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Implementing Sustainable Data Collection for a Cardiac Outcomes Registry in an Australian Public Hospital

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Background

Clinical outcome registries are an increasingly vital component of ensuring quality and safety of patient care. However, Australian hospitals rarely have additional resources or the capacity to fund the additional staff time to complete the task of data collection and entry. At the same time, registry funding models do not support staff for the collection of data at the site but are directed towards the central registry tasks of data reporting, managing and quality monitoring. The sustainability of a registry is contingent on building efficiencies into data management and collection.

Methods

We describe the methods used in a large Victorian public hospital to develop a sustainable data collection system for the Victorian Cardiac Outcomes Registry (VCOR), using existing staff and resources common to many public hospitals. We describe the features of the registry and the hospital specific strategies that allowed us to do this as part of our routine business of providing good quality cardiac care.

Results

All clinical staff involved in patient care were given some data collection task with the entry of these data embedded into the staff's daily workflow. A senior cardiology registrar was empowered to allocate data entry tasks to colleagues when data were found to be incomplete. The task of 30-day follow-up proved the most onerous part of data collection. Cath-lab nursing staff were allocated this role.

Conclusion

With hospital accreditation and funding models moving towards performance based quality indicators, collection of accurate and reliable information is crucial. Our experience demonstrates the successful implementation of clinical outcome registry data collection in a financially constrained public hospital environment utilising existing resources.

Keywords

Cardiac outcomes • Registry • Data Collection

Introduction

Q6 Clinical outcome registries improve patient outcomes [1,2]. As a result, there is a major drive locally and globally to

collect data that describes the quality of care provided to patients undergoing high-risk, high-cost and high-volume procedures such as cardiac interventions. The Australian Commission for Safety and Quality in Health Care have

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identified registries, such as a cardiac procedures registry as an important component of a quality of care plan for Australia hospitals [3]. However, Australian public hospitals rarely have additional resources or the capacity to fund the additional staff time to complete the task of data collection and entry. At the same time, registry funding models do not support staff for the collection of data at the site but are directed towards the central registry tasks of data reporting, managing and quality monitoring. The sustainability of a state based or national registry is contingent on building efficiencies into both a) the collection of data at the local level; and b) the monitoring and reporting of data back to sites in order to inform current practice.

Incomplete or poor quality data collection compromises the value of outcome registries [4] and strategies for maintaining quality data collection are a key component of sustainability. A "business as usual" approach to the collection of a minimum standard data set to adequately allow for the reporting of risk adjusted clinical and patient reported outcomes is the goal.

We describe the methods used in a large Victorian public hospital to develop a sustainable data collection system for the Victorian Cardiac Outcomes Registry (VCOR), using existing staff and resources common to many public hospitals. We describe the features of the registry and the hospital specific strategies that allowed us to do this as part of our routine business of providing good quality cardiac care.

The Victorian Cardiac Outcomes Registry

The Victorian Cardiac Outcomes Registry is a state-based clinical quality registry designed to monitor the performance of health services in Victoria in the delivery of high-cost cardiac-based therapies, including percutaneous coronary intervention (PCI). The data collection described in this paper is for the PCI module of VCOR. The Victorian Cardiac Outcomes Registry was established in 2012 through joint venture funding from the Victorian Department of Health and Medibank Private. The VCOR PCI module is engaged at all Victorian hospitals (13 public and 17 private). Five of the private hospitals have recently engaged in late 2016 and will commence data collection in early 2017. The VCOR collects baseline demographic, procedural characteristics, in hospital outcome and 30-day outcome data on all patients who undergo PCI at a given facility. All current 25 hospitals collecting VCOR data have developed their own data collection methodology based on what local resources were available. No additional funding was made available by the VCOR to facilitate data collection.

To facilitate accurate and efficient data entry by all sites, the VCOR developed a secure web-based data collection system that allows data entry by multiple users on any computer within the health service. All data entry personnel are required to be registered with the VCOR, with

appropriate security levels of access to the data tailored to match the roles of contributing staff members.

The data collected in the VCOR broadly correlates with a patient's progress through the hospital, from procedure through to discharge and follow-up. This allows staged collection of data in real time as the patient progresses through the hospital admission. Data can be entered and saved as they become available and multiple users are able to enter sequential data for any single patient. Completeness of data entry can be tracked and monitored on the online systems dashboard.

The data always remain the property of the submitting hospital, with the central VCOR office undertaking analyses and reporting. Authorised users at the health service are able to extract their site-specific data from the central registry for internal use at any time. These data can also be accessed online in the form of real time pre-defined reports covering a specified reporting period, and can be used to generate local monthly reports. In addition, full downloads of sites' raw data into the desired format, e.g. an Excel spreadsheet, can be performed at any time for quality assurance reviews or research projects (assuming local ethics approval is obtained).

Data integrity is ensured with regular audit activities conducted by the central registry. The principal output of the registry is in the form of quarterly site and annual reports, providing data on outcomes and comparative performance assessment (Figure 1).

Implementation of Sustainable Model of Data Collection for VCOR

Our site performs a minimum of 15 PCIs each week and we estimated that the task of data collection would take approximately 8 to 10 hours per week. However, there were no available resources to employ a dedicated data manager for data entry and follow-up. Nor was any additional funding made available to subsidise existing employees in this role. Instead, we successfully implemented a strategy of embedding data collection responsibilities into employees' existing roles.

As the data required for the VCOR tracks the progress of patients through their hospital admission, we mapped specific data elements for collection to particular health service clinical staff (Table 1). This process was based on the concept that the data hospital staff members were required to collect would be easily accessible to them as part of their normal employment duties in our department.

All clinical staff involved in patient care were given a data collection task with the entry of these data embedded into the staff's daily workflow. A senior cardiology registrar was empowered to allocate data entry tasks to colleagues when data were found to be incomplete. Oversight of the data collection process was allocated to a permanent non-clinical IT manager, whose duties extended to the registration of new

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