



ED QUALITY FRAMEWORK

Case Study Successes

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Background

The Australasian College for Emergency Medicine (ACEM) had identified that there was no consistent description or quality standards to inform or benchmark quality across emergency departments. It consequently developed the ACEM Quality Framework. At the same time the ECI identified that many ED's were struggling to find the resources within their busy departments to coordinate and provide the capacity to ensure that quality compliance and improvement activities were occurring on a planned, regular basis in EDs.

Funding was made available to pilot Quality Support Officers across 24 EDs in NSW. EDs were invited to apply to participate in the pilot by identifying their quality priorities and commitment to implementing the ACEM Framework and achieving the goals of the project.

Bankstown Hospital

Issue

A number of issues with the documentation of ECGs had been identified within the department, including

- reason for ECG
- cardiac assessment
- medical officer review
- further treatments ordered .

In addition, issues with the cardiac ward and CCU were noted.

Approach

The approach was to develop a sticker which works in 4 parts by providing:

- a platform for improved chest pain assessment using PQRST acronym for nursing staff
- documentation space for nursing and medical staff on ECG page, including medical officer review and further orders, allowing a more concise and a higher standard of documentation
- an auditing tool for ECG Assessment and documentation
- a tool for improved patient care and dialogue

between the emergency department and cardiac services in regards to cardiac tracing documentation.

Progress to date

- Prototype sticker is ready for printing and will be trialled.
- Baseline data collected for project tracking.

Bankstown ED Mantra

Bankstown ED wanted to improve morale and remind people about the role of quality in the ED. The team asked staff to think of a mantra for the department and a wards person came up with the winning mantra: "As we work as a team we build unity and pride".

It might not have been the largest initiative implemented but it got people thinking, questioning and involved.

QSO, Bankstown

Calvary Mater Hospital

Issue

The Emergency Medicine Orientation Program has been developed to provide a more robust, consistent and comprehensive orientation process for all speciality groups of staff that are employed or are on rotation in the Calvary Mater Newcastle Emergency Department. The program was supported and aligned to meet the ACEM quality framework standards.

Approach

A comprehensive program was developed including:

- A suite of documentation mapped to each role type
- Voice over presentations for JMOs
- A hard copy of the orientation manual containing:
 - Emergency Medicine Orientation Program
 - Flow chart for Orientation Program
 - Orientation Folder Checklist with a hard copy of all forms
 - Emergency Orientation Checklist.

Canterbury Hospital

Issue/Problem

An analgesia audit was conducted at Canterbury Emergency Department in October 2013.

The audit highlighted four main issues:

- Pain scores were not been recorded regularly
- The time to first analgesia did not meet the recommended 30 minutes as per NSW Health
- Nurses were not initiating medication as frequently as they could
- A post analgesia pain score was not often recorded.

Approach

An education package was formed. This provided information on the importance of patients receiving analgesia in a timely manner, the relevance of pain scores and the nurse's role in pain control. Education about the physiological process of analgesia was also included.

All nurses attended in-services and were regularly reminded of the importance of good

analgesia management in the emergency department.

Outcome

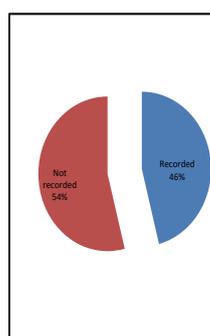
The analgesia audits were repeated in January 2014. Education had been given to nursing staff between October and January on analgesia management.

Improvement was noted:

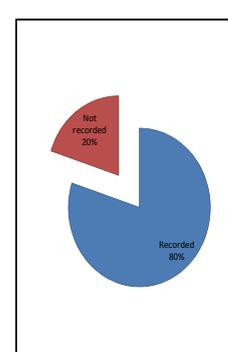
- Pain score recorded increased by 44%

Painscore's recorded

October



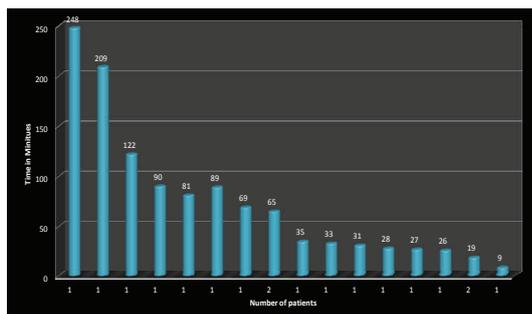
January



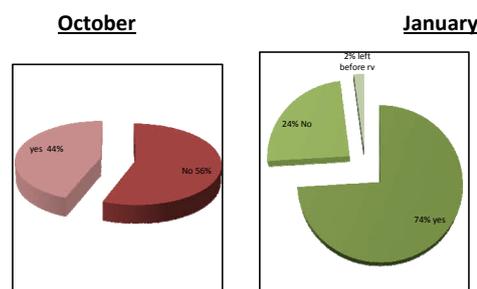
Canterbury Hospital

- The time to analgesia from triage decreased by 30 minutes in January 2014
- Nurse initiated medication was increased by 28%
- Post analgesia pain score assessment was increased by 30%

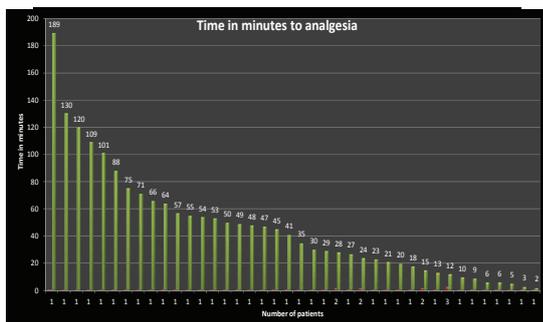
**Time from triage to first analgesia
October**



Number of patients who had a post analgesia pain score assessment



**Time from triage to first analgesia
January**



- Education continues and regular audits will be continue.

