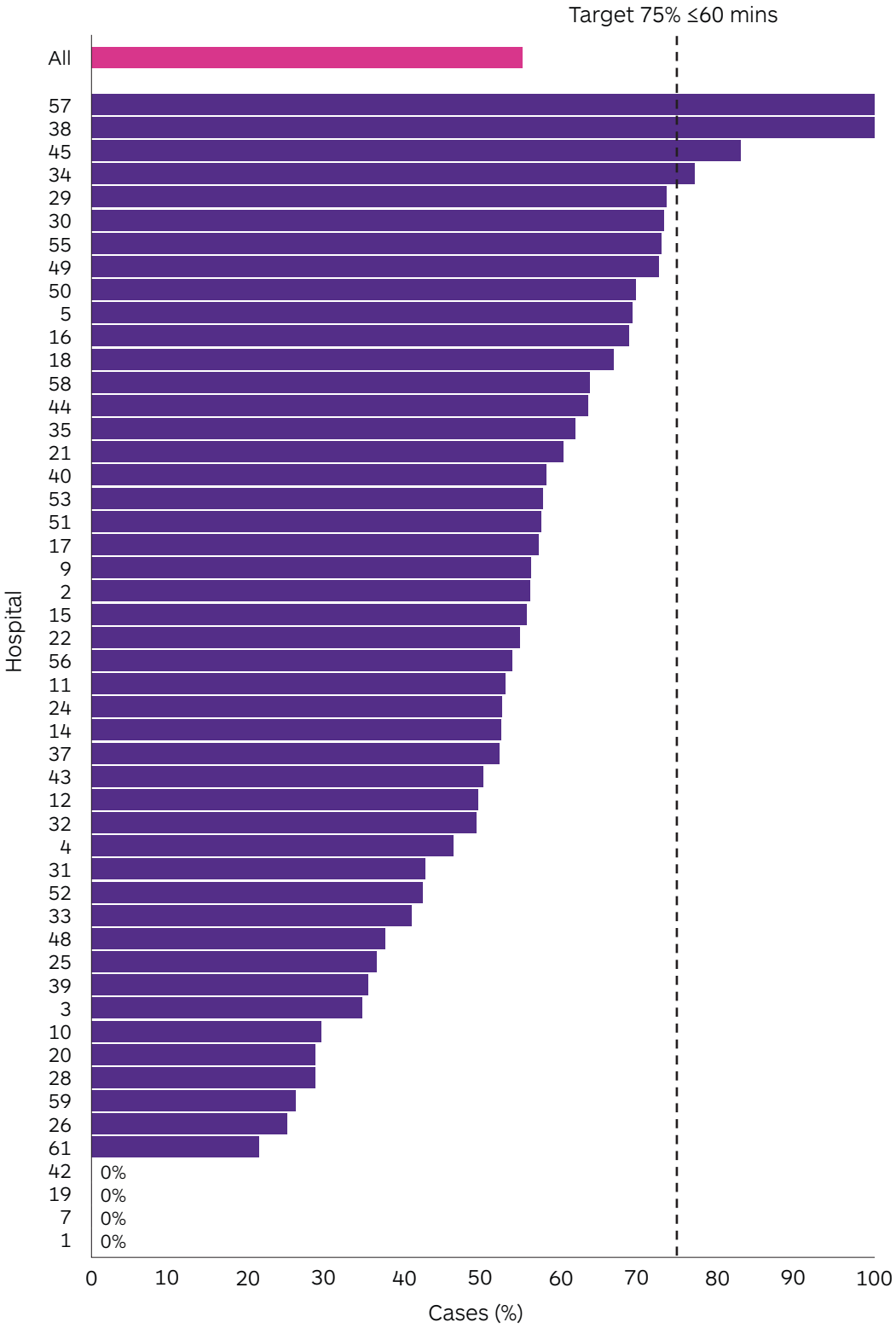
Figure 17: Time from door-to-PCI mediated reperfusion for primary PCI by hospital 2025



QI 2. Time from door-to-PCI mediated reperfusion

Achievement of door-to-PCI mediated reperfusion within 60 minutes varied across hospitals in 2025. Four hospitals achieved this timeframe in at least 75% of primary PCI cases, as shown in Figure 18.

Figure 18: Proportion of primary PCI cases with door to device time ≤60 minutes by hospital 2025



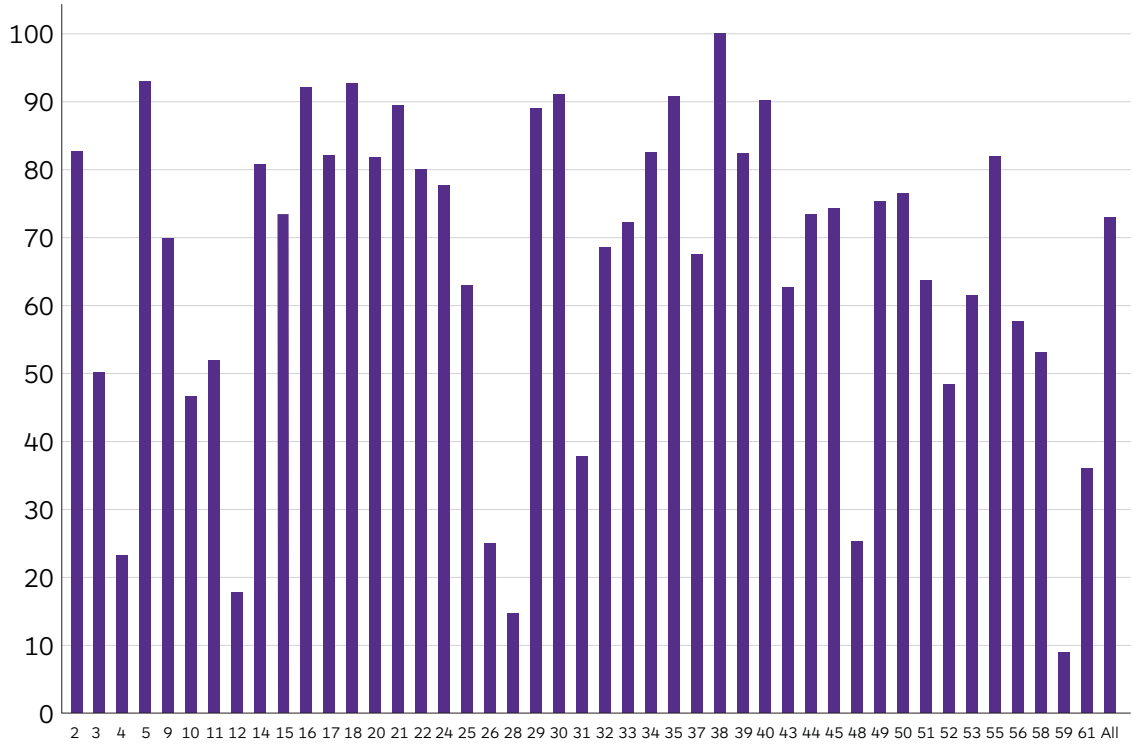
QI 2. Time from door-to-PCI mediated reperfusion

17.3 Pre-hospital Notification

Pre-hospital notification (PHN) enables hospitals to prepare for the arrival of a patient with an acute STEMI and may facilitate earlier activation of the cardiac catheterisation laboratory. This can reduce delays to reperfusion and support timely primary PCI.

In 2025, PHN occurred in 73.0% of primary PCI cases, decreasing slightly from 74.1% in the previous year. Rates varied widely across hospitals (range: 0-93%).

Figure 19: Percentage of cases with primary PCI cases with pre-hospital notification by hospital 2025



Pre-hospital notification continued to be associated with substantially shorter reperfusion times in 2025. Median door-to-PCI mediated reperfusion time was 47 minutes with PHN compared with 89 minutes without PHN (Table 5B), unchanged from the previous year. Among patients with PHN, 69.6% achieved reperfusion within 60 minutes and 88.3% within 90 minutes.

The association between PHN and shorter reperfusion times was also seen across hospital volume and location. With PHN, median door-to-PCI mediated reperfusion times were 57 minutes in low volume, 45 minutes in medium volume and 47 minutes in high volume hospitals. Metropolitan hospitals achieved a median of 47 minutes, while non-metropolitan hospitals achieved 45 minutes with PHN.

Table 5B. Door-to-device times for primary PCI cases by pre-hospital notification status 2025*

Door-to-PCI mediated reperfusion time	Primary PCI with PHN	Primary PCI no PHN	All primary PCI cases
	(N=2,593) †	(N=960) †	(N=3,608)
Median - mins (IQR)	47 (33, 65)	89 (62, 128)	55 (37, 85)
Proportion of cases ≤90 mins (%)	88.3	51.5	77.9
Proportion of cases ≤60 mins (%)	69.6	24.3	56.9

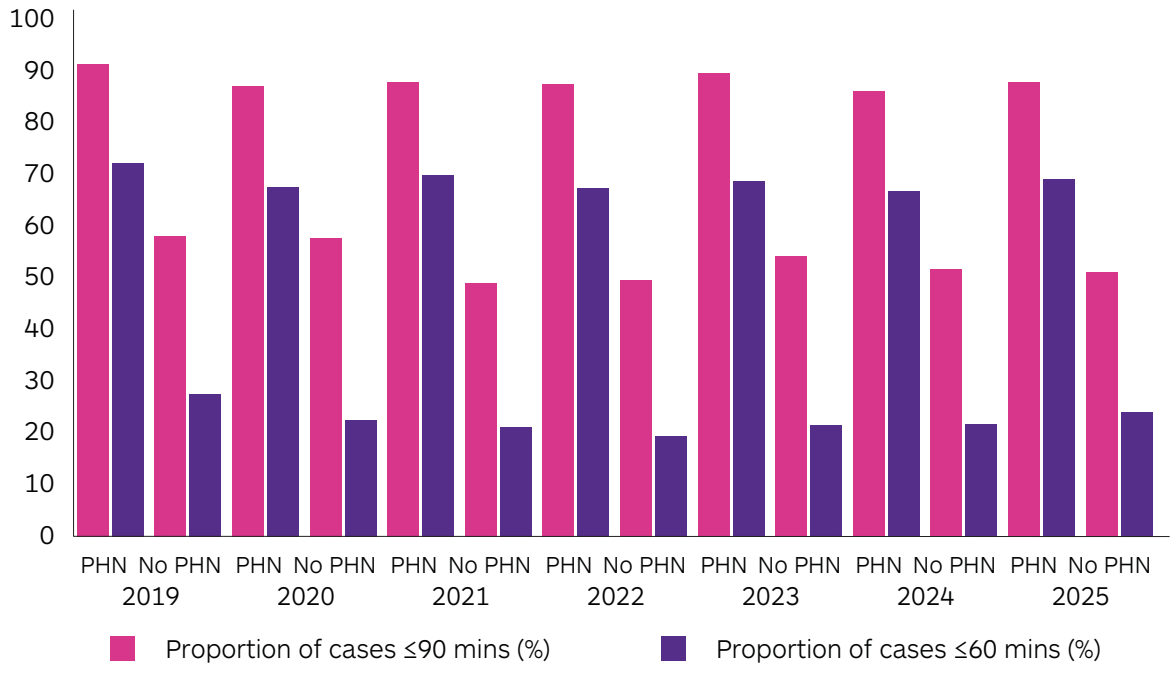
† PHN data not supplied in 55 cases.

54 sites contributed primary PCI data in 2025.

* Primary PCI for STEMI presentations excluding all inter-hospital transfers and patients with a STEMI onset whilst a current in-patient.

The association between PHN and shorter door-to-PCI mediated reperfusion times has remained consistent over time, as shown in Figure 20.

