ED Senior Assessment & Streaming model evaluation

Hospital and Local Health District: John Hunter Hospital

Hunter New England Health

1. Overview of the implementation of ED Senior Assessment and Streaming (EDSAS)

John Hunter Hospital has one of the busiest Emergency Departments in New South Wales. In 2012, the John Hunter Hospital had 70412 presentations to its’ Emergency Department. This is an approximate increase of 20% in the past 7 years. This translates to an average of 192.8 presentations/day. This increase in presentation has presented challenges to the department with relation to meeting increasing demand and providing patient care in a timely manner. Being the only Tertiary Level 6 referral hospital for the LHD also presents challenges for this busy department.

Prior to the implementation of this project, the John Hunter Emergency Department had redesigned its “Front of House” processes, resulting in quick initial triage process, clerical processing and then review by the Clinical Initiatives Nurse (CIN)- where treatment and investigations are initiated in accordance with NSW Health guidelines and pathways. Our CIN model of care is well established and the dedicated nurses working in this role work hard to minimise time between these process which contributes to our compliance with National Benchmarks in time to treatment for all Australasian Triage Categories. During periods of peak presentations there was still sometimes a delay to the availability of beds within the department.

Delays that impeded timely assessment and flow were identified within our current model of care. These included an initial medical assessment, sometimes then a further discussion with a more senior Emergency doctor prior to a final decision being made i.e. discharge or referral to a sub-specialty

The EDSAS model has many potential benefits for a large tertiary referral hospital to improve patient flow through the emergency department, facilitating early senior medical assessment and decision making with a treatment plan early in the patients journey, and decreasing total length of stay in the emergency department, ultimately improving compliance with National Emergency Access Targets (NEAT).

2. Objectives of the implementation of EDSAS

The initial proposal submitted for the implementation of the Senior Assessment and Streaming Model of Care, which was compiled by Dr Kevin Tang, Deputy Director of Emergency identified the following as key deliverables and expected outcomes of the implementation of this model of care:

- Chest pain patients who present with low and moderate risk ASC can be risk stratified and referred to Emergency Short Stay Unit from the Streaming Model.
- Implementation of a streaming model of care for chest pain patients will assist in achieving NEAT for low risk ASC
- Orthopaedic patients with minor limb injuries can be assessed by the streaming team and clinical decisions made in a timely manner
- The John Hunter Hospital is in the final stages of implementing 2 models of care that the streaming model can refer to:
  - Primary care physiotherapy where advanced care physiotherapists will assess and manage minor limb injuries from scratch within fast-track
  - Establish an urgent care centre for Orthopaedic patients so our low acuity can be streamlined and referred to outside the Emergency area
- John Hunter ED manage both adult and paediatric patients. The paediatric patients will be seen by the streaming team and clinical treatment commenced at front of house. This will improve processing and the ability to reach NEAT targets
- The Streaming model will facilitate direct admissions to MACU and ESSU from the front of house operations and assist with NEAT Targets.
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The introduction of a primary care physiotherapy model has been decided as not falling within the scope of this model of care - but has been re-assigned to a separate proposal to re-evaluate and design our fast track model of care.

Whilst the objectives of the implementation of this model of care have been condensed, the implementation of this model of care plans to demonstrate that this model of care is effective in improving access to emergency care and improve patients journeys, which will in turn prompt the implementation of other new models in which the ED Senior Assessment and Streaming Model of care may refer to.

New objectives were compiled after the appointment of a project officer. These objectives were:

- Improve patient flow through the Emergency Department.
- Early senior medical assessment and decision making with a treatment plan.
- Development of a patient management plan in the Streaming Zone that guide’s patient care; ensures rapid access to important investigative tests and early treatment. Improves the patient’s whole ED journey and will have a flow on effect for the entire ED.
- Reduce the total time in ED for patients seen through this model of care.
- Improve National Emergency Access Target (NEAT) compliance for patients seen through this model of care.
- Decreased time of referral to specialties.
- Identifies patients that may be directly referred to MACU
- Decreased time of referral and transfer to MACU for these patients.
- Decreased numbers of ‘Did not waits’ & ‘Left at own risk’ during hours of ED SAS operation.

3. Scope of the implementation and EDSAS model used

The NSW Health ED SAS Toolkit was used to plan and trial the ED SAS model at John Hunter Hospital Emergency department. A detailed data analysis and assessment of ED service provision and demand in 2012 was completed:

A data analysis was conducted and highlighted the follow key points:

- A large percentage of patient presentations are in the ATS category 3 & 4
- Our waiting times for commencement of treatment are at or above the national benchmarks - except for ATS category 3 patients
- Our busiest day of the week over a yearly average is clearly Sunday, followed by interchanges between Monday, Tuesday & Wednesdays.
- Our National Emergency Access Performance (EAP) was highest in October and April 2012, but at its worst during June, July and August.
- Our National Emergency Access Targets (NEAT) has been consistently at 50% for the past 3 months. And our NEAT was at its worst over the winter months - May –September 2012.
- Our Average Length of Stay (LOS) for admitted patients increased between May & August in 2012 with the highest peak in September 2012.
- Our average LOS for non-admitted patients remained fairly stable.