'We have formed a new Quality Team. It is meeting monthly. People are volunteering to lead projects. We have streamlined our auditing and results are being reported and acted upon. We are now starting to see improvements.'

QSO, Workshop2, August 2013

Children's Hospital, Westmead

Issue/Problem

We were unable to step back from our multiple activities and see where we were headed. Multiple quality activities were occurring including quality improvement activities, quality research, audit, review of IIMS and complaints and morbidity and mortality review. These however were not coordinated or planned.

Approach

Undertaking the self assessment against the ACEM Quality Framework allowed us to reflect on what was needed and how best to think about structuring quality activities in the department.

The Quality Framework gave us a structure to organise all quality activities. Our Quality Officer

looked into each one, identified what was completed and what was abandoned. The ongoing projects were organised so we could see how they interacted (which helped some projects get momentum) and our overall themes of quality improvement. Ethics approvals were organised where required.

Outcomes to date

A quarterly Quality Meeting was rejuvenated and a structure set up which we continue to follow. We are now confident our quality improvement projects are aligned with identified issues (for e.g. medication ordering accuracy, tests ordering) or high volume conditions (for e.g. abdominal pain).

Coffs Harbour Hospital

Issue

Pathology ordering practices amongst both medical and nursing staff working at the Coffs Harbour Hospital (CHHC) Emergency Department prior to the implementation of the STOP project, through the audits undertaken, was noted to be variable. This was both in terms of the number of tests being ordered by clinicians as well as diagnostic benefit.

By implementing the STOP Project, the CHHC Emergency Department is working towards:

- Reducing the financial and time cost of inappropriate pathology ordering
- Improve compliance with ordering only those tests deemed to be diagnostically relevant and beneficial to the presenting problem/working diagnosis.

Approach

- Retrospective audits of pathology ordering trends within the department as well as analysis of monthly trends (outside medical teams and Non-ED teams ordering excluded)

- Re-development and creation of 17 Order Sets within the Emergency Department Firstnet system
- Education presented to medical and nursing staff within the department around the use of Order Sets as well as ongoing review of the sets by the Emergency Physicians.

Outcomes

There has been a widespread reduction in the number of tests ordered post project resulting in significant indicative cost savings.



Figure 1: Indicative Raw Costs of Pathology

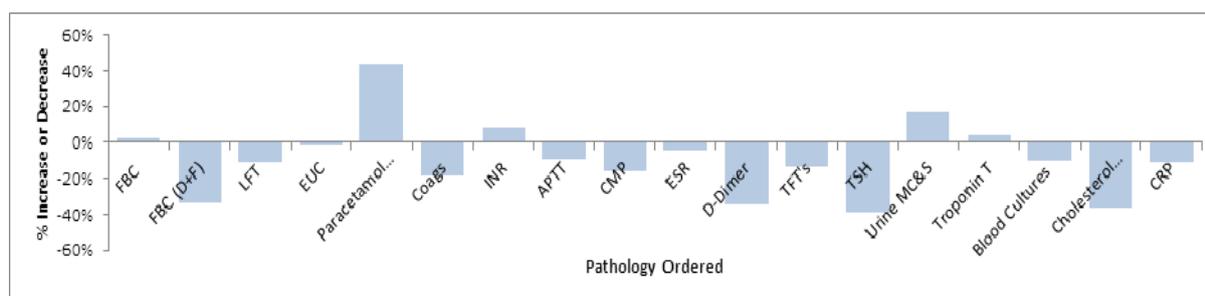


Figure 2: Percentage Differences between Quarter 1 and Quarter 2 Pathology Ordering

Sydney LHD

Issue / Problem

Concord ED has had unstructured M+M reviews and ad hoc meetings. One of the initial projects of the QSO role was to review / analyse the current process for the departments M&M reviews / meetings. One of the staff specialists had been reviewing patients that had either died in the department or died within 48 – 72 hours of an ED presentation / admission. This review covered the following headers:

- Medical Record Number
- Patients Name / Gender
- Date of Birth / Age
- Religion
- Admission Date / presenting problem
- Ward / Admitting Team
- Date of Discharge / Death
- Reasons / Cause of Death

When reviewing the current process it was evident that the main data was collated however there was no information pertinent to what was done either in ED or ward and was it an avoidable death or incident.

A comparison of the M+M review / process of the two other EDs within the Local Health District (LHD) with the two other QSOs was undertaken and it was decided to look at standardising the process across the three LHD EDs.

Approach

Utilising the online district M+M form a draft form was devised and disseminated to the relevant ED quality committees for review and comments. On receiving the comments the form was reviewed and then given a trial at Concord for its user friendliness by reviewing some clinical incidents. Following these reviews it was decided to adopt the “clinical incident / M+M review form” within the ED.

Outcomes to date

The form has been used in its current format now to review further incidents / M&M reviews within the department and provides a structure for the reviewer to analyse incidents and M+M reviews. The form also allows for the reviewer to make comments on what went well / not so well / lessons learnt and provide recommendations post review to reduce the further likelihood of similar events.

The form provides a structured approach for presenting incidents / reviews at the M+M meeting. The M+M meeting has also been reviewed and formalised with second monthly departmental M+M meetings which are rostered onto the ED teaching and education calendar whereas previously it had been an ad hoc approach to the meetings.

Canterbury ED recently took part in the Quality Systems Assessments (QSA) in May 2012. The focus of this year’s verification visit was on several topics from the 2012 QSA self assessments, which are: Clinical Review/Mortality Meetings; Clinical Supervision & End of Life Care & Management. The work undertaken on death review made the process very easy to readily provide evidence and the feedback from the assessors was very positive.

The QSO role has helped to improve the quality culture within the Emergency Department through raising awareness of the importance of undertaking Quality Improvement processes to improve patient care and efficiency within the department. The QSO role has help to cement the concepts of continuous QI and the ACEM framework into the core business of the ED and staff are now actively engaged in the processes and further development of the framework.