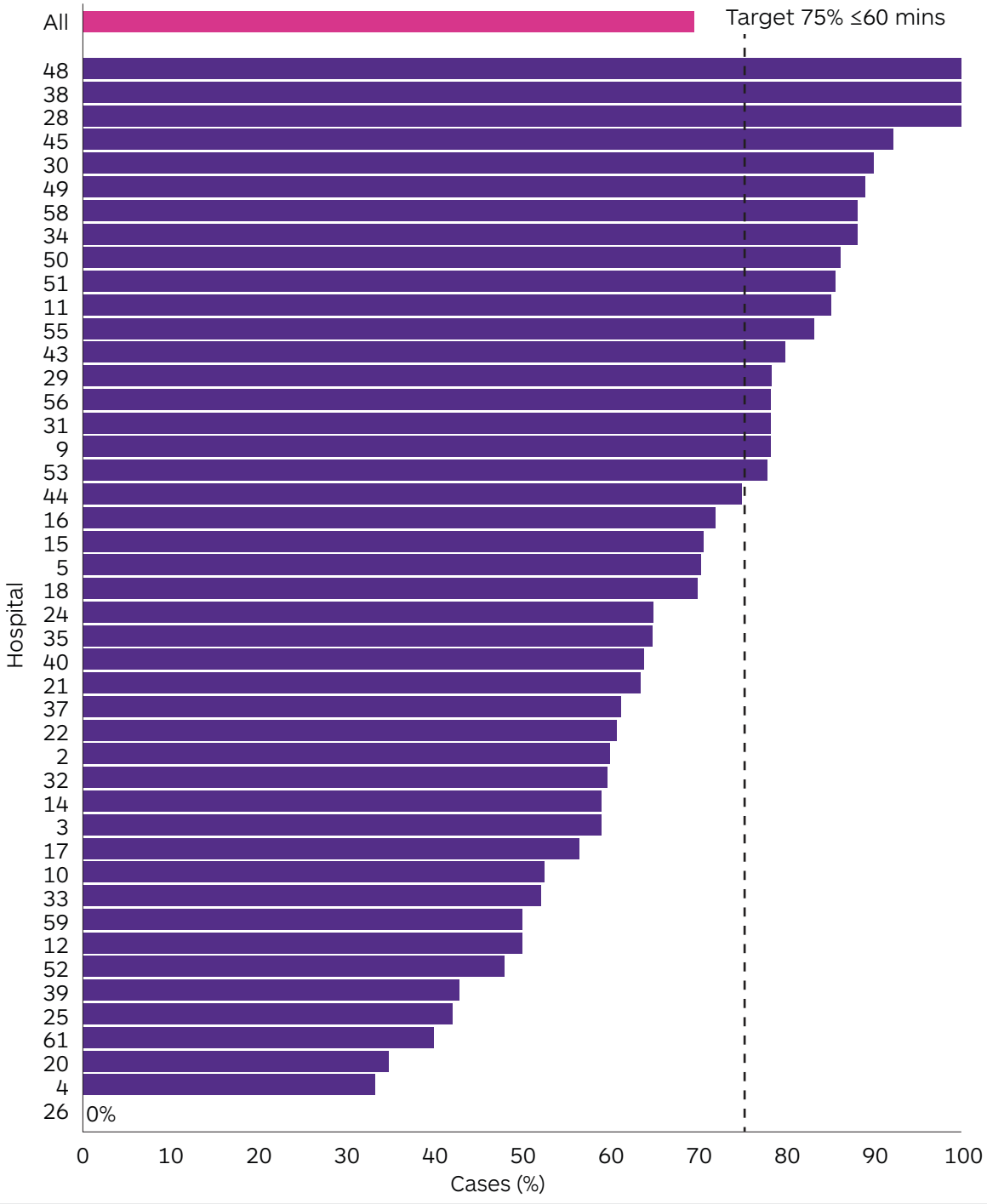
Figure 20: Door-to-device-time for primary PCI cases by prehospital notification status 2019-2025



Primary PCI for STEMI presentations excluding all inter-hospital transfers and patients with a STEMI onset whilst a current in-patient.

The relationship between PHN and timely reperfusion was also apparent at hospital level. With PHN, 19 hospitals achieved door-to-PCI mediated reperfusion within 60 minutes in at least 75% of cases, increasing from 17 hospitals in 2024 (Figure 21A).

Figure 21A: Proportion of primary PCI cases with door to device time ≤60 mins by hospital with PHN 2025*

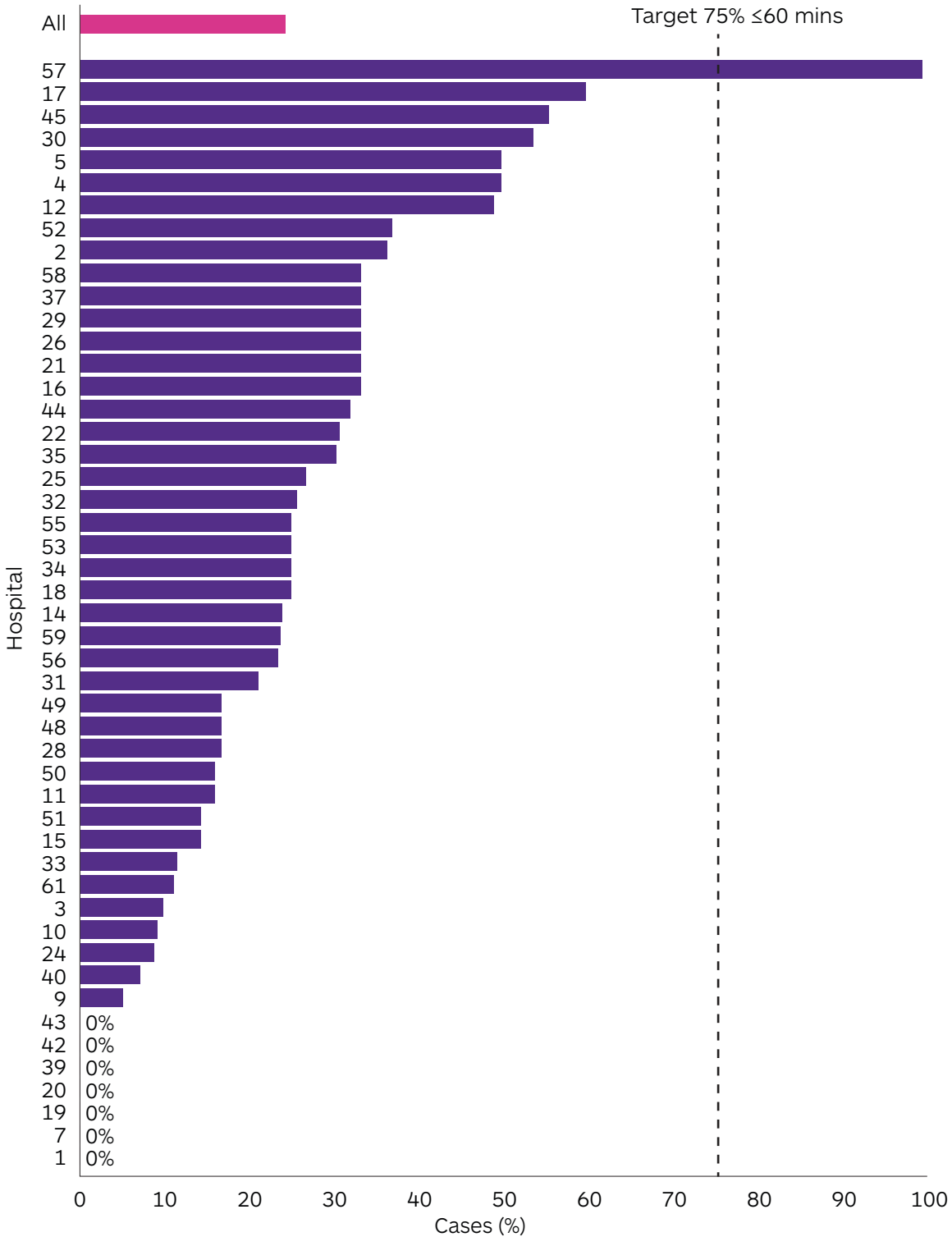


* Primary PCI for STEMI presentations excluding all inter-hospital transfers and patients with a STEMI onset whilst a current in-patient. Hospitals 1, 7, 19, 42 and 57 had no primary PCI cases with PHN.

QI 2. Time from door-to-PCI mediated reperfusion

Without PHN, one hospital (n=1 case) achieved door-to-PCI mediated reperfusion within 60 minutes in at least 75% of cases, compared with two hospitals achieving this level in the previous year (Figure 21B).

Figure 21B: Proportion of primary PCI cases with door to device time ≤60 mins by hospital without PHN 2025*



* Primary PCI for STEMI presentations excluding all inter-hospital transfers and patients with a STEMI onset whilst a current in-patient. Hospitals 1,7, 19, 20, 39, 42 and 43 had low case numbers with PHN N≤5.

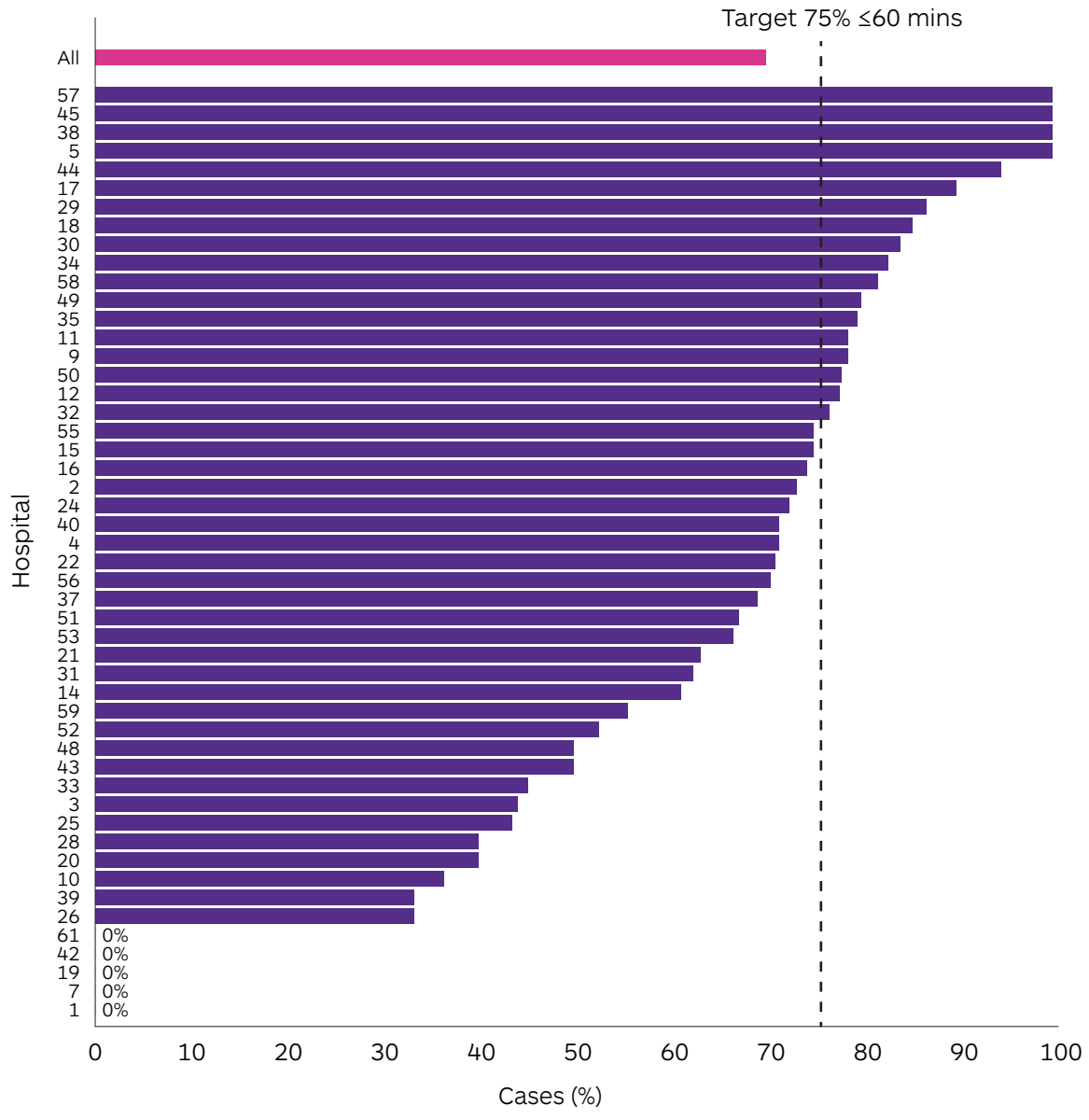
QI 2. Time from door-to-PCI mediated reperfusion

17.4 In-Hours Versus Out-Of-Hours

Timely access to primary PCI is an important component of acute STEMI care across both in-hours and out-of-hours presentations. In 2025, 60.2% of primary PCI cases occurred out-of-hours, similar to the previous year. The proportion of primary PCI undertaken out-of-hours was broadly similar across hospital volume groups and between metropolitan and non-metropolitan hospitals. Door-to-PCI mediated reperfusion within 60 minutes was achieved in 70.1% of in-hours cases, increasing from 67.8% in 2024, compared with 48.2% of out-of-hours cases.

At hospital level, 20 hospitals achieved door-to-PCI mediated reperfusion within 60 minutes in at least 75% of in-hours primary PCI cases in 2025 (Figure 22A).

