

Chest Pain Management Service

Category for Project Awards

- Queensland Health Award for Excellence in service delivery

Abstract

Patients with acute non-traumatic chest pain presenting at Royal Brisbane and Women's Hospital (RBWH) receive care from a number of clinical areas (Emergency Medicine, Cardiology and Internal Medicine). A working group representing three clinical areas identified the need for an improved, coordinated system of clinical management for this patient group based on enhanced communication between departments, timely and appropriate triage, clinical investigations, diagnosis, and treatment. As a result, an evidence-based Chest Pain Management Service was developed and implemented. The CPM service resulted in an improvement in patient safety by identifying high risk patients earlier, reducing time to treatment through after hours exercise stress testing, reducing patient bed-night stays and creating a sustainable model for State-wide implementation.

Aim

Develop and implement a Chest Pain Management Protocol to risk stratify patients presenting to Emergency Departments with chest pain that improves patient safety, reduces time to treatment, reduces patient bed-night stays and creates a sustainable model for State-wide implementation.

Nature of the problem

Queensland is experiencing a rapid growth in population with a higher percentage of people aged over 55 and an increase in life expectancy. This has led to an extra burden on resources in public hospitals in Queensland. One of the leading problems is access to appropriate treatment which can be delayed due to high demand for hospital beds. Chest pain is one of the major reasons why people present to emergency departments. Patients have experienced long delays in treatment due to a lack of available resources, which places pressure on hospital beds and can result in inappropriate discharges.

Extent of the problem

NHF guidelines recommend that blood tests for Troponin and an Exercise Stress Test be performed to risk stratify patients for coronary artery disease.

A baseline chart audit prior to implementation of the protocol indicated two major clinical practice gaps: troponin blood testing times and exercise stress testing availability.

A second chart audit was performed two months after the implementation of the CPM service. The CPM service led to improved access to these testing procedures. Access was improved by providing an after hours exercise stress testing service on weekday evenings, weekends and public holidays. This risk stratification resulted in safe discharge of low risk patients and admission of high risk patients for treatment.

Records of all Exercise Stress Testing (EST) results have been recorded in an EST database.

Formal project governance processes implemented include:

- a Project Steering Group
- a Project Working Group
- review by the management of the Clinical Practice Improvement Centre

Strategic importance

High risk patients were identified earlier and received earlier access to treatment (interventional angiogram). Earlier intervention for high risk patients decreases the likelihood of heart failure which is a major burden to the patient and the health system.

Low risk patients were able to be discharged with the knowledge that they were at a low risk of a coronary event and had received all evidence based recommended testing resulting in a high level of confidence that they are discharged appropriately.

The CPM service/protocol has been implemented in other Qld Health Tertiary level hospitals (i.e. Gold Coast Hospital, PA Hospital).

Ongoing consultation/discussion is currently being conducted to implement the CPM service/protocol to regional and rural Qld Health hospitals.

Planning and implementing solutions

- Continuous consultation with, and training of, clinicians involved in the use of the CPM service
- Continued after hours access to exercise stress testing to continue quality patient care and timely discharge.
- Improved time to treatment for patients presenting with chest pain. Patients are seen immediately on presentation and started on the CPM protocol which accelerates their treatment process.
- Efficient treatment of patient through the CPM service creates reduced patient bed-night stays which improves access to hospital beds for other patients.
- Clinical indicators are continually being used to measure quality outcomes. These form the basis for state-wide benchmarking for chest pain management.
- Aspects of the CPM service are now being considered in the development of a state-wide service/protocol

- The governance structure for state-wide CPM service/protocol development include the state-wide Cardiac Network, the State-wide Emergency Network, the Co-Chair of the National Heart Foundation, Qld Ambulance Service, indigenous representation, consumer representative, GP representative and key hospital department representation.
- Having completed the trial the CPM service/protocol is being implemented in other Qld Health Tertiary level hospitals (i.e. Gold Coast Hospital, PA Hospital).
- Ongoing consultation/discussion are currently being conducted to implement the CPM service/protocol to regional and rural Qld Health hospitals (i.e. Nambour hospital, Ipswich Hospital, Logan Hospital, Bundaberg Hospital, Hervey Bay Hospital, Caboolture Hospital, Biloela Hospital).
- On completion a state-wide CPM service/protocol will be implemented in all Qld hospitals facilitated by the Clinical Practice Improvement Centre part of the Reform and Development Division of QLD Health.
- Implementation of the CPM service/protocol will see an incentive payment introduced to hospitals who adopt quality initiatives such as state-wide pathways.
- The CPM service/protocol, through its efficiency in reducing bed night stays, will assist participating hospitals with financial incentive through the new CASEmix funding model.

Outcomes and Evaluation

- Improved patient safety by providing patients with care that is evidence-based using the National Heart Foundation Guidelines.
- Reduced time to treatment - the extended stress testing hours resulted in earlier treatment for patients with positive and indeterminate test results, thus providing better care.
- Between November 2005 and February 2009, the introduction of extended stress testing hours has resulted in:
 - a reduction of 1965 patient bed days due to more timely identification of patients at low risk who can be discharged home.

a reduction of 934 waiting days for high risk patients to receive earlier treatment.

Sustaining change

The Chest Pain Management Protocol is being developed for implementation in all Queensland hospitals.

The state-wide governance structure for the state-wide implementation of the CPM service/protocol utilises the clinical networks for endorsement and provides a model for other clinical pathway development and implementation.

Clinicians have responded positively to the use of the CPM service/protocol as it has standardised and improved service delivery for patients with non-traumatic chest pain. The protocol has reduced the chest pain presentation burden on bed access due to earlier identification of low risk patients who can now be discharged rather than occupy a bed during an overnight stay.

Future Scope

To assist with state-wide rollout of the chest pain management protocol the Emergency network will use the risk stratification component of the document as one of their Clinical practice Improvement Payment options (on April 1 2009, 28 Emergency departments in Qld Health will begin using this document). This ensures each cardiac presentation is risk stratified according to the Heart Foundation guidelines. The suite of documents is now available on line at the Clinical Practice Improvement Centre web site with ordering information. Information about the documents and the process has been sorted and distributed to the other Australian state's health services at a high level.