QSO

Dubbo Base Hospital

Problem/Issues

The self assessment against the ACEM Framework identified that there was room for improvement in the use of trauma calls within the Department.

An opportunity exists through an improved rate of trauma calls to:

- Decrease the number of missed injuries/delayed treatment
- Allow early multidisciplinary assessments and care in parallel
- Early clinical involvement and handover to admitting specialty
- Opportunity for teaching for JMO's.

Approach

The project:

- Quantified the number of missed trauma calls

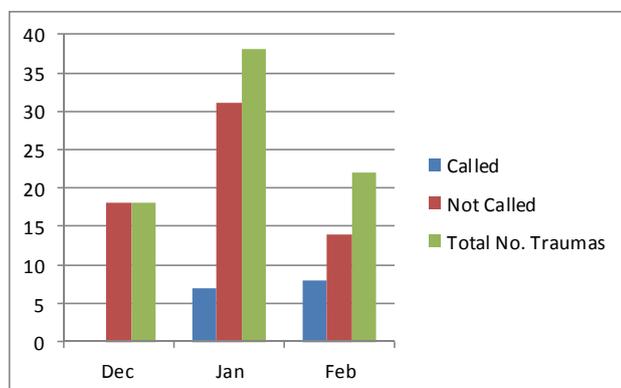


Figure 1: Number of Trauma Calls Pre Project

through a retrospective chart review

- Identified reasons for trauma calls not being made
- Educated and promoted the value of trauma calls to relevant staff.

Outcomes

In December—February 2013 EMR files were searched for all possible diagnoses related to trauma calls and 456 charts were identified as having the potential to be a trauma related case. 78 met trauma call criteria (using current trauma call guidelines). Of these only 15 (18%) had trauma calls placed (Figure 1).

Following implementation of the education and awareness raising campaign the audit was repeated in March—May 2013 with 994 charts identified as having the potential to be a trauma related case. Of these 96% had a trauma call placed which is a significant increase as (Figure 2).

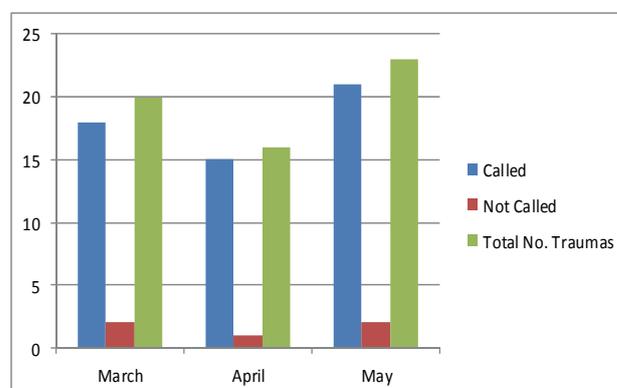


Figure 2: Number of Trauma Calls Post Project

Gosford Hospital

Issue/Problem

In 2012, it was identified that blood samples collected in Gosford Emergency Department (ED) had a high haemolysis rate, at times over 20% compared to a ward average of 5.2%. This resulted in increased patient delays to treatment, increased

workload and pathology costs.

Approach

A review of the literature and the technique of staff was undertaken. The majority of blood samples drawn in the ED are obtained at the time of cannula insertion, to prevent additional patient

discomfort. Literature identified that haemolysis rates are increased when blood is collected from a cannula insertion site, particularly when using a small cannula or excessive force. Vacutainers were found to have higher haemolysis rates than syringes.

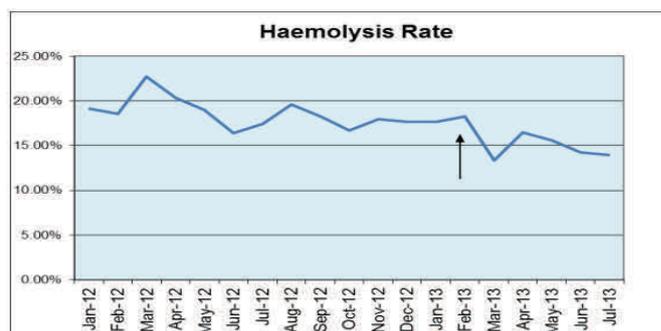
Blood samples collected in the wards were primarily obtained through venepuncture, explaining the distinct difference between ward (5.2%) and Emergency haemolysis rates.

The ED Quality team reviewed the literature findings and the decision was made to remove the Vacutainer system for blood sampling from cannula sites and monitor haemolysis rates after one month.

This change in practice, introduced in February 2013, was disseminated to clinicians by formal memorandum and through ward meetings, with supporting in service education regarding causes of increased haemolysis.

Outcomes

The data collected in March 2013 indicated that haemolysis rates had dropped to 13.3%.



No other changes were made to account for the reduction. The decision to cease using the Vacutainer system for blood sampling from cannula sites was made based on the findings.

Haemolysis rates have continued to be monitored on a monthly basis. Literature reviews of multiple haemolysis studies indicate that haemolysis rates for samples drawn during IV insertion rarely fall below 10%. Despite an initial increase in April, haemolysis rates have stabilised to < 15% since the change was introduced. This has resulted in a decrease in pathology costs, improved patient care and decreased lengths of stay.

The ED embraced the ED Quality Framework Initiative with more enthusiasm than was ever expected. Staff who previously were not interested in participating in any extra duties within the department, were all of a sudden doing audits in their own time, encouraging their colleagues to improve their practice while working hard to improve their own.

The Quality Team brought about a unity between medical staff, nurses, clerical staff, cleaners and allied health that had never been seen before. This was a worthwhile project that provided an increased awareness of Quality in the ED, that will hopefully be continually sustained.

Lismore Hospital

Issue

Prior to the QSO role commencing the M&M Meetings were held Quarterly and attendance was variable. There was also no formal reporting back to ED staff or to the Lismore Base Hospital Quality Committee.