Figure 22A: Proportion of primary PCI cases with door to device time ≤60 minutes by hospital: in-hours by hospital 2025*

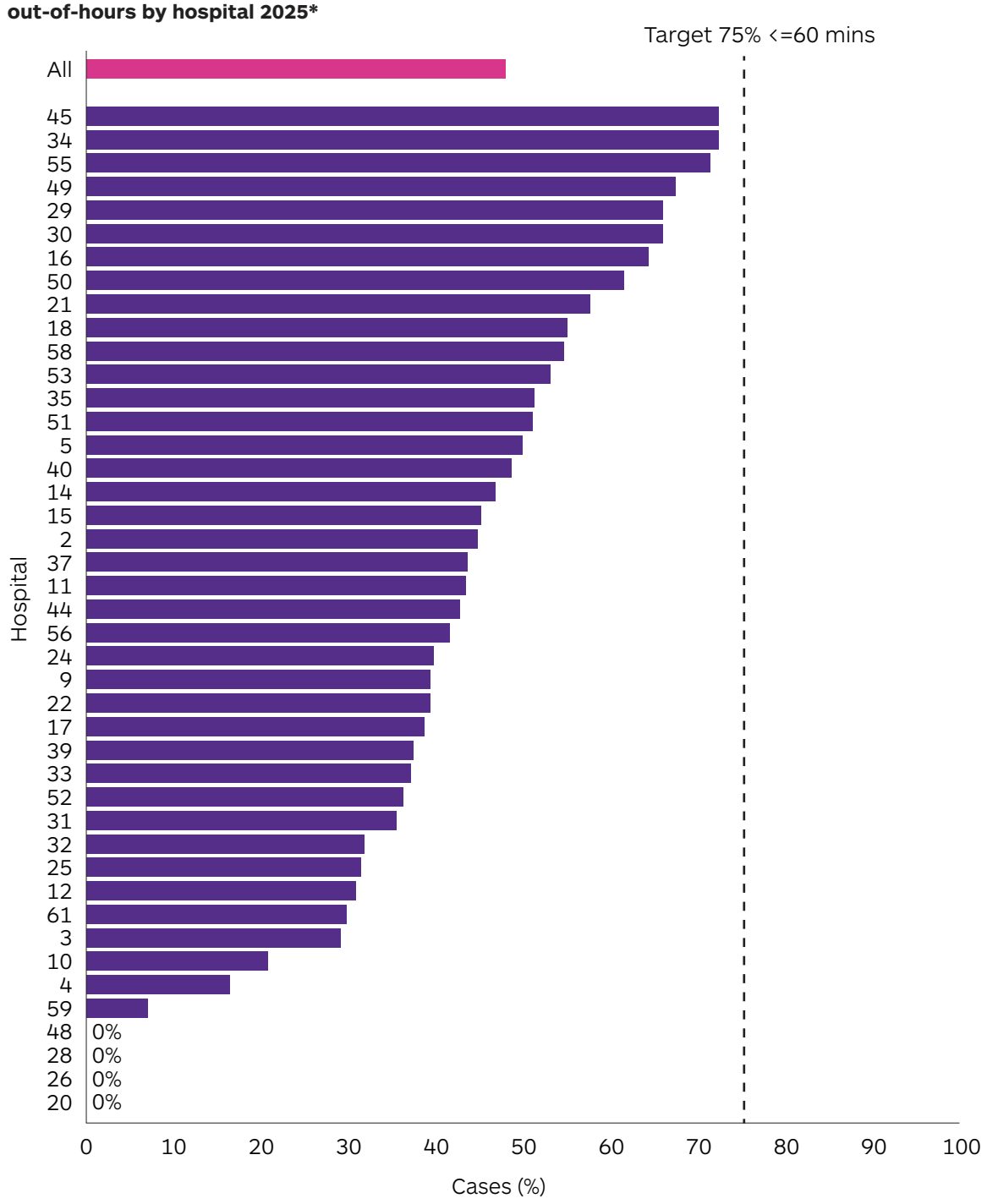


* Primary PCI for STEMI presentations excluding all inter-hospital transfers and patients with a STEMI onset whilst a current in-patient. In-hours: 8:00am - 6:00pm (Mon-Fri). Out-of-hours: 6:00pm - 8:00am (Mon - Fri, national public holidays, weekends). Hospitals 36 and 47 had no in-hours cases.

QI 2. Time from door-to-PCI mediated reperfusion

For out-of-hours primary PCI, no hospitals achieved a door-to-PCI mediated reperfusion within 60 minutes in at least 75% of cases in 2025 (Figure 22B).

Figure 22B: Proportion of primary PCI cases with door to device time ≤60 mins by hospital: out-of-hours by hospital 2025*



* Primary PCI for STEMI presentations excluding all inter-hospital transfers and patients with a STEMI onset whilst a current in-patient. In-hours: 8:00am - 6:00pm (Mon-Fri). Out-of-hours: 6:00pm - 8:00am (Mon - Fri, national public holidays, weekends). Hospitals 7, 19, 23, 46 and 60 had no out-of-hours cases.

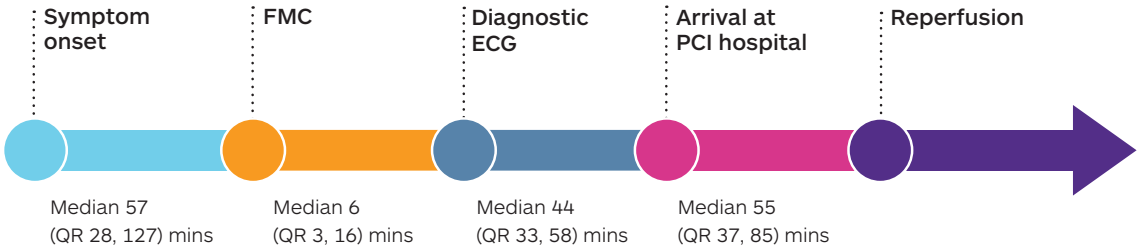
17.5 Healthcare System and Procedural Timings

Timely reperfusion for STEMI is influenced by multiple intervals across the patient journey, from symptom onset and first medical contact (FMC) through to diagnostic ECG and PCI mediated reperfusion. In 2025, the median time from symptom onset to FMC was 57 minutes (IQR: 28-127), remaining similar to the previous year.

Timely diagnostic ECG following FMC is an important step in identifying STEMI and initiating the reperfusion pathway. In 2025, the median FMC to diagnostic ECG time was 6 minutes (IQR: 3, 16), improving from 8 minutes in the previous year (Figure 23).

Median times across the STEMI pathway are presented in Figure 23.

Figure 23: Median times from symptom onset to PCI mediated reperfusion 2025*



* Primary PCI for STEMI presentations excluding all inter-hospital arrivals and patients with STEMI onset whilst a current in-patient.

Pre-hospital notification was associated with shorter time across the key stages of the STEMI pathway. Median time from symptom onset to PCI mediated reperfusion was 162 minutes with PHN compared with 218 minutes without PHN, while median FMC to PCI mediated reperfusion time was 100 minutes compared with 116 minutes, respectively. Differences across the STEMI pathway by PHN status are presented in Table 5C.

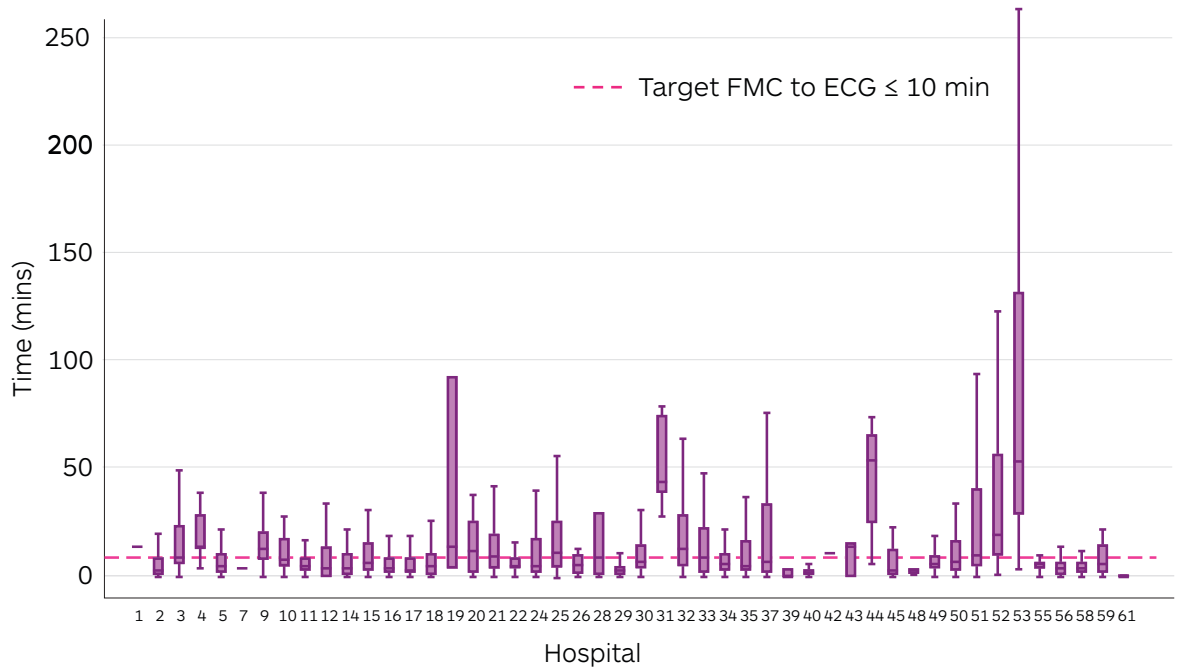
Table 5C: Median times from symptom onset to reperfusion by pre-hospital notification status 2025

Symptom onset to reperfusion time	Primary PCI with PHN	Primary PCI no PHN	All Primary PCI cases*
	(N=2,593) †	(N=961) †	(N=3,609)
Median Symptom onset to FMC time - mins (IQR)	52 (26, 109)	81 (34, 170)	57 (28, 127)
Median FMC to Diagnostic ECG time - mins (IQR)	5 (2, 12)	12 (5, 37)	6 (3, 16)
Median Diagnostic ECG to door time - mins (IQR)	44 (34, 58)	40 (26, 56)	44 (33, 58)
Median Diagnostic ECG to reperfusion time - mins (IQR)	90 (74, 114)	89 (67, 123)	90 (73, 116)
Median FMC to reperfusion time- mins (IQR)	100 (82, 127)	116 (86, 169)	104 (83, 137)
Median Symptom onset to reperfusion time - mins (IQR)	162 (127, 235)	218 (154, 355)	174 (131, 270)

† PHN data not supplied in 55 cases. 54 sites contributed primary PCI data in 2025.

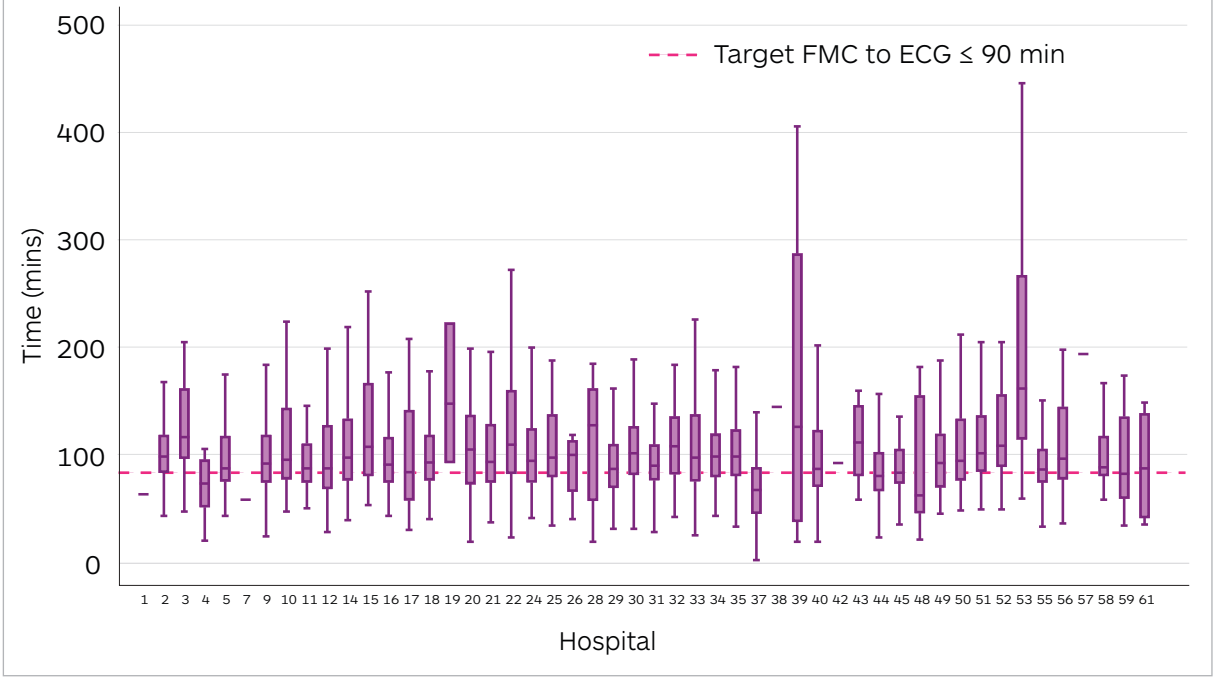
Hospital level variation in FMC to diagnostic ECG time is presented in Figure 24. 47 of 50 hospitals achieved a median FMC to diagnostic ECG time within the recommended 10-minute timeframe[15].