A designated room has been remodelled and reassigned for use to create suitable assessment space, that are multi-purpose i.e. they can be used by the ED SAS when in operation, but also by the CIN. This room included an examination bed as well as a reclining chair for assessment and initiation of treatment. As per the EDSAS toolkit the challenge for our department was finding a designated / dedicated ‘Early Treatment Zone’. This was a challenge in periods of peak activity within the department.

The greatest deviation of the trial of this model of care, was that the ED SAS model of care could only be operational when a set number of Staff Specialists were rostered to clinical work, instead of running the model based on department activity and demand. This greatly limited the number of times that the EDSAS was operational.
Elements that worked well with this model, were the timely transfer of patients directly from the ED Senior Assessment to the Emergency Short Stay Unit (ESSU), and referrals to the Medical Assessment Care Unit (MACU). Patients who were streamed directly to these models of care, were transferred straight to these wards for further treatment and management.

4. Methodology used in the implementation

The EDSAS toolkit was used by the project officer to plan and implement the trial of the ED SAS model of care. The toolkit was a fantastic resource and guide for the project officer who had no prior experience of implementing change. The templates were used, in conjunction with other resources including hospital risk assessment forms in the planning phase. The project officer would firmly recommend the use of the toolkit to other emergency departments who are considering implementing this model of care.

Communication strategies varied depending on the recipients. A combination of face-to-face meetings, presentations, and emails were used to communicate with key stakeholders during the planning phase, as well as during the trial to report on progress.

As with any implementation of change, there were multiple barriers and enablers. Enablers included the nursing staff, particularly those working in our Front of House area, whom all supported and were excited about incorporating Senior Medical Officers into the Front of House role. Another enabler was the Deputy Service Manager of Medicine who was in the process of rolling out a new model for our Medical Assessment Care Unit (MACU) which aligned well with the ED SAS model.

The SAS model was trialled over a course of time in which there were extra and available nursing and medical staff present. It was applied at optimal presentation times as a tool / initiative that can be utilized as an extra resource in the event of increased presentations. This has necessitated a commitment to specific strategies in the overall plan to reach the NEAT targets. Similarly some strategies have been planned to be applied at a later date. The priority for the JHH ED has been the foundation redesign and review; the introduction of set process changes and consistent application of accountability and basic structure. The ED SAS Model is beneficial and is envisaged to be applied in 2014 as part of the planned increase in NEAT performance to the MoH target of 81%.

5. Measures of success of the implementation of EDSAS

Data was collected and analysed from the trial days that were held.

- Average time to medical assessment improved from 111.75 minutes to 74.5 minutes for patients seen through the ED SAS model of care.
- Average Length of Stay improved from 287 minutes to 233.75 minutes for patients seen through the ED SAS model of care. A greater reduction of Length of Stay was expected, but negatively impacted by hospital bed block.
- National Emergency Access Targets (NEAT) on the days of the ED SAS trial improved dramatically. NEAT for patients not seen through the ED SAS model of care was 43-54%, whilst NEAT for patients seen through the ED SAS model of care improved to 57-75%.
- Time to antibiotic treatment was not recorded, although being one of the objectives, no patients presenting and treated through the EDSAS model of care on the trial days required antibiotic treatment.
- Feedback from Nursing staff was generally positive, although challenges of competing priorities for the CIN nurse were encountered in the trial phase.

6. Discussion

The implementation of the EDSAS model of care has yet to be fully embraced at John Hunter Hospital Emergency Department following the trial.
The trial confirmed that rapid assessment and treatment can be successfully made as soon as the patient arrives in a treatment area; streaming a patient out of ED requires fully operational areas that can receive undifferentiated patients that haven’t yet been worked up. Streaming patients from ED into the JHH ESSU or MACU can be done at a much smaller scale.

It became clear that the ED would need further investment in an increased number of senior medical staff to operate the SAS model. This is not required at this time. The Department has opted for the priority application of the Team Based Care Model.

The SAS model has shown that gains can be made when patients can be directed to out of Emergency Department areas. Redirecting patients into more appropriate areas is not only time saving but ensures the patient receives the best medical care at an earlier stage.

In line with the 2009 MOH policy on “direct admissions”, John Hunter Hospital is developing strategies to further develop the MACU unit to accept patients directly from the Emergency Department. The John Hunter Emergency Department has now received enhancements to staff ESSU with a Registrar 16 hours a day which in turn has had a direct impact on our streaming model.

The lessons learnt from the SAS model of care trialled at the JHH ED highlight (there are a select cohort of patients) that when a senior, rapid medical assessment is made at the FOH patients flow through the ED in a timely manner. The ongoing challenge for our hospital is to enable patient care assessment areas to receive undifferentiated patients that haven’t yet been thoroughly worked up. Streaming patients from ED into ESSU or MACU can be done at a much smaller scale.

7. Conclusion

Strategies will need to be developed to enhance the senior medical staffing numbers to operate the SAS model of care. As mentioned above, the lessons learnt from senior assessment and streaming will be incorporated into strategies to improve patient flow and patient care. This strategy has been suggested as one of the ways to improve patient flow within the Emergency Department to be potentially incorporated into our “Whole of Hospital” flow process.

Chief Executive sign off on final report

Name: Karen Kelly, Acting Chief Executive, Hunter New England Local Health District

Signature:

Date: 17 October 2013