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Improving Guideline Compliance in Australia With a National Percutaneous Coronary Intervention Outcomes Registry

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Background

Secondary prevention strategies after percutaneous coronary intervention (PCI) include statins and dual anti-platelet therapy, however there are significant gaps between guidelines and practice. Contemporary PCI practice requires comprehensive data collection to allow dynamic auditing and benchmarking of key performance and safety indices.

Genesis HeartCare is Australia's largest collaborative venture of cardiologists, practising at over 40 public and private hospitals. We hypothesised that measurement and local reporting of data would improve patient outcomes through improving compliance with guideline therapies.

Methods

Real-time benchmarking via a national clinical quality and outcomes register, the Genesis Cardiovascular Outcomes Registry (GCOR-PCI). GCOR-PCI prospectively collected clinical, procedural, medication and outcomes data for 6720 consecutive patients undergoing PCI from 10 private hospitals across Australia. Key performance outcomes benchmarked against the aggregated study cohort and international standards were

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reported to individual sites. The main outcome measure was compliance with guideline medications (statins, anti-platelet agents).

Results

Early data identified specific practice patterns associated with lower rates of statin therapy post-PCI, which led to changes in practice. Between the first and latest year of data collection there was significant improvement in the rates of statin therapy at discharge (92.1 vs. 94.4% $p < 0.03$) and 12 months post-PCI (87.0 vs. 92.2% $p < 0.001$) and of antiplatelet therapy at 12 months (90.7 vs. 94.3% $p < 0.001$).

Conclusions

This large-scale collaboration provides a platform for the development of quality improvement initiatives. Establishment of this clinical quality registry improved patient care by identifying and monitoring gaps in delivery of appropriate therapies, driving key practice change.

Keywords

Percutaneous • coronary intervention • Quality • Outcomes • Registry • Guidelines • Compliance.

Introduction

Despite increasing percutaneous coronary intervention (PCI) volumes and health care expenditure in Australia, there are no contemporary national data regarding the demographic, procedural and long-term outcomes after PCI [1]. Public reporting of patient outcomes following hospitalisation in Australia is limited compared with other countries [2]. The last report nearly a decade ago indicating procedural volumes of 35,000 PCIs annually does not address these issues or others such as device safety and guideline compliance [1].

Further, although an Australian cardiac procedures database has been proposed since 2001, progress towards establishing a unified, systematic approach to data collection, with a common minimum dataset pertinent to the Australian context, and quality control measures to ensure integrity and privacy of data, has been limited [3,4]. Initial attempts at a selective PCI registry were limited by a paucity of demographic and procedural data and lack of long-term outcome data, with few hospitals participating [1]. Efforts to supplement missing data with the National Hospital Morbidity Database were published infrequently, with no contemporary information provided to centres or clinicians that could be used to improve patient care, and little in the past 10 years.

Cardiovascular registries characterise patients and describe the manner and use of therapeutic strategies [5]. They facilitate analyses on the quality of care among participating institutions and document variations in clinical practice that can be benchmarked against best practice recommendations [6]. Several large multi-centre registries have evaluated outcomes after PCI in the USA, and an important step was the establishment of data collection from many Victorian public hospitals via the Melbourne Interventional Group [6,7]. Nonetheless, despite increasing PCI volumes, and repeated calls for a national registry, there is still currently no ongoing, comprehensive systematic Australian PCI database providing long-term procedural and outcome data, although recently the Cardiac Society of Australia and New Zealand has been working towards a national registry. Finally, there are virtually no data concerning patients treated in private hospitals, although nearly 50% of all PCIs in Australia are performed in private hospitals [1,8].

Genesis HeartCare Cardiovascular Outcomes PCI Registry (GCOR-PCI)

GCOR-PCI is a prospective Australian clinical quality Registry established in 2009 that describes the contemporary management, in-hospital and long-term outcomes of patients

Table 1 Participating Centres.

State	Hospital Name	On site Cardiac Surgery
QLD	Wesley	Yes
QLD	Greenslopes	Yes
QLD	Mater	No
QLD	Sunshine Coast	No
VIC	Warringal	Yes
VIC	Valley Private	No
SA	Wakefield	Yes
SA	St Andrews	Yes
WA	Mount Hospital	Yes
WA	St John Of God Murdoch	No

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