Figure 24: First medical contact to diagnostic ECG time for primary PCI cases by hospital 2025



In 2025, the median FMC to PCI mediated reperfusion time was 104 minutes (IQR: 83, 137), remaining similar to the previous year. FMC to PCI mediated reperfusion times varied across hospitals, as shown in Figure 25.

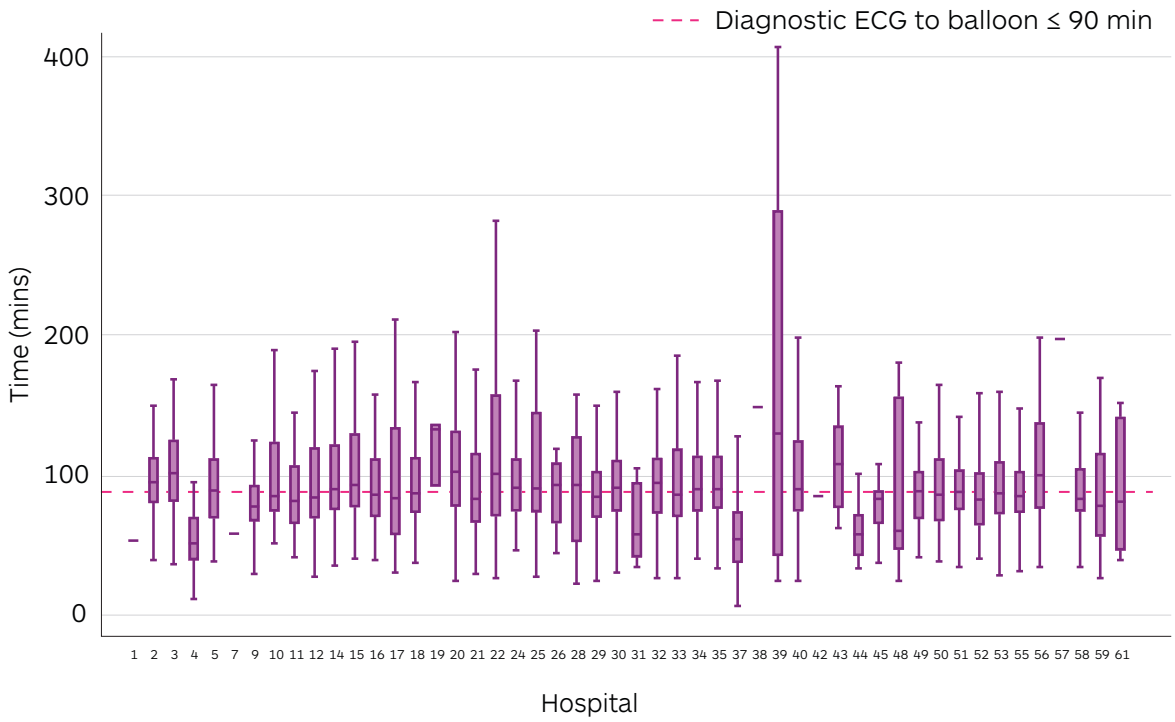
Figure 25: First medical contact to PCI-mediated reperfusion time for primary PCI cases by hospital 2025



15 Australian Commission on Safety and Quality in Health Care (2021) *National Safety and Quality Health Service Standards*, Australian Government, accessed 1 August 2026.

The median diagnostic ECG to PCI mediated reperfusion time was 90 minutes (IQR: 73, 116) in 2025, remaining similar to the previous year. Diagnostic ECG-to-PCI mediated reperfusion times by hospital are presented in Figure 26.

Figure 26: Diagnostic ECG to reperfusion by hospital 2025



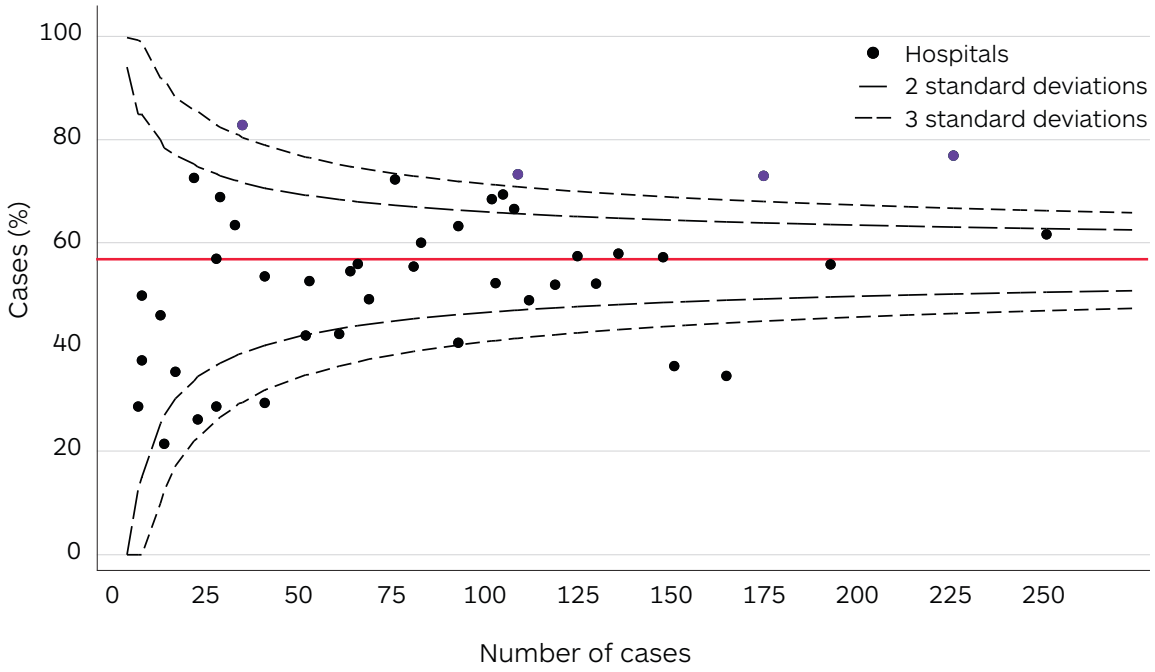
QI 1. Time from diagnostic electrocardiogram to PCI mediated reperfusion

17.6 High Performing Sites - Timely Reperfusion

Identifying areas of strong performance provides an opportunity to understand the factors that may support timely reperfusion and share learnings across participating hospitals.

In 2025, four hospitals demonstrated rates of door-to-PCI mediated reperfusion within 60 minutes that were above expected control limits (Figure 27).

Figure 27: Proportion of primary PCI cases achieving door-to-PCI mediated reperfusion within 60 minutes by hospital 2025



The four hospitals had median door-to-PCI mediated reperfusion times ranging from 32 to 45 minutes, with 73.1% to 82.9% of primary PCI cases achieving PCI mediated reperfusion within 60 minutes. Pre-hospital notification ranged from 74.3% to 90.9%, with strong results also observed across both in-hours and out-of-hours presentations (Table 5D).

Table 5D: Characteristics of hospitals demonstrating strong performance in timely reperfusion 2025

Hospital	Median DBT	Target DBT within 60min	Cases	PHN%	Target DBT within 60min with PHN	Target DBT within 60min in-hours	Target DBT within 60min out-of-hours
A	45	73.4	109	89	78.4	86.8	66.2
B	41	73.1	175	90.9	90	84.1	66
C	39	77.0	226	82.3	88.2	82.8	72.4
D	32	82.9	35	74.3	92.3	100	72.7
50 hospitals	**55**	**56.9**	**3,608**	**73**	**69.6**	**70.1**	**48.2**

17.7 Patients presenting to Non-PCI Capable Centres

Patients with acute STEMI who initially present to a non-PCI capable centre may require transfer to a PCI capable hospital for primary PCI. The 2025 Australian ACS Guidelines recommends a target of <=120 minutes from FMC to PCI mediated reperfusion for patients requiring transfer from a non-PCI capable centre[16].

In 2025, 516 patients presented to a non-PCI capable centre within 12 hours of symptom onset. The median FMC to PCI mediated reperfusion time was 148 minutes (IQR: 110, 256), remaining similar to the previous year. Median times were shorter for patients presenting to metropolitan centres than non-metropolitan centres (146 minutes compared to 184 minutes). Despite the difference, the proportion of non-metropolitan cases achieving PCI mediated reperfusion within 120 minutes increased from 25.4% (2024) to 30.8% (2025) (Table 5E).

Table 5E: First medical contact to reperfusion times for inter-hospital transfer cohort 2025

First medical contact to reperfusion time 2025 data	All	PHN	No PHN	Metro	Non-metro
	(N=516)	(N=233)	(N=277)	(N=438)	(N=78)
Median - mins (IQR)	148 (110, 256)	146 (106, 243)	148 (113, 258)	146 (110, 249)	184 (113, 306)
Proportion of cases ≤90 mins (%)	9.7	10.7	8.7	9.1	12.8
Proportion of cases ≤120 mins (%)	34.3	36.1	33.2	34.9	30.8

16 Heart Foundation (2025) *Australian clinical guideline for diagnosing and managing acute coronary syndromes 2025*, accessed 18 August 2026

18. In-Hospital Outcomes following PCI

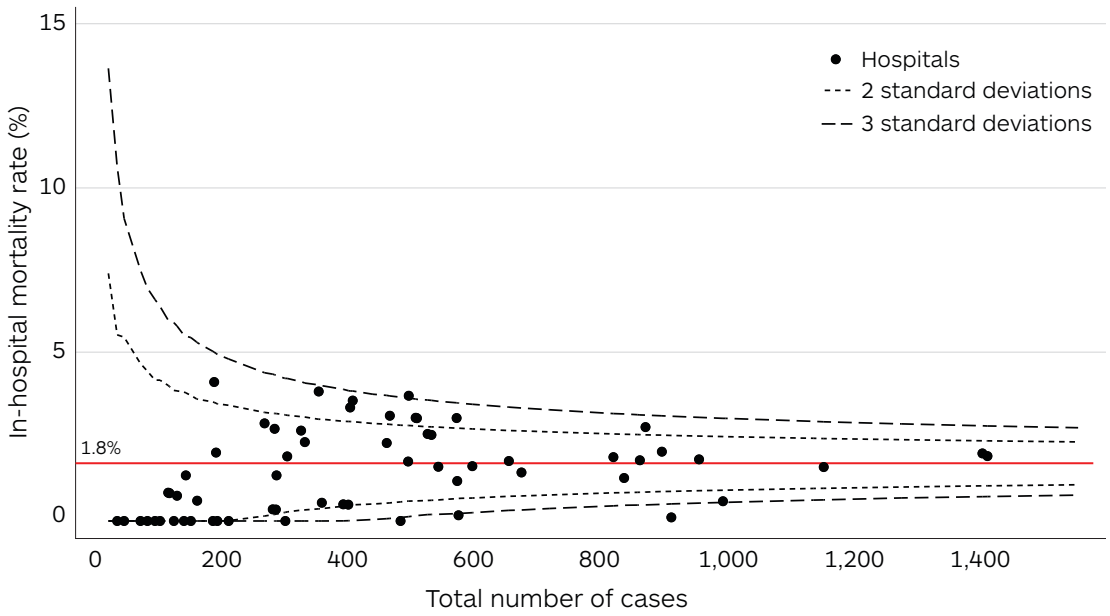
In-hospital outcomes provide an important measure of patient outcomes following PCI. This section reports in-hospital mortality, major bleeding, unplanned revascularisation and stroke, together with outcomes across key patient and hospital characteristics.

Hospital-level outcome rates should be interpreted alongside data completeness and case numbers, particularly for less frequent events where low or zero rates may reflect small numbers or incomplete capture.

18.1 In-Hospital Mortality

In 2025, the overall in-hospital mortality rate for all PCI was 1.8%, with all hospitals remaining within normal control limits (Figure 28).

Figure 28: In-hospital mortality rate by hospital 2025



In-hospital mortality among patients presenting with STEMI remained similar to the previous year at 5.1%. Mortality rates by sex also remained relatively stable, at 1.9% among women and 1.7% among men. Mortality rates across selected patient subgroups are presented in Table 6A.