Approach

The team worked with senior clinicians to revamp the M&M meeting and encourage better attendance:

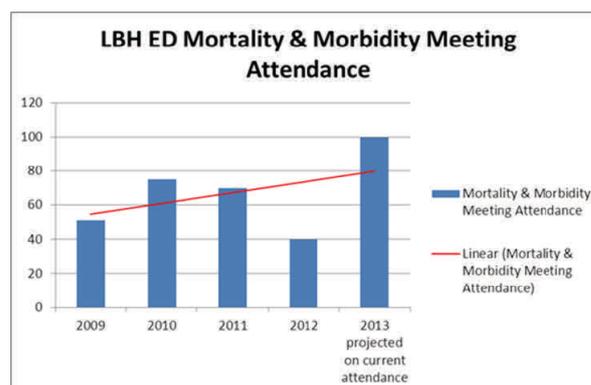
- Staff are encouraged to identify cases for discussion at the M&M
- An M&M Report is completed for each meeting and forwarded to the Quality Committee
- The M&M Report contains a case unique identifier, a brief clinical synopsis, issues identified, recommendations and patient outcome.

Outcomes to date

- M&M Meetings are now held monthly. The

monthly frequency ensures timely feedback to staff from relevant cases and as highlighted by the following statistics has improved attendance

- The ED M&M Meeting at Lismore Base Hospital is recognized as an important quality activity within the ED
- Attendance has improved and there has been an increase in the reporting of cases to be covered at the M&M Meeting
- The cases discussed are current and the opportunity to make changes to improve patient care and outcomes is subsequently enhanced.



Liverpool Hospital

Issue

The paper system for gaining feedback from patients and relatives, located in the ED waiting room, was focussed on complaints and not on constructive or positive feedback in any way. The Patient Experience Tracker (PET) system had been used but with a very poor uptake.

Approach

The paper feedback form was removed from the waiting room and replaced with the PET system. Multiple system faces were designed with users input to cover all areas of the ED department to ensure focussed feedback. Faces were designed for the Acute area, Subacute and Fast track, while

also having 2 faces dedicated to clerical questions about the process and behavioural factors.

The NUM's on the floor allocated the PET's to staff to have patients/relatives complete. The aim was to undertake 10 surveys in each area each shift.

In addition, faces were developed for the department to gain both nursing and medical feedback and also one was designed to evaluate education sessions.

Outcome to date

The results have been very positive with improved patient/relative feedback since commencement in July 2013. Positive feedback from patients for the service has increased from 68% to 86%. Staff

feedback has slowly improved and is around 80% positive at present.

Some obstacles have occurred with the implementation with the ability to download the information (Wi-Fi) due to black spots in the

department, resulting in a change to the analogue system. PETs have also gone missing at times, which was rectified with NUMs taking on more responsibility for their location.

Maitland Hospital

Issue

Maitland ED had an inconsistent review of patient deaths in the department. The information from the review was only shared spasmodically at best. IIMS and significant issues were not being fed back to staff.

Approach

The M&M meeting was reviewed and:

- A set of business rules developed for the meeting
- A standard agenda was developed including reporting on audit results, IIMS outcomes and broader quality
- The meeting was broadly advertised including emails and signage to attract greater participation
- The meeting was opened up to be much more multi-disciplinary
- The meeting is 'minuted' and minutes and agendas are distributed to all staff
- Each M&M is "themed" so topics of presentations relate to that particular meeting (e.g. documentation, pain relief)
- Introduced lollies at the meeting!

Outcomes

- M&M Meetings are now routinely held every second month with a year's worth of dates allocated in advance
- The meeting is chaired and the agenda is adhered to
- Attendance has improved dramatically, including staff coming in on their rostered days off to listen and learn (and eat lollies). Attendance has gone

from approx. 3 – 5 staff per meeting to now averaging 18 staff members in attendance from varying disciplines (has been as high as 24)

- IIMS are now being feedback to staff
- The attendance is multi-disciplinary with good interaction between nurses, doctors and students of all levels of experience
- Nurses are involved in presenting relevant topics of interest
- Audit results are being fed back directly and discussion is based around ways for improvement
- Minutes are being kept and distributed.

Overall, the "revamping" and formalizing of the M&M Meeting has proved very successful. It is now seen as a valuable learning tool that is also part of a wider Quality program. The department looks forward to the meeting and attendance is at an all time high.

Some of the factors that have attributed to the success of the project have been the vision that has come from the senior ED clinicians, both medical and nursing, across the LHD. The proactive nature of the LHD QSOs has proven to be a successful combination in disseminating ideas and has been conducive to joint project working.

QSO

Orange Hospital

Issue / Problem

The project focused on ensuring there was a high level of documentation that complied with the Western Local Health District requirements, namely that:

Documentation in the health care record will provide an accurate, concise, objective and complete description of all occasions of care that occurred during the person's stay in the health service or contact with health care professionals.

In addition, the expectations of client documentation in the ED was clearly documented.

A project team was formed with the aim that within 6 months to improve the standard of clinical documentation by all ED personnel through:

- Reduction in documentation errors
- Improve on overall quality of documentation:
 - Inclusive of assessment treatment, plans, and re-evaluation
 - Inclusion of relevant ADHOC charts
- Increase in the documentation of vital signs:
 - On presentation

- Inpatient, frequency of documented vital signs to meet ED SOP (minimum hourly)
- Prior to discharge
- Improve Allergy evidence documentation
- Discharge documentation
- Decrease the use of non-hospital approved abbreviations

Approach

Education and promotion using the PVITAL acronym was provided:

- P – patient's name, age & presenting problem
- V – Vital signs (incl. trending)
- I – Input / Output
- T – Treatment & Diagnosis (incl. medications)
- A – Admission/Discharge
- L – Legal aspects/Documentation/Plan.

A specific audit tool was developed.

Outcomes to date

20% of presentations are to be audited on a monthly basis. Project ongoing.

