

**Entry Title - Putting ED Pathology Ordering Under the Microscope
GCHSD**

Category for Project Awards

Queensland Health Award for Excellence in service delivery

Abstract

GCHSD Emergency Departments are recognised as the busiest in Australia and rely significantly on pathology analyses to provide quality patient care. In July 2008, David Spain, Deputy Director, Emergency Medicine identified that this Department was overusing pathology testing, with adverse implications for patient care and resource availability. Pathology accounts for 51.6% of the ED non-labour budget, and is therefore a major consumer of their finite resource allocation. In response, Dr Spain led the development and implementation of a major change strategy focused on the adoption of evidence based pathology ordering within ED. Already, this initiative is demonstrating significant positive results, evidenced by a x percent reduction in pathology ordered over a four month period, despite an increase in admissions over the same period.

Aim

To improve patient care and resource utilisation by adopting an evidence-based approach to ordering of pathology tests for patients admitted to emergency departments GCHSD.

Nature of the problem

Significant demand for emergency health services on the Gold Coast is exacerbated by the itinerant and tourist population. GCHSD is committed to ensuring the best use of its resources, so that patients receive accessible and quality care.

Research demonstrates that diagnostic testing is overused within healthcare. It is estimated that as many as 1/3 of all tests ordered are inappropriate and will not contribute to the diagnosis and treatment of patients.

GCHSD ED team recognised this problem, and identified an opportunity to reform pathology ordering to deliver excellent care and eliminate unnecessary tests which do not contribute to patient outcomes.

Extent of the problem

GCHSD Emergency Departments have experienced significant escalation in the number of presentations associated with major population growth. Southport is recognised as the busiest in Australia, accounting for 90 272 presentation in 07/08, with a high acuity evidenced by its admission rate (approx 30%). Significant demand on the Robina service has resulted in the projected presentation target being exceeded by on average 700 presentations each month. GCHSD, estimates a 37% increase in ED presentations (based on current trends and Census facts) over the next four years.

Management of this demand requires significant investment of resources to provide a quality emergency response. Nearly 52% of the ED non-labour budget is for pathology. Dr David Spain identified an opportunity to improve the ED-pathology ordering practices to enhance patient care, avoid unnecessary waste and improve resource utilisation.

Strategic importance

The project involved the adoption of evidence based pathology ordering in ED services and aligns directly with QH imperatives:

- Improving access: Meeting the demand for ED presentations will rely on the best use of available resources and the adoption of evidence based clinical care.
- Enhancing organisational processes and systems to support service delivery. It embeds a system to support timely and appropriate clinical decision-making regarding pathology ordering. Resources are not wasted by ordering unnecessary tests. It hardwires an evidence based culture and reinforces that ensuring best use of resources is the responsibility of all clinicians. The change is sustainable, given the multi-modal reinforcers of best practice.
- Developing our people. The initiative has been developed collaboratively, with a strong focus on education to ensure its sustainability. Clinical staff are developing

an understanding that waste of resources is an opportunity cost to providing quality patient care. A performance monitoring process has been implemented.

Planning and implementing solutions

The project was led by Dr David Spain and included David Green and Tony Ghent.

1. Diagnosis of the extent to which pathology ordering by Clinicians was unnecessary, and development of an intervention to achieve a sustainable change in behaviour. It was identified that junior doctors accounted for a significant proportion of unnecessary ordering, reinforced by a culture where the risk of over-ordering tests, is perceived to have less serious consequences than not having ordered a required test. The nexus between unnecessary ordering and waste of scarce clinical resources was not perceived to be a problem by all clinical staff. This provided an opportunity to reinforce the shared accountability for appropriate clinical decision-making and wise use of resources.

2. Development of an evidence-based ordering protocol to develop a traffic light and top diagnosis system. This system identifies which tests may be ordered by which category of clinical staff, and is colour coded. Electronic ordering has been facilitated by a District led enhancement to the state-wide EDIS system. Pathology requests are computer generated, reducing transcription errors. The project commenced in July 2008.

3. Development and implementation of educational packages for all categories of staff involved in pathology ordering. An intern program was developed as part of the 2009 Intern Orientation and repeat tutorials are delivered. Nurses also receive education given the extent of nurse initiated pathology.

4. Regular audits are conducted using crystal reports and Dr Spain personally provides feedback to staff. On the floor auditing is also conducted, with immediate feedback

being provided to nursing staff, as a workaround for Crystal reporting not being available.

5. In addition to Dr Spain, a new and enthusiastic Consultant, Dr Matthew Verdolini was nominated to champion the change through 2009 medically, thereby diffusing accountability to ensure sustainability.

Outcomes and Evaluation

There has been a demonstrable change in the pattern of pathology ordering within the EDs of GCHSD, as evidenced by the following:

The most significant change has been in the ordering of UEs, LFTs and COAGs. Compared to the same 4 month period of Nov – Feb, the volume of these tests reduced as follows: -2419; -2385 and – 1451 respectively at Southport, and -1046; -1199 and -695 respectively at Robina. Overall, this accounts for a saving of \$66 000 for that period or a saving reduction of 4.17%. This achievement is underscored by the fact that combined attendances increased by 13.6% during that period. For the 4 months commencing July 2008, a 43% drop in the ordering of Coags was achieved compared to the previous year.

The success of the initiative is also demonstrated by the fact that it is being used as a template to develop a more extensive program of rational ordering of pathology across the District, under an initiative being sponsored by the COO. The experience of Dr Spain, has been instrumental in this new initiative, and facilitating the learnings across the organisation.

It is considered that this project presents significant opportunities for Queensland Health to better manage its pathology ordering, ensuring the adoption of evidence based practice and best use of resources through elimination of un-necessary test

ordering. Imagine a 4% change in pathology ordering in EDs across Queensland Health, and the potential for greater efficiencies across other clinical services.

Sustaining change

ED are reviewing the palette system to identify if unbundling is appropriate. Further review of nurse initiated pathology protocols is planned, given they account for 30 – 40 % of tests.

Foundations of this project have been incorporated into an extensive District review of pathology ordering.

There is significant scope to improve pathology ordering across QH, thereby improving clinical practice and avoiding waste of public health resources.

AUSCARE will substantially support the initiative by reinforcing protocols within an electronic framework. It is important that all dimensions of such a change, articulated above, underpin any change to clinical decision-making to ensure commitment and sustainability.

Reference List

Decision Support Services 2009, *Performance Summary November 2008*, Gold Coast Health Service District, Gold Coast.

Ferguson, F, 2007, *Queensland Health Briefing Note For Information Ref no. RD000136*, pg 2. Gold Coast Health Service District.

Green, J, Quinsey, K, Magee, C, Samsa, P, Carolan, J, & Eagar, K, 2008, *Evaluation of the Gold Coast Hospital Avoidance Program: First Report*, University of Wollongong, Wollongong.

Nowitzke, A, 2008, *Executive Summary Gold Coast Health*, Aug 28, 2008 ed, Gold Coast Health Service District.

Queensland Government, 2004, *QLD Health Census Fact Sheets for Health Service Districts, 2004*, Queensland Government, Brisbane

Queensland Government, 2007, *Queensland Health Strategic Plan 2007–1*, Queensland Government, Brisbane