Table 6A: In-hospital mortality rates for selected patient sub-groups 2025

Patient category	In-hospital mortality rate	Total
	N (%)	N
All PCI patients	481 (1.8)	27,352
STEMI patients	329 (5.1)	6,390
Cardiogenic shock and/or OHCA patients	212 (35.9)	591
NSTEACS	73 (0.9)	8,019
Non-ACS	78 (0.6)	12,912
Women	137 (1.9)	7,076
Men	344 (1.7)	20,276

QI 5. **In-hospital mortality**

Unadjusted in-hospital mortality rates by hospital volume are presented in Table 6B. Mortality was highest among patients presenting with cardiogenic shock and/or intubated OHCA across all hospital volume groups, followed by patients presenting with STEMI. Most patients in these higher risk groups were treated in medium and high volume hospitals.

Table 6B: In-hospital mortality rates by hospital volume 2025

Patient category	Low volume <250	Medium volume 250-500	High volume >500	Total
	n/N (%)	n/N (%)	n/N (%)	N
All PCI patients	18/2,496 (0.7)	129/6,916 (1.9)	334/17,940 (1.9)	27,352
STEMI patients	14/212 (6.6)	92/1,543 (6.0)	223/4,635 (4.8)	6,390
Cardiogenic shock and/or OHCA patients	11/34 (32.4)	64/147 (43.5)	174/527 (33.0)	708
NSTEACS	2/770 (0.3)	18/1,951 (0.9)	53/5,298 (1.0)	8,019
Non-ACS	2/1,514 (0.1)	18/3,391 (0.5)	58/8,007 (0.7)	12,912

In-hospital mortality rates were broadly similar between metropolitan and non-metropolitan hospitals for most clinical presentations. The greatest difference was among patients presenting with cardiogenic shock and/or OHCA, with mortality of 33.7% in metropolitan hospitals compared with 40.8% in non-metropolitan hospitals (Table 6C).

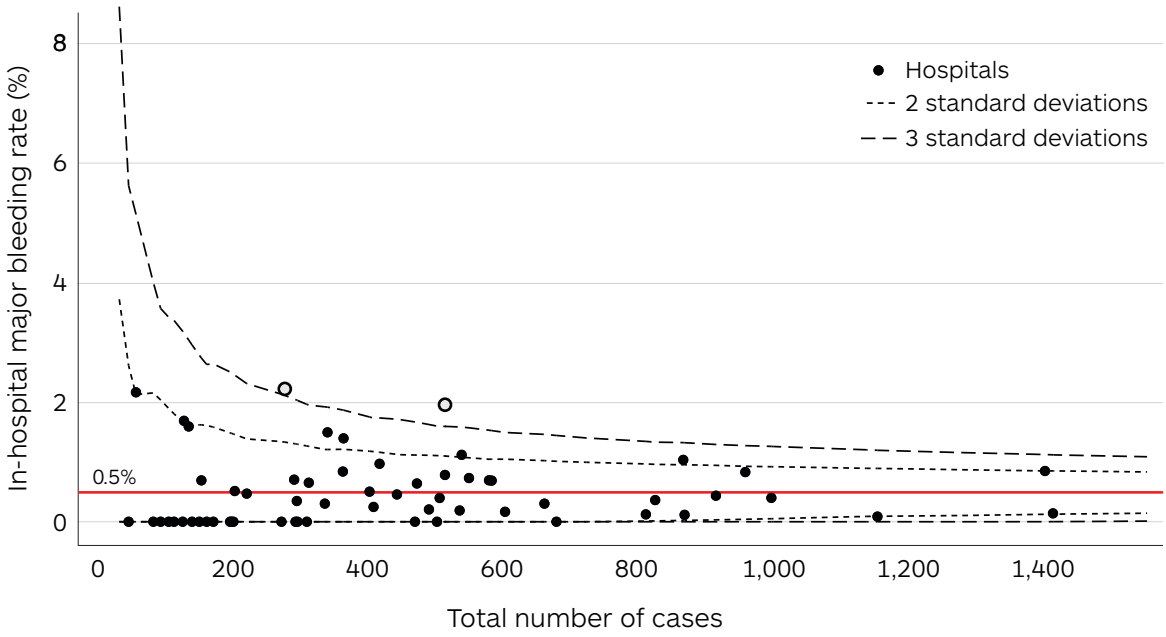
Table 6C: In-hospital mortality rates by metro vs non-metro hospitals 2025

Patient category	Metro	Non-metro	Total
	n/N (%)	n/N (%)	N
All PCI patients	370/22,104 (1.7)	111/5,248 (2.1)	27,352
STEMI patients	252/4,993 (5.0)	77/1,397 (5.5)	6,390
Cardiogenic shock and/or OHCA patients	189/561 (33.7)	60/147 (40.8)	708
NSTEACS	58/6,422 (0.9)	15/1,597 (0.9)	8,019
Non-ACS	60/10,689 (0.6)	18/2,223 (0.8)	12,912

18.2 In-Hospital Major Bleeding

Major bleeding is a serious adverse outcome following PCI and is associated with increased length of stay and mortality. In 2025, the overall in-hospital major bleeding rate remained low at 0.5%, compared with 0.6% in the previous year (range: 0%-2.2%). Two hospitals were outside three standard deviations of the mean, increasing from one hospital in the previous year (Figure 29).

Figure 29: In-hospital major bleeding rate by hospital 2025

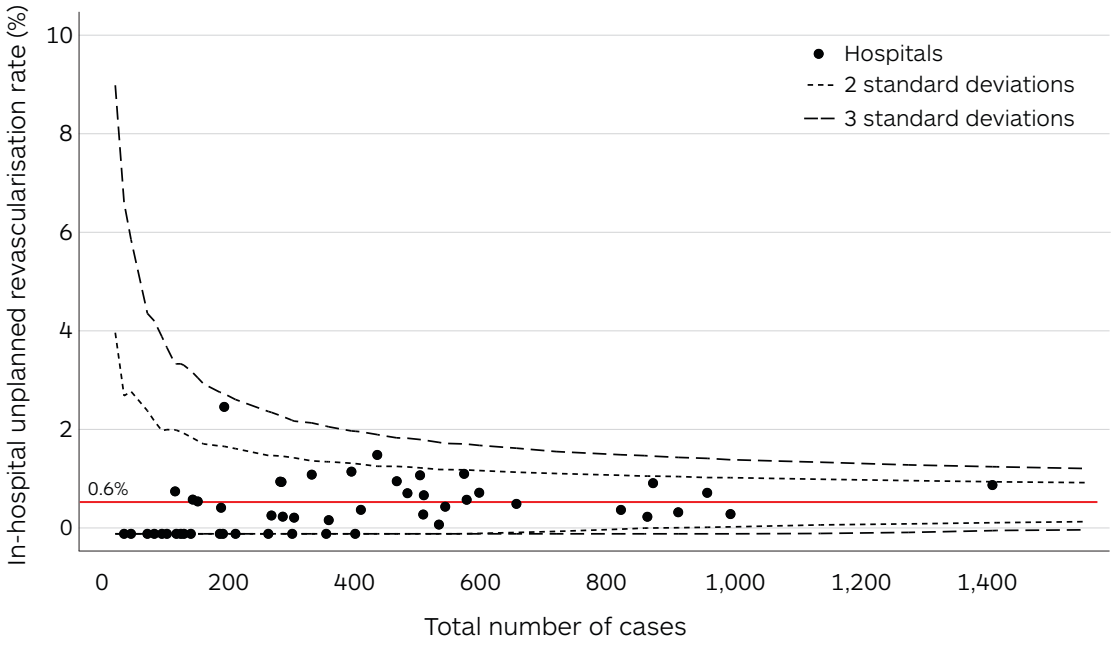


Major bleeding was more frequent among patients presenting with STEMI (1.0%) than those presenting with NSTEACS or non-ACS (0.4% for both). Further in-hospital outcomes by patient and hospital characteristics are presented in Tables 7A-7D.

18.3 In-Hospital Unplanned Revascularisation

In-hospital unplanned revascularisation is defined as an unexpected revascularisation procedure (PCI or CABG surgery) following PCI and occurring during the same admission. The overall rate of in-hospital unplanned revascularisation was 0.6% in 2025 (range: 0%-2.6%), with all hospitals remaining within normal control limits (Figure 30).

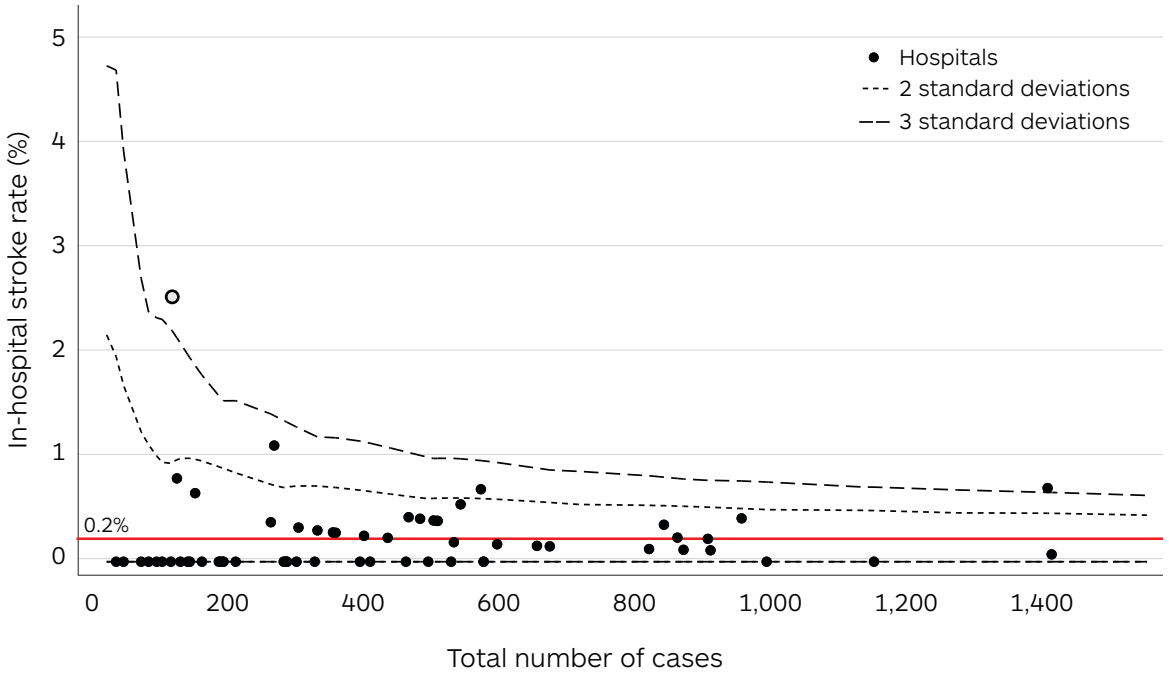
Figure 30: In-hospital unplanned revascularisation rate by hospital 2025



18.4 In-Hospital Stroke

The overall rate of in-hospital stroke following PCI remained low at 0.2% in 2025 (range: 0%-2.5%). One hospital was outside three standard deviations of the mean (Figure 31).

Figure 31: In-hospital stroke rate by hospital 2025



18.5 In-Hospital Outcomes by Patient and Hospital Characteristics

Clinical presentation remained an important differentiator of in-hospital outcomes in 2025. Patients presenting with STEMI had higher rates of MACE (defined as death, new myocardial infarction, stent thrombosis and unplanned revascularisation) at 7.7% and MACCE (defined as MACE plus stroke) at 8.1%. These rates were higher than for patients presenting with NSTEACS (1.7% and 1.9%) or non-ACS (1.1% and 1.2%), respectively (Table 7A).

Table 7A: In-hospital outcomes by clinical presentation 2025

In hospital outcomes	STEMI	NSTEACS	Non-ACS	Total
	(N=6,390)	(N=8,019)	(N=12,912)	(N=27,321)
Mortality (%)	5.1	0.9	0.6	1.8
Myocardial infarction (%)	0.7	0.4	0.4	0.5
Stent thrombosis (%)	0.5	0.1	0.2	0.2
Unplanned revascularisation (%)	1.5	0.5	0.4	0.6
MACE (%)	7.7	1.7	1.1	2.6
Stroke (%)	0.4	0.2	0.1	0.2
MACCE (%)	8.1	1.9	1.2	2.8
Major bleeding (%)	1.0	0.4	0.4	0.5
Median length of stay (Days)	3.0	3.0	1.0	2.0

MACE - **Missing data (N=7,849) Major Bleeding - ***Missing data (N=1,526)

Across hospital volume groups, MACE and MACCE were lowest in low-volume hospitals, while rates in medium and high volume hospitals were similar (Table 7B).