Prince of Wales Hospital

Issue/Problem

The ED undertakes a range of audits to support compliance with the National Safety and Quality Health Service Standards, as part of continuous quality improvement activities and as part of teaching. There was however no central register of audits. Results reporting was not consistent and depended on who undertook the audit. The Department identified the need to streamline the audit process and to work towards establishing a regular schedule of audits

Approach

A register of audits was compiled through discussion with key medical and nursing staff.

- A number of clinical audits were developed based on guidelines and best practice.
- Medical students were identified as one resource available to the department to complete clinical audits
- The CNC is responsible for a range of audits in the Department and these are tracked through the register

- A Clinical Audit Committee has recently been established and is comprised of Medical and Nursing staff and the Quality Project Officer
- Terms of Reference for the Committee were drafted and agreed
- Two staff specialist co-chair the Committee.

Outcomes to date

- A register of audits is available and is maintained by the Quality Project Officer
- There have been 11 new clinical audits

established. Medical students present the findings of the audits at the JMO teaching

- Medical and Nursing staff are discussing how the results from auditing across the department can be better communicated and shared within the department
- A Clinical Audit Committee Notice Board has been established.
- The Audit Committee is currently focussing on how the findings of audits can inform teaching and CQI activities in the department.

Strong support from the leadership team , particularly the Director and Nurse Manager of the ED, was critical to the success of implementing quality improvement initiatives. Champions from senior medical and nursing staff improved the likelihood of initiatives being well planned and successfully implemented.

QSO

Royal North Shore Hospital

Issue/Problem

There had been many anecdotal comments that Troponin blood results were taking a long time to be returned. This led to a perception that laboratory staff were not allocating priority to the Emergency Department (ED). Pathology delays are one of the reasons contributing to difficulties in achieving NEAT.

Approach

In order to understand the process and issues more fully we set about establishing a rapport with pathology and obtaining a data dump of all bloods ordered over the last two months. The date and time “stamps” in the blood journey from patient bedside to Pathology result were mapped. In addition, the process of the samples journey through the laboratory was researched to understand the variable issues causing delays. The baseline data was:

- Collect to Receive (average time) is 22 minutes Jan and 20 mins Feb. Minimum time 1 minute for both January and Feb, Maximum time 2:54 (h:mm) Jan and 3:30 (h:mm) Feb.

Pathology staff were invited to visit the ED and follow the Troponin blood sample collection to the Pathology Laboratory. As part of this visit a doctor explained the process and the reason for the urgency for the ED staff and patient.

Outcomes to date

Pathology lab staff are now much more engaged and understanding of their important role in the patients’ treatment, and the seriousness of rapid turnaround time for Troponin in chest pain management.

Pathology has given ED blue priority bags to identify ED samples as well as dedicating two centrifuges for ED samples only.

Royal Prince Alfred Hospital

Issue

An audit of pathology orders showed:

- nursing staff ordering coagulations studies when not indicated
- junior inexperienced workforce with a lack of knowledge of specific tests and presentations
- perception of JMOs and nurses that it is better to order everything than miss something important .

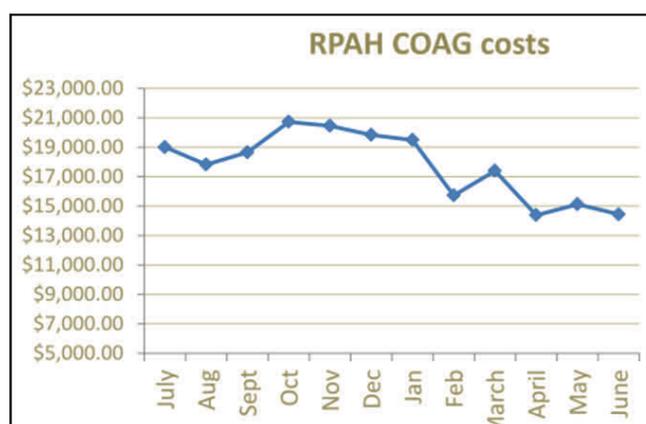
Approach

A targeted education campaign, particularly with nursing staff, involving explanation of common tests (why, when, who) was provided focussing on:.

- Indications for ordering coagulation studies
- 'Specific tests - specific presentations' table placed on cannulation trolleys as a guide

Outcome

There has been a significant reduction in test ordering post implementation with savings of \$20,000 identified in COAGs alone as shown in Figure 1.



St Vincent's Hospital

Issue / Problem

Issues were identified with the Morbidity and Mortality Meetings in the Emergency Department including:

- occurring inconsistently
- no format
- no Medical input into case presentations.

Approach

- Discussions with the ED Director, Deputy Director and Nurse Manager
- Meetings scheduled monthly
- Commitment by the Director and Nurse Manager to ensure meetings occur
- QSO set up the framework to be adopted.

Outcomes to Date

- St Vincent's Hospital Morbidity and Mortality

Policy and Framework adopted

- Terms of Reference drafted and adopted
- Monthly meetings
- Multidisciplinary
- Agenda is set
- Minutes are recorded
- Minutes and formal report are sent to Acute Program Governance
- Committee and Patient Safety and Quality Committee
- Emergency Department Registrar presents the cases
- Feedback to staff
- Feedback and follow-up of cases where escalation is required is completed.

Sutherland Hospital

Issue / Problem

On review of pathology ordering in the Emergency Department it was identified that there was room for improvement by reducing the number of certain tests ordered and increasing the number of other tests in line with the traffic light system.

The team wanted to change the clinical order sets on FirstNet to remind staff of the traffic light system when ordering tests for patients, and wanted to see a larger decrease in the number of tests being ordered every month.

Approach

As part of the project diagnostic phase the reasons why too many tests were being ordered were investigated and what solutions were possible. It was identified that that changes would need to come from EmR. Strong engagement from the Executive and collaboration with the EmR administrators was required to progress required changes in the timeframe.

