ED Senior Assessment & Streaming model evaluation

Hospital and Local Health District: Manly Hospital Northern Sydney Local Health District

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

Please provide a concise overview of why you applied for funding to implement the EDSAS model. Was there any background to process redesign in your ED that led you to deciding to implement the EDSAS model?

The purpose of this project was to identify barriers and scope opportunities to apply the Senior Assessment and Streaming Model of Care (MoC) into practice in the Emergency Department (ED) at Manly Hospital to support improved patient access through the Emergency Department (ED) and optimise efficiency of our current resources.

Background Information about the Project

NSW must drive significant system reform to improve the connectivity of care for patients who require access to services in the NSW public hospital system.

This must be achieved in the face of planned and unplanned increases in service demand without a corresponding increase in resources, and maintain or improve patient outcomes, experiences and quality.

NSW must further enhance workforce engagement at local, organisational and systemic levels to benefit the connectivity of care.

The need to address the key issues facing ED's with regard to achieving high performance in a time of financial constraint, increasing efficiency and productivity drivers.

At Manly Hospital ED presentations have increased by 37% in the last 5 years. Admissions to inpatient beds represent 30% of all presentations and subsequently have increased in response to increased presentation rates in ED. Patient activity based changes together with the introduction of the National Emergency Access Target (NEAT) has provided an opportunity to review our current work practices and processes. Although Manly Hospital currently is able to meet a number of performance indicators such as NEAT it is imperative that processes and work practices are robust, sustainable and that quality as well as performance outcomes are able to be sustained .

2. Objectives of the implementation of EDSAS

Please state the objectives you set out to achieve with implementation of the EDSAS model, was there any change to this during the project?

Organisational Goal

This project sought to implement a unique variation of the Senior Assessment and Streaming Model of Care (MoC) using the toolkit provided to the Ministry of Health. This unique MoC will reflect the specific needs of Manly ED and the wider organisation.