Table 7B: In-hospital outcomes by hospital volume 2025

In hospital outcomes	Low volume <250	Medium volume 250-500	High volume >500	Total
	(N=2,496)	(N=6,916)	(N=17,940)	(N=27,352)
Mortality (%)	0.7	1.9	1.9	1.8
Myocardial infarction (%)	0.5	0.5	0.4	0.5
Stent thrombosis (%)	0.3	0.2	0.2	0.2
Unplanned revascularisation (%)	0.4	0.7	0.7	0.6
MACE (%)	1.5	2.8	2.8	2.6
Stroke (%)	0.2	0.2	0.2	0.2
MACCE (%)	1.7	3.0	3.0	2.8
Major bleeding (%)	0.3	0.5	0.5	0.5
Median length of stay (Days)	1.0	2.0	2.0	2.0

MACE - **Missing data (N=7,849) Major Bleeding - ***Missing data (N=1,526)

Rates of major bleeding and stroke were similar between hospitals with and without on-site CABG capability, with only small differences across other in-hospital outcomes (Table 7C).

Table 7C: In-hospital outcomes by on-site CABG vs off-site CABG hospitals 2025

In hospital outcomes	On-site CABG (N=16,744)	Off-site CABG (N=10,608)	Total (N=27,352)
Mortality (%)	1.6	2.0	1.8
Myocardial infarction (%)	0.5	0.4	0.5
Stent thrombosis (%)	0.2	0.2	0.2
Unplanned revascularisation (%)	0.7	0.5	0.6
MACE (%)	2.4	2.9	2.6
Stroke (%)	0.2	0.2	0.2
MACCE (%)	2.6	3.1	2.8
Major bleeding (%)	0.5	0.5	0.5
Median length of stay (Days)	2.0	2.0	2.0

MACE - **Missing data (N=7,849) Major Bleeding - ***Missing data (N=1,526)

Major bleeding and stroke rates were also similar between metropolitan and non-metropolitan hospitals, while MACE and MACCE were slightly higher in non-metropolitan hospitals (Table 7D).

Table 7D: In-hospital outcomes by metro vs non-metro hospitals 2025

In hospital outcomes	Metro (N=22,104)	Non-metro (N=5,248)	Total (N=27,352)
Mortality (%)	1.7	2.1	1.8
Myocardial infarction (%)	0.5	0.5	0.5
Stent thrombosis (%)	0.2	0.3	0.2
Unplanned revascularisation (%)	0.6	0.7	0.6
MACE (%)	2.5	3.3	2.6
Stroke (%)	0.2	0.2	0.2
MACCE (%)	2.7	3.5	2.8
Major bleeding (%)	0.5	0.4	0.5
Median length of stay (Days)	2.0	3.0	2.0

MACE - **Missing data (N=7,849) Major Bleeding - ***Missing data (N=1,526)

18.6 Same Day Discharge

Same day discharge is a contemporary model of care for appropriately selected patients following elective PCI. This analysis included patients undergoing elective PCI for a non-ACS indication who were discharged home.

Discharge timing may reflect a range of clinical and non-clinical factors, including planned overnight admission, procedural complexity, social circumstances and local models of care. These factors are not fully captured within the NCR dataset; therefore, the findings are presented to describe patterns of discharge following elective PCI rather than as a measure of hospital performance.

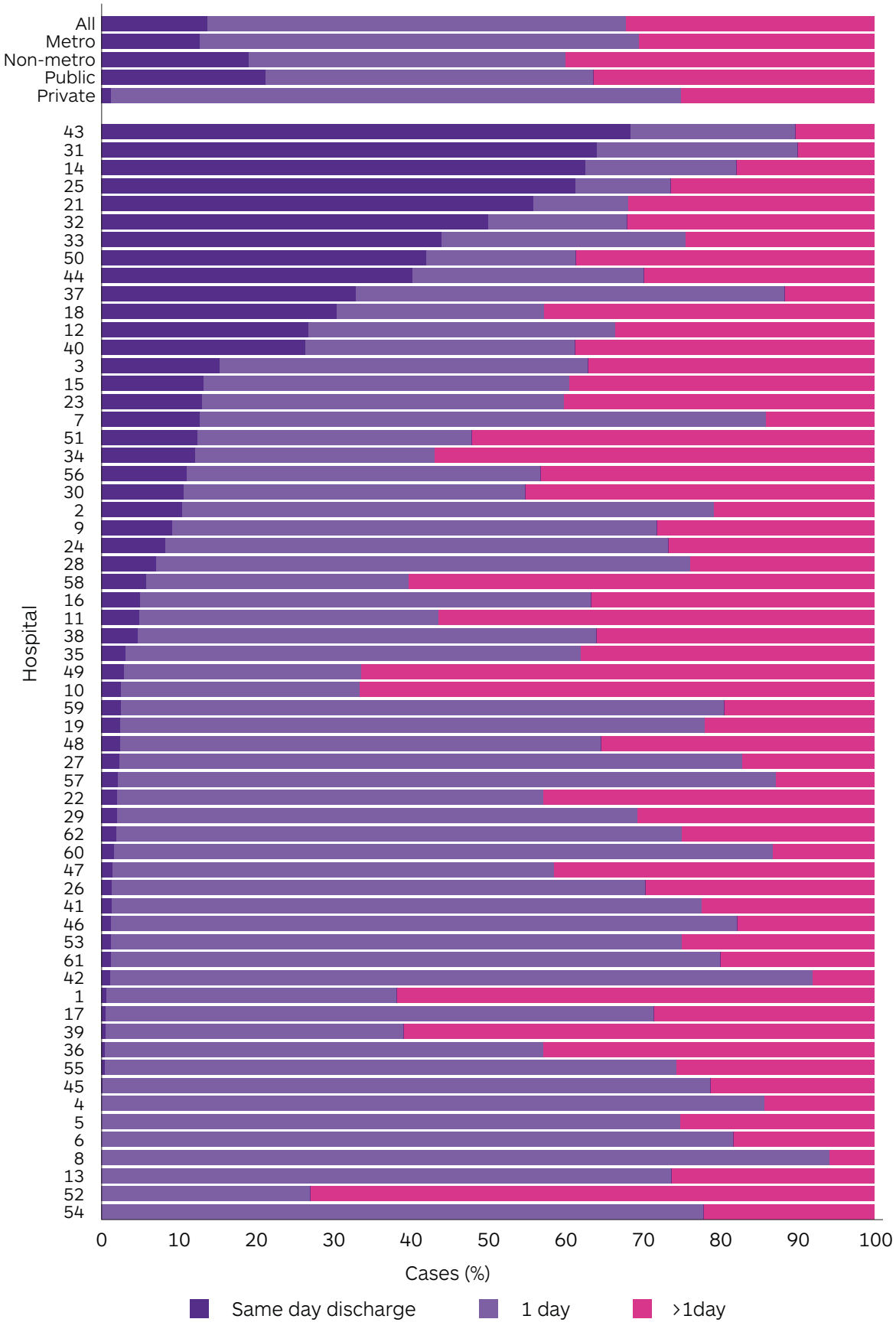
Among the 12,404 patients included in the analysis, 1,702 (13.7%) were discharged on the same day as their procedure, 6,715 (54.1%) after one day and 3,987 (32.1%) after more than one day. Same day discharge was more common in non-metropolitan hospitals (19.0%) than metropolitan hospitals (12.7%), and in public hospitals (21.2%) compared with private hospitals (1.2%) (Table 8).

Table 8: Discharge timing following elective PCI by hospital characteristics 2025

	Total	Same Day Discharge	>1 day	>1 day
All	12,404	1702 (13.7%)	6715 (54.1%)	3987 (32.1%)
Public	7,756	1647 (21.2%)	3290 (42.4%)	2819 (36.3%
Private	4,648	55 (1.2%)	3425 (73.7%)	1168 (25.1%)
Metro	10,307	1304 (12.7%)	5856 (56.8%)	3147 (30.5%)
Non-metro	2,097	398 (19.0%)	859 (41.0%)	840 (40.1%)

The proportion of patients discharged on the same day following elective PCI by hospital is presented in Figure 32.

Figure 32: Discharge timing following elective PCI by hospital 2025



19. Discharge Medications and Secondary Prevention

Guideline recommended medications and referral to cardiac rehabilitation are very important components of secondary prevention following PCI[17]. NCR reporting includes discharge prescribing of dual antiplatelet therapy (DAPT) and lipid lowering therapy (LLT), together with referral to cardiac rehabilitation or other secondary prevention programs.

19.1 Discharge Medications

Australian Guidelines recommend DAPT and LLT following PCI for ACS, where clinically appropriate. In 2025, prescription rates at discharge remained high, with DAPT prescribed in 94.8% of eligible patients and LLT in 96.3% of eligible patients. Rates were consistently high across clinical presentations and hospital characteristics (Table 9).

Table 9: Rates of prescription of DAPT and LLT by clinical presentation and hospital characteristics 2025

	Discharged on DAPT	Discharged on LLT	Cases with data available
Clinical presentation	**%**	**%**	**N**
STEMI	(94.6)	(97.8)	4,479
NSTEACS	(95.6)	(97.6)	6,196
Non-ACS	(94.4)	(94.9)	10,424
Hospital types	**%**	**%**	**N**
Low volume <250	(95.5)	(96.0)	2,316
Medium volume 250-500	(95.0)	(97.4)	5,239
High volume >500	(94.6)	(95.9)	13,574
On-site CABG	(94.2)	(96.1)	12,641
Off-site CABG	(95.6)	(96.5)	8,488
Metro	(94.5)	(96.1)	18,263
Non-metro	(96.3)	(97.3)	2,866
Public	(95.6)	(97.4)	15,240
Private	(92.6)	(93.4)	5,889
ALL	(94.8)	(96.3)	21,129

*Missing data (N=5,789).

17 Heart Foundation (2025) *Australian clinical guideline for diagnosing and managing acute coronary syndromes 2025*, accessed 18 August 2026.

QI 9. **Patients without contraindication discharged on lipid-lowering therapy**

QI 11. **Proportion of patients, without a clear and documented contraindication for Aspirin and/or P2Y12 inhibitor, discharged on DAPT**

19.2 Cardiac Rehabilitation

Cardiac rehabilitation is an important component of secondary prevention following PCI and associated with improved long-term outcomes.

Cardiac rehabilitation is an important component of secondary prevention following PCI and associated with improved long-term outcomes. In 2025, the overall rate of referral to cardiac rehabilitation following PCI was 84.4%, remaining similar to the previous year. Referral rates were generally consistent across clinical presentations and hospital characteristics (Table 10).

Table 10: Rates of referral to cardiac rehabilitation by clinical presentation and hospital characteristics 2025

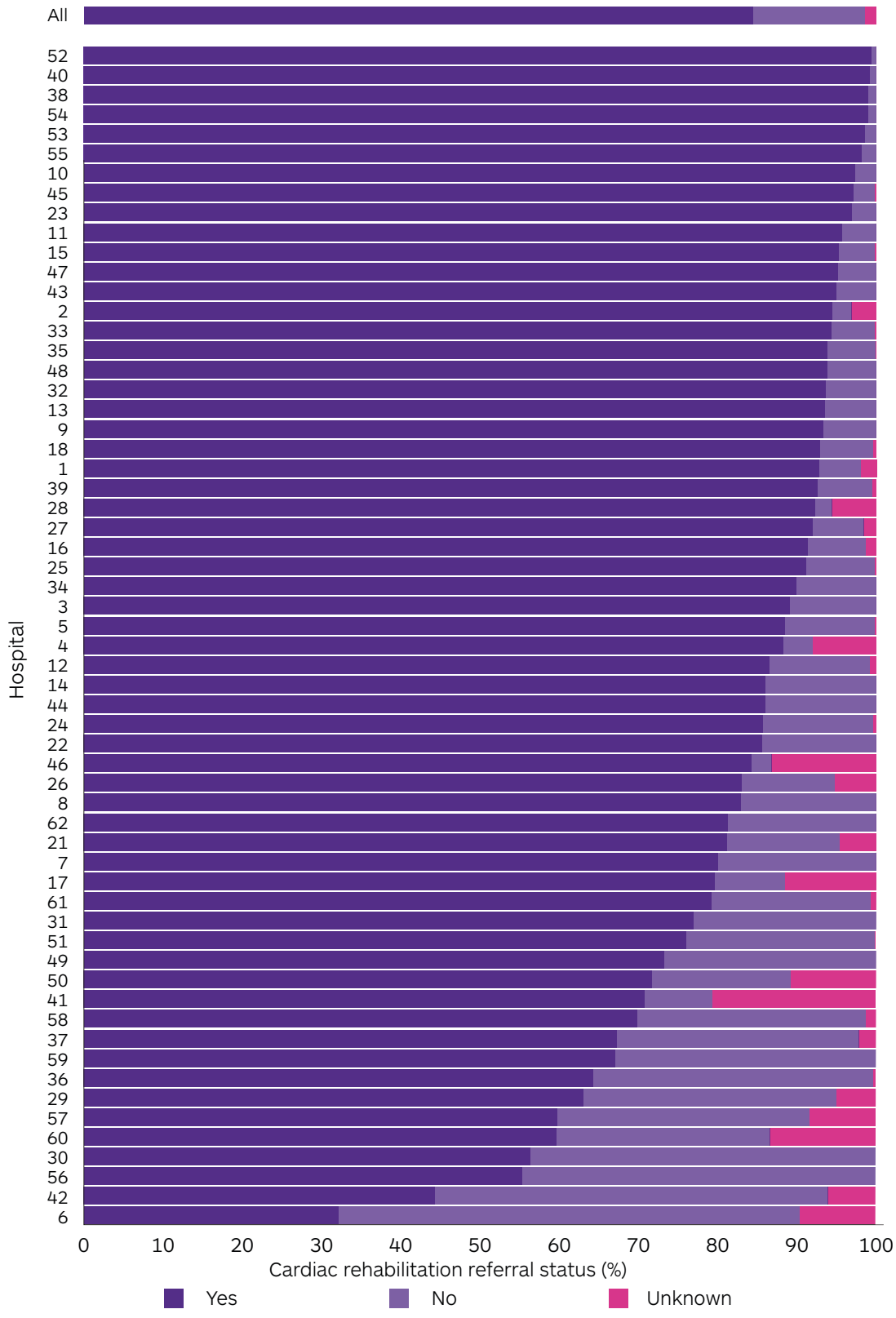
	Rehabilitation referral rate	Referral status 'unknown'	Cases with data available
Clinical presentation	%	%	N
STEMI	(89.4)	(0.8)	6,059
NSTEACS	(85.9)	(1.2)	7,886
Non-ACS	(81.1)	(1.8)	12,802
Hospital types	%	%	N
Low volume <250	(85.7)	(3.7)	2,361
Medium volume 250-500	(80.1)	(3.0)	6,790
High volume >500	(85.8)	(0.5)	17,626
On-site CABG	(83.8)	(1.2)	16,492
Off-site CABG	(85.2)	(1.8)	10,285
Metro	(83.8)	(1.6)	21,754
Non-metro	(86.8)	(0.6)	5,023
Public	(85.7)	(1.1)	20,886
Private	(79.6)	(2.5)	5,891
ALL	(84.4)	(1.4)	26,777