Outcomes To Date

EmR implemented changes for medical staff beginning the 27th July 2013. Education sessions for both medical and nursing were conducted. Data for August 2013 shows there a decrease in the numbers of tests ordered and this has occurred in the face of increased presentations as shown in

Figure 1. Only blood cultures increased slightly during the period.

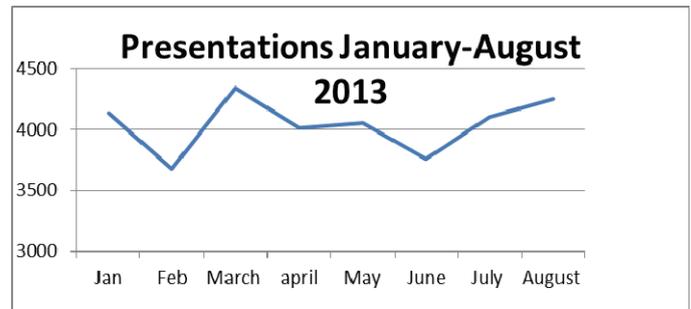


Figure 1: Number of presentations to Sutherland ED Jan—Aug 2013

Figure 2 shows the percentage change in each of the tests ordered. The most significant changes have occurred with ESR, D Dimer, cholesterol and urine MC & S. It is anticipated that this trend will continue.

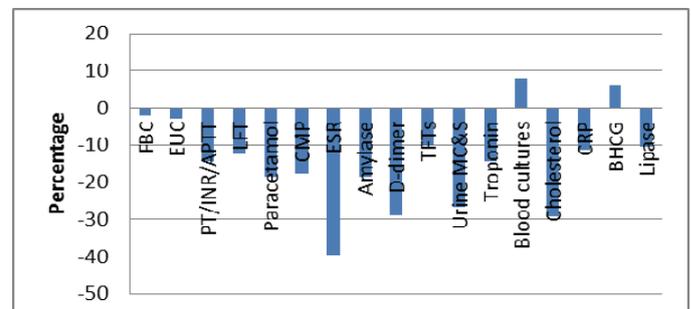


Figure 2: Percentage change in tests ordered June-August 2013

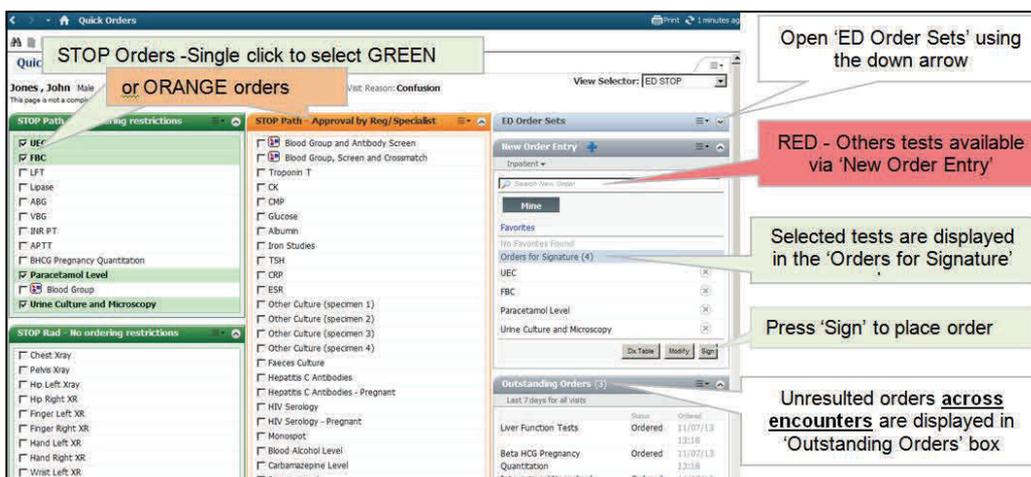


Figure 3: Screenshot of the changed FirstNet order set

Sydney Children's Hospital

Issue

There was no formal death or critical event review group or forum to discuss and learn from cases of interest.

Approach

A mortality review panel was established to monitor and review cases resulting in the death of a patient in order to identify if the death was avoidable or unavoidable and opportunities for improvement within the service.

Terms of reference were developed by the death review panel reflecting on RCA and incident review standards and teaching opportunities. Expressions of interest were circulated to all staff.

A group was established including co chairs comprising of a staff specialist and senior emergency department (ED) nurse appointed by the medical director and nurse manager. The panel then comprised a combination of senior and junior medical and nursing staff. Terms of reference, process and guidelines were established.

Outcomes

Since the implementation of the panel four ED staff are now RCA trained.

The panel reviews the case and determines a number of recommendations, which are then submitted to the emergency department medical director and nurse manager.

The case and recommendations made from the review are presented to ED staff. A quarterly summary of cases is prepared, including review, action and follow up, and circulated for Directors of the Critical Care Program and the Director of Clinical Governance.

A few examples of practice change as a result of the reviews include

- change in process to the way emergency drugs for intubation are drawn up
- management of palliative care patients in emergency
- documentation processes.

Tamworth Base Hospital

Issue/Problem

There was no formal method of recording telephone conversations regarding medical advice/transfer of patients from outlying hospitals to Tamworth Base Hospital. The process for this involved the Medical Officer (MO)/RN from an outlying hospital ringing and speaking to the most senior MO on shift to gain advice regarding treatment and transfer. This was documented on a template, and then often lost.

Objective data was collected from senior MOs and 100% felt that the current system was inadequate in documenting the medical advice given.

An RCA was attended after advice given by a

Tamworth ED senior M.O to an outlying centre G.P was potentially not adhered to and a patient died as a result. The documentation of this advice was unable to be located from either end. A recommendation from this RCA was that we need a system in place whereby advice given over the phone is documented.

Approach

Consultation was sought from the Director of Emergency, several Staff Specialists and senior Registrars, along with the Nurse Manager who agreed that something needed to be put in place to formalise this documentation.