*Missing data (N=931).

QI 10. Patients referred to cardiac rehabilitation or other secondary prevention program

Cardiac rehabilitation referral rates by hospital are presented in Figure 33, ranging from 32.1% to 99.4%.

Figure 33: Cardiac rehabilitation referral by hospital 2025



Sites 20 and 19 excluded due to incomplete data.

QI 10. Patients referred to cardiac rehabilitation or other secondary prevention program

20. 30-Day Outcomes

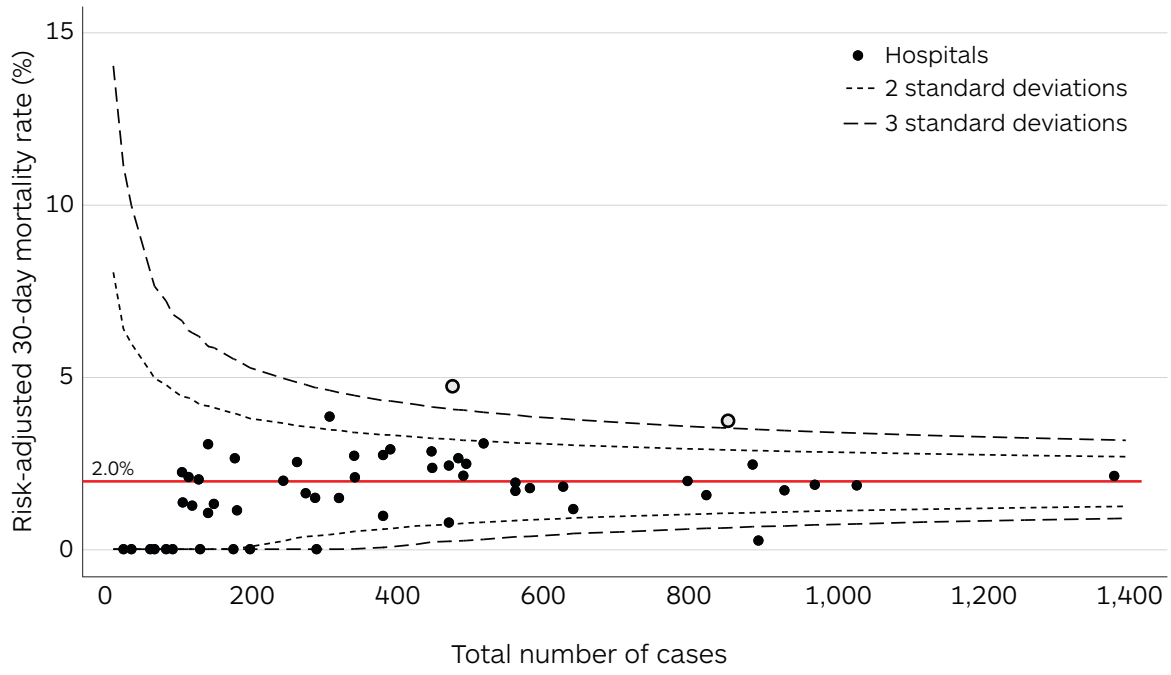
Thirty-day outcomes provide a broader view of patient outcomes following PCI, extending beyond the in-hospital period. For NCR reporting, 30-day outcomes include events occurring within the hospital and any subsequent events occurring within 30 days of discharge.

In 2025, the NCR received 30-day mortality data from seven out of eight jurisdictions, with five jurisdictions providing data on 30-day unplanned revascularisation and unplanned cardiac readmission. Overall, 54 hospitals contributed 30-day outcome data. Results should be interpreted alongside the completeness of 30-day follow-up data across participating hospitals.

20.1 30-Day Mortality

Thirty-day mortality is an important outcome measure following PCI. This year, risk adjustment has been introduced to account for differences in selected patient and clinical characteristics, allowing more meaningful comparison of 30-day mortality across participating hospitals. The NCR risk adjustment model was constructed using cardiogenic shock, out-of-hospital cardiac arrest, acute coronary syndrome, age and diabetes. The overall risk adjusted 30-day mortality rate was 2.0%, with two hospitals outside the expected control limits (Figure 34).

Figure 34: 30-Day mortality rate by hospital 2025

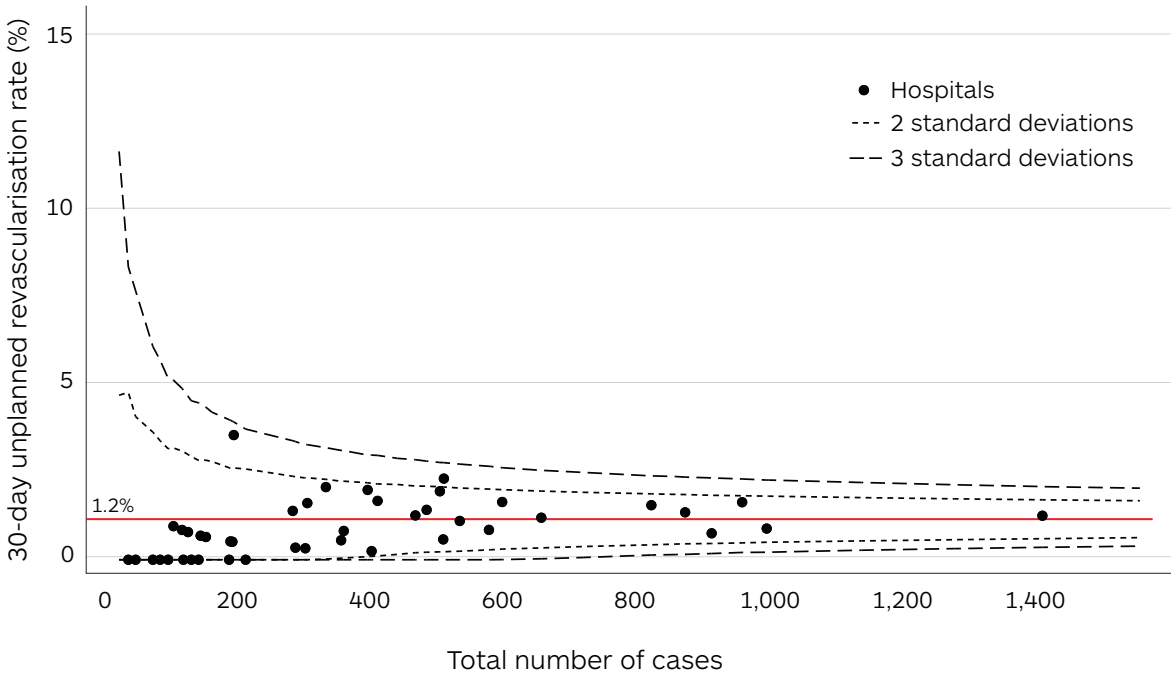


QI 8. **30-day mortality after PCI**

20.2 30-Day Unplanned Revascularisation

In 2025, the overall rate of unplanned revascularisation within 30 days was 1.2%, remaining relatively stable compared with previous reporting periods. All participating hospitals were within expected control limits (range: 0-3.6%), as shown in Figure 35.

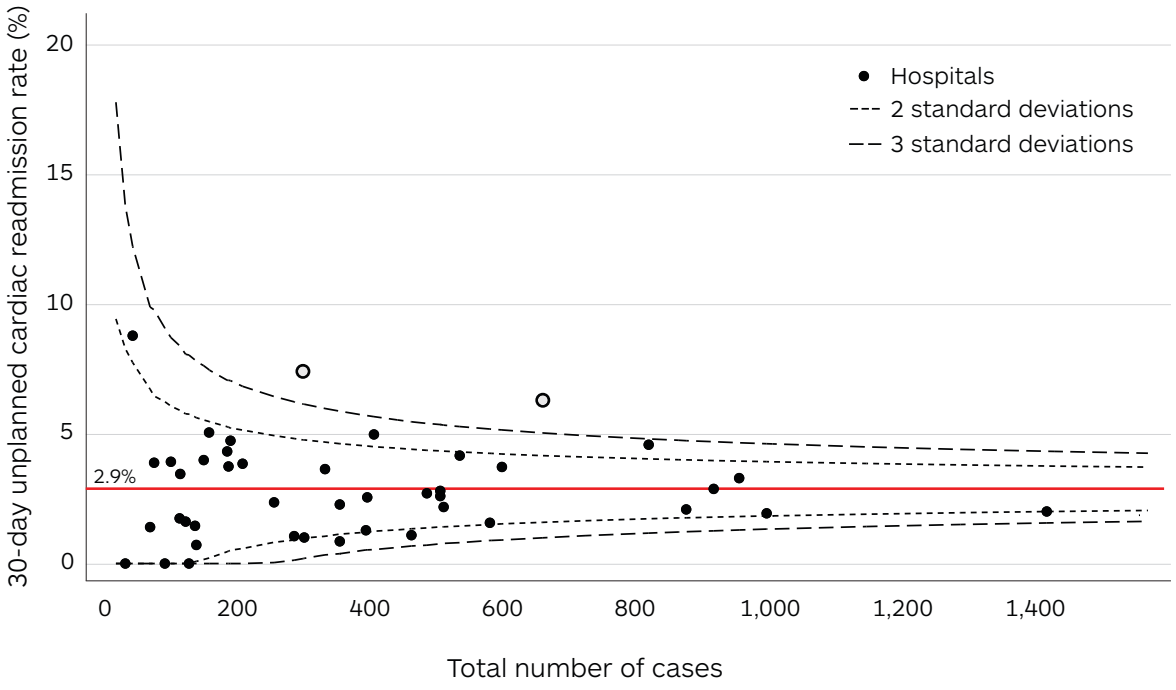
Figure 35: 30-day unplanned revascularisation rate by hospital 2025



20.3 30-Day Unplanned Cardiac Readmission

In 2025, the overall rate of unplanned cardiac readmission within 30 days remained at 2.9%. Data was available from 43 hospitals across five jurisdictions, with two hospitals outside expected control limits (Figure 36).

Figure 36: 30-day unplanned cardiac readmission rate by hospital 2025



QI 6. **30-day unplanned cardiac readmission rate after PCI**

21. The Registry Project Management Team

Clinical Lead	Associate Professor Jeff Lefkovits
Program Manager, Cardiac Registries (to July 2025)	Angela Brennan
Senior Research Fellow	Dr Diem Dinh
Program Manager, National Cardiac Registry	Jasmine Pyyvaara
Team Lead, Health Data Services	Mark Lucas
Senior Project Officer (to June 2026)	Ray Stewart
Senior Project Officer (from August 2026)	Deb Mackellin
Project Officer	Tharini Sivakumaran

CSANZ Conference 2026
(L-R) Tharini Sivakumaran, Jasmine Pyyvaara, James Leitch, David Follent and Megan Schoder.