Several systems were explored at length. These

included using CAP, iPMS, develop our own data base and scanning a developed template to a generic email address for storage. After developing our own template, we discovered that an ED in the Southern Sector of HNELHD was already using a pre-developed template CHAT form (Clinical Handover, advice and Transfer of Care Form) using the ISBAR format. We then tailored this form to make it Tamworth ED specific and made it into a bound book for archiving.

Outcomes to date.

The implementation of the CHAT form was done quickly from the top down which was not ideal as it involved little to no pre implementation education to the people who would be using it. This has been

identified as an issue, but overall the documentation system has been received favourably.

We have developed a system whereby once a patient has been referred, communication occurs between the ED and bed management of the hospital so planning can be started for when the patient arrives and an inpatient bed can be sourced.

We have been in contact with people from CAP who have informed us that the area on CAP where expected patient details can be entered has gone "live". We will be exploring this in the near future for possible implementation.

Tweed Heads Hospital

Issue

Unnecessary financial, timely and costly inappropriate pathology testing in the acute diagnostic phase was occurring in The Tweed Heads (TTH) Emergency Department (ED).

Approach

Baseline data was collected and analysed and:

- education presented to Nursing and Medical staff at meetings
- promotion of sensible test ordering by Managers and Senior Medical staff
- posters developed by TTH ED and displayed in most frequented areas.

Outcomes

The department has seen a reduction in unnecessary test ordering and estimated departmental cost to The Tweed Hospital Emergency Department since the implementation of STOP as shown below.

January 2013 figures to current August figures for blood gases attended in TTH ED have shown a 40% reduction (Figure 1). The increase in blood

gases attended in August 2013 is reflective of 'out of departmental use' of the machine for the month.

January 2013 figures to current August 2013 figures show there has been a 53% reduction in Thyroid Function Test ordering in TTH ED, 2013 (Figure 2).

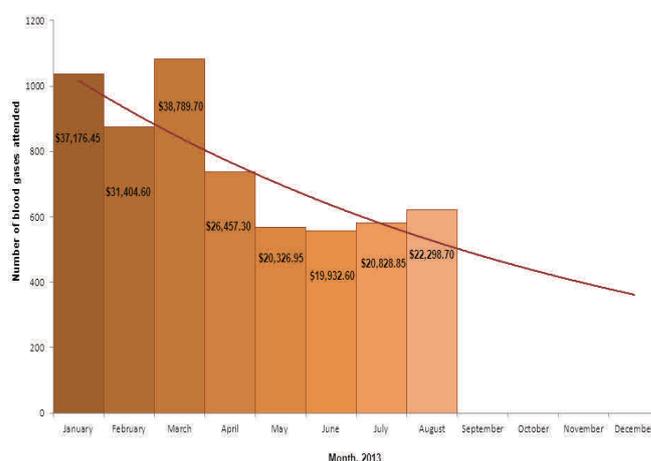


Figure 1: Blood Gases performed with calculated total costs per month in TTH ED. Red trend line indicates reduction in test ordering post implementation of STOP.

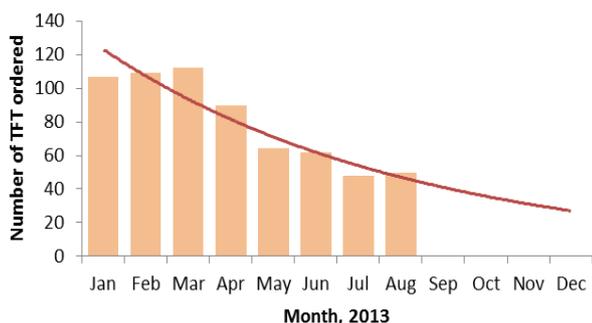


Figure 2. Total monthly Thyroid Function Tests (TFT's) ordered by ED doctors, with observable reduction in test ordering post implementation of STOP as indicated by red trend line.

January 2013 figures to current August 2013 figures show there has been a 86% reduction in HbA1c test ordering in TTH ED, 2013 (Figure 3).

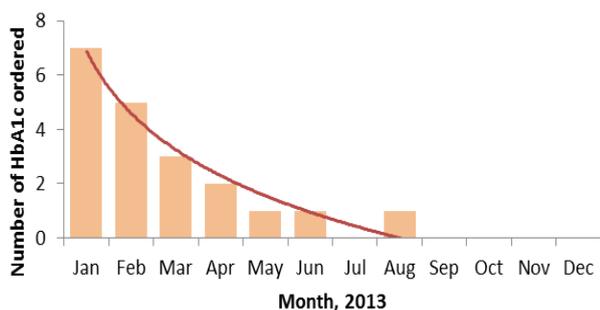


Figure 3. Total monthly HbA1c tests, as ordered by TTH ED doctors.

Overall there has been a 22% reduction in pathology and radiology test ordering (Figure 4) with a calculated estimate saving of \$33,171.03 per month.

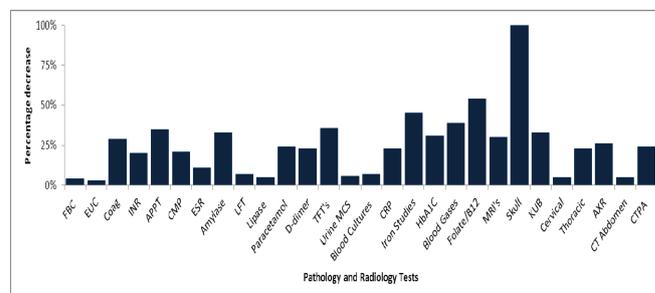


Figure 4. Total Pathology and Radiology Tests with calculated percentage decrease within the ED.

This figure is based on the average calculation of monthly data prior to STOP being implemented and the average calculations of monthly data post STOP to date.

‘Our department now sees quality as exciting – not a must do but a want to do. That’s because things can now be planned and get finished. Staff get to see the results. They want to be involved now’.