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22. Governance Structure

22.1 The NCR Board

The NCR Board comprises the Chair, representation from each state and territory and representation from the Cardiac Society of Australia and New Zealand (CSANZ) and the Australian and New Zealand Society of Cardiac and Thoracic Surgeons (ANZSCTS).

Table 11: National Cardiac Registry Limited Board

Member	Role within Board	Substantive Role
Dr James Leitch	Chair (from October 2023)	Cardiologist
Professor John Atherton	CSANZ representative	Director of Cardiology, Royal Brisbane and Women's Hospital, Professor, School of Clinical Medicine, Royal Brisbane Clinical Unit, Faculty of Medicine, University of Queensland Adjunct Professor, School of Biomedical Sciences, Faculty of Health, Queensland University of Technology
Associate Professor Jayme Scott Bennetts	ANZSCTS representative	Director of Cardiothoracic Surgery, Monash Health, Professor, Monash University
Dr Jean-Frederic Levesque	NSW Board Director (until September 2025)	Chief Executive NSW Agency for Clinical Innovation; Deputy Secretary, Clinical Innovation and Research, NSW Ministry of Health, Medical Doctor, Specialist in Preventive Medicine and Public Health, PhD Public Health, Fellow of the Royal College of Physicians of Canada
Dr Sean Kelly	NSW Board Director (from September 2025)	Clinical Director, Critical Care NSW Agency for Clinical Innovation, Director and Senior Staff Specialist Intensive Care Services, Central Coast Local Health District
Dr Angus Baumann	NT Board Director	Cardiologist, Alice Springs Hospital
Dr Peter J Scott	ACT Board Director (from August 2025)	Cardiologist, Canberra Health Services
Dr Catherine McDougall	QLD Board Director (until September 2025)	Chief Medical Officer, Queensland Health
Dr Johanne Neil	QLD Board Director (from September 2025)	Cardiac Network Chair, Director of Cardiology, Ipswich Hospital, QLD Cardiac Network Chair, Queensland
Dr Michael Cusack	SA Board Director (until June 2026)	Chief Medical Officer, SA Health
Sam Farrugia	SA Board Director (from August 2026)	Director Safety & Quality, SA Health
Dr Paul MacIntyre	TAS Board Director	Clinical Director of Acute Medical Services, Royal Hobart Hospital
Professor Andrew Wilson	VIC Board Director	Chief Medical Officer, Safer Care Victoria
Dr Audrey Koay	WA Board Director (until October 2025)	Executive Director, Patient Safety and Clinical Quality Department of Health Western Australia
Dr Julie Dockerty	WA Board Director (from October 2025)	Principal Medical Advisor, Patient Safety and Clinical Quality Directorate, Department of Health Western Australia

22.2 National Cardiac Registry Audit and Risk Committee

The Audit and Risk Committee has been established to provide technical advice and support to the NCR Board in relation to financial management, risk and auditing.

Table 12: National Cardiac Registry Audit and Risk Committee

Member	Role within Committee	Substantive Role
Dr Audrey Koay	Chair (until October 2025)	Executive Director, Patient Safety and Clinical Quality, Department of Health Western Australia
Mr Robert Spiby	Chair	Accountant, Partner, PKF Adelaide
Ms Megan Schoder	Member	NCR CEO, Deputy Chair
Mr Angus Baumann	Member	Cardiologist, Alice Springs Hospital
Dr Johanne Neill	Member (from June 2026)	QLD Director, Treasurer
Dr Michael Cusack	Member (until June 2026)	Chief Medical Officer, SA Health

22.3 National Cardiac Registry Indigenous Committee

The NCR Indigenous Committee has been established to provide expert advice and input to help shape the Registry for the benefit of Aboriginal and Torres Strait Islander people with member representation from across Australia.

Table 13: National Cardiac Registry Indigenous Committee

Member	Role within Committee	Substantive Role
Mr David Follent	Chair and NSW Representative	Senior Project Officer, CCAP, NSW Agency for Clinical Innovation
Mr Bob Buffington	ACT Representative	Aboriginal Health Clinician
Mrs Christine Ingram	VIC Representative	Team Leader & Outreach Worker Integrated Team Care Program
Mrs Vicki Wade	SA Representative (from February 2025)	Director of Rheumatic Heart Disease Australia, Menzies School of Health Research
Dr Angus Baumann	Board Member	Cardiologist, Alice Springs Hospital
Ms Megan Schoder	Member	NCR CEO

22.4 National Cardiac Registry Variation Oversight Committee

The Variation Oversight Committee has been established to provide a mechanism for the reporting of variation in collaboration with participating registries. A core function of established clinical quality registries is to ensure that unwanted variation is addressed in a timely manner and communicated to relevant stakeholders.

Table 14: National Cardiac Registry Variation Oversight Committee

Member	Role within Committee	Substantive Role
Professor Andrew Wilson	Chair	Chief Medical Officer, Safer Care Victoria
Professor Jayme Bennetts	ANZSCTs Member Director	Director of Cardiothoracic Surgery, Monash Health Professor, Monash University
Dr James Leitch	Board Member	Cardiologist
Associate Professor Rosanna Tavella	SA Member	CADOSA Registry Manager, Clinical Data Manager, Central Adelaide Local Health Network Affiliate A/Professor, Adelaide Medical School, University of Adelaide
Dr Rohan Poulter	QLD Member	Interventional Cardiologist, Sunshine Coast University Hospital and Chair of the Queensland Cardiac Outcome Registry Interventional Steering Committee

22.5 National Cardiac Registry Steering Committee

The steering committee has been established to implement the strategic direction of the NCR, oversee the management of registry operations, report program operations and outcomes, review performance, and establish governance arrangements for collection, use and disclosure of data held within the Registry.

The core functions are:

a) Report progress against deliverables to the Board;
b) Engage with States and Territories to promote participation;
c) Design registry outputs and oversee data analysis and reporting;
d) Oversee the operational aspects of the registry - from its design, policy development, output and reporting;
e) Fulfil all specific obligations as outlined within NCR policy documents;
f) Provide advice on annual status reports, project plans including stakeholder analysis, communication strategy and risk management plan;
g) Monitor the infrastructure model including technical and data hosting services and processes for the organisation of data;
h) Define the minimum dataset and clinical quality indicators;
i) Steer the ongoing development of the design of the NCR including; patient case selection, data collection processes, data management, analytics and methods to facilitate reporting to a range of stakeholders for ongoing quality improvement;
j) Provide advice on a business model and assess the options for supporting the NCR, including cost-recovery options; and
k) Review requests for NCR data with recommendations to the Board.

The NCR steering committee is comprised of Australian state and territory representatives, clinicians, government representatives, subject matter experts, Australian government nominees, consumer representatives, an Aboriginal and Torres Strait Islander Peoples representative, and a cardiac surgeon.

Table 15: National Cardiac Registry Steering Committee

Member	Role within Committee	Substantive Role
Associate Professor Jeff Lefkovits	Chair	Interventional Cardiologist and Clinical Lead for the Victorian Cardiac Outcomes Registry
Dr Rohan Poulter	Deputy Chair	Interventional Cardiologist at Sunshine Coast University Hospital and Chair of the Queensland Cardiac Outcome Registry Interventional Steering Committee
Dr Peter Scott	ACT Principal Investigator	Cardiologist, the Canberra Hospital (from August 2023 to January 2025
Dr Kyrill Rogacev	ACT Principal Investigator	Deputy Director of Cardiology at the Canberra Hospital (from January 2025)
Mrs Sue Morberger	ACT Jurisdictional Representative	Project Officer, Cardiac Registry, Cardiology, Division of Medicine, Canberra Health Services
Professor David Brieger	NSW Clinical Expert	Interventional Cardiologist and Head of Cardiology, Concord Hospital; Board Chair of the Australasian Cardiac Outcomes Registry, Member, NSW Cardiac Clinical Network
Ms Mel Tinsley	NSW Jurisdictional Representative	Associate Director, Integrated Digital Enablement Accelerator (IDEA), Agency for Clinical Innovation
Dr Marcus Ilton	NT Clinician Expert	Cardiologist and Director of Cardiology, Royal Darwin Hospital

Member	Role within Committee	Substantive Role
Ms Justine Williams	NT Gov. Representative	Cardiology Research Coordinator and Cardiac Quality Nurse, Cardiac Expansion Unit, Royal Darwin Hospital
Mr William Vollbon	QLD Gov. Representative	Queensland Cardiac Outcomes Registry Manager, Statewide Cardiac Clinical Informatics Unit, Queensland Health
Professor Chris Zeitz	SA Gov. Representative	Coronary Angiogram Database of South Australia, Head of Cardiology at Queen Elizabeth Hospital
Professor John Beltrame	SA Clinical Expert	Professor of Medicine, Michell Chair, Adelaide Medical School, University of Adelaide; Senior Cardiologist, Central Adelaide Local Health Network, Director of Research, Central Adelaide Local Health Network, CADOSA Data Custodian
Associate Professor Rosanna Tavella	SA Registry Representative	CADOSA Registry Manager, Clinical Data Manager, Central Adelaide Local Health Network Affiliate A/Professor, Adelaide Medical School, University of Adelaide
Dr Elizabeth Webber	TAS Gov. Representative	Medical Advisor Clinical Quality, Clinical Governance Medical Director, GP and Primary Care Clinical Quality, Regulation and Accreditation (CQRA) Group, DoH Tasmania (from September 2023)
Dr Andrew Black	TAS Clinical Expert	Cardiologist and Staff Specialist in Cardiology at Royal Hobart Hospital
Ms Angela Brennan	VIC Registry Expert	Program Manager, Cardiac Registries at CCRET, School of Public Health and Preventive Medicine, Monash University (to July 2025)
Ms Linda Brown	VIC Gov. Representative	Director of Translational Research, Clinical Trials, Strategic Projects and Response at Safer Care Victoria (from November 2024)
Associate Professor Jon Spiro	WA Clinical Expert	Interventional Cardiologist, Royal Perth Hospital, Western Australia Associate Professor, University of Western Australia (from August 2024)
Professor Girish Dwivedi	WA Clinical Expert	Consultant Cardiologist, Fiona Stanley Hospital Professor of Cardiology, University of Western Australia (from August 2024 to September 2026)
Mr Ben Weber	WA Gov. Representative	Senior Analyst, Patient Safety and Clinical Quality Directorate, Department of Health Western Australia (until August 2026)
Ms Karen Carey	Consumer Representative	Consumer Representative (from February 2024)
Dr. Benjamin Michael Robinson	ANZSCTS Representative	Consultant Cardiothoracic Surgeon, Royal Prince Alfred Hospital (from August 2024)
Mr David Follent	National Aboriginal and Torres Strait Islander	Senior Project Officer, CCAP Representative
Ms Sally Rayner	Department of Health and Aged Care Representative	Director - Clinical Quality Registries (until August 2025)
Ms Terrie O'Brien	Department of Health and Aged Care Representative	Director - Clinical Quality Registries (from September 2025)

23. NCR Partners

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Australian Government
Department of Health, Disability and Ageing

MONASH University

CSANZ
Cardiac Society of Australia and New Zealand

Australian & New Zealand Society of Cardiac & Thoracic Surgeons

Heart Foundation

Her Heart

Gullidala

PlaytimeSolutions

ACTCOR
ACT Cardiac Outcomes Registry

CADOSA
Coronary Angiogram Database of South Australia

NSWCOR
New South Wales Cardiac Outcomes Registry

NSW Government | Agency for Clinical Innovation

QCOR
Queensland Cardiac Outcomes Registry

Queensland Government

Northern Territory Top End Coronary Database
NTTCD

VCOR
Victorian Cardiac Outcomes Registry

CRoWA
Cardiac Registry of Western Australia

Northern Territory Government | NT Health

SCV Safer Care Victoria

Queensland Government | Clinical Excellence Queensland

Tasmanian Government | Department of Health

Government of South Australia
SA Health

Government of Western Australia
Department of Health

Victoria | Department of Health

ACT Government | ACT Health

24. Acknowledgements

We would like to thank all State and Territory Registries for contributing to the NCR. We would also like to thank the NCR Steering Committee, the Monash Project Management Team at Monash University, School of Public Health and Preventive Medicine, NCR Ltd. Board Chairs Dr Leo Mahar (until October 2023) and Dr Jim Leitch (from October 2023), supported by the Company's Executive Officer Megan Schoder.

The Registry would not be possible without the participation of clinicians, allied health staff and all the Australian patients and their families who have contributed to the registries and shared their data to improve health outcomes for all Australians.

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