QSO, Workshop2, August 2013

Westmead Hospital

Issue

Increasing incidence of Sepsis:

- Estimated 18 million cases per year worldwide
- > 17000 cases per year in Australia
- NSW expected increase by 60% 2011—2036

High costs:

- Sepsis ALOS 11.1 days vs 2.9 days in 2009/10 in NSW2
- Average cost weight/sep 3.39 vs 1.07 for all acute patients

- Estimated costs at current rate to 2019: \$3.7 billion (if in top 5 codes) \$2.1 billion (if primary diagnosis)
- 1.3 million bed days with 130,000 separations

Approach

- **Recognise:** Improve the early identification of septic patients
- **Resuscitate:** Implement best practice with rapid antibiotics and IV fluids within one hour
- **Refer:** Improve communication and transitions of care

The Tools

Sepsis Toolkit

- Sepsis pathways – adult, rural, paediatric
- Empirical antibiotic guidelines
- Implementation guidelines
- Education resources
- Data collection/reporting

Data collection and reporting system

- Time to commence 1st IV antibiotic and 2nd litre IV fluid

Clinician support

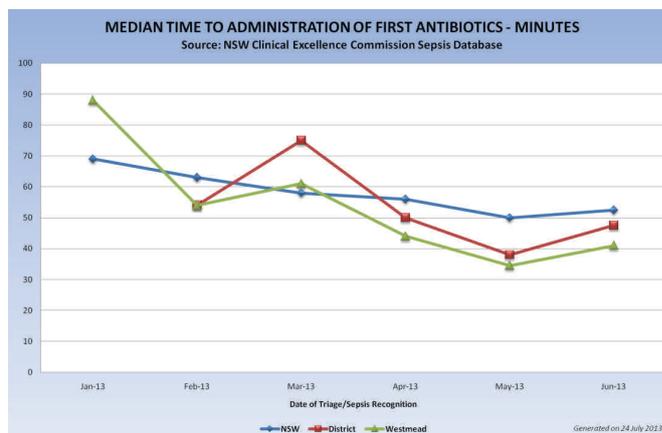
- Lead clinicians in each site
- Teleconferences, site visits, newsletters

The method

- Identified current processes - what actually happens
 - Process mapped existing process of care
 - Brainstormed causes of delay
- Identified gaps between current state and Guidelines
 - Improved access to senior medical officer (safe-t Model of care)
 - Antibiotic guidelines customised and approved for WSLHD
- Education
 - Education program provided by infectious diseases consultant and pharmacist
 - Project orientation, sepsis education, documentation
- Verbal and visual reminders for staff
 - Laminated cards with the 3R's, administration guidelines
 - Sepsis trolleys
- Lead data person to coordinate processes .

Outcomes

Median time to first antibiotic



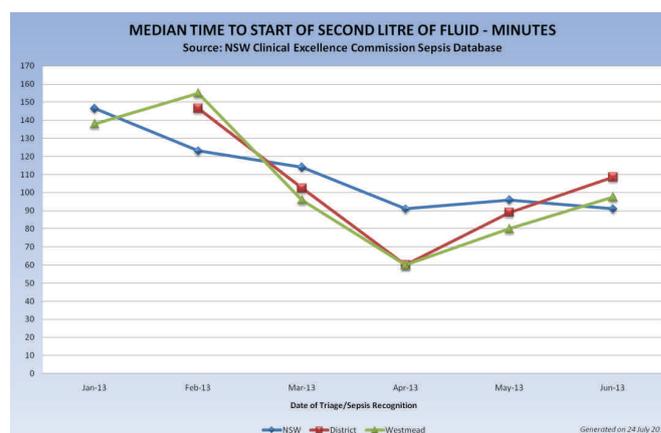
From **88** to **42** minutes

Lowest median **34.5** minutes

Median time to second litre fluids

From **138** to **97.5** minutes

Lowest median **60** minutes



Lessons Learnt

Visible & committed leadership is imperative

- Executive sponsors
- Clinical experts
- Interdisciplinary lead clinicians

Data is a valuable change management tool

- Staff see what is happening versus what they *think* is happening
- Maintain the momentum – use data to support practice

Engaging clinicians is essential

- Surfaces their ideas & create sense of ownership

- Flexible education modalities

Address human dimensions of change

Build on the change

- Identify areas for improvement
- Create solutions to known problems

Research potential was an unexpected motivator for change

- ARISE study/ BLISS Trial

The Future

Progress the ED sepsis data monitoring and improvement processes

Change from 50th to 75th percentile charts

Sustainability

- Embed the sepsis project as the minimum standard for the management of severe sepsis
- Work with Local Health District Clinical Governance Unit to build capacity to support and sustain improvement strategies

Wyong Hospital

Issue

With limited resources, Medical Officers in Wyong Emergency department had limited ability to conduct quality projects in their areas of interest.

Approach

We have commenced a compulsory quality project program for Interns rotating through the department. The project subject is identified by senior medical staff, and then with their guidance, and the support of the QSO and Clinical Nurse Consultant, the interns embark on the project. At the completion of their rotation, the Interns present the project to the Department.

Outcomes to date

We are currently working with the first rotation of Interns. The project for this rotation is appropriateness of D-Dimer testing and the interns are currently collecting baseline data. Templates have been designed to provide a general project plan, timeline, and a data collection form (including data dictionary to ensure consistency of data collected by a group). It is envisaged this will promote effective and timely projects, and to aid in the sustainability of ongoing intern quality projects. In addition, a folder will be kept in the department with previous projects, including the individual processes, to provide further guidance for the interns.

It has felt really supportive having colleagues in the same role across the LHD. Although our departments are quite different our goals are the same. It provided a supportive environment for us to discuss our new roles which can be self directed at times.

We collaborated on a few projects to compare process' and outcomes in each department. We have shared information, contacts, ideas and helped problem solve at times. It also allowed us to standardise our projects which I feel is important as we work for the same district. We learned from each other and became a cohesive team.

QSOs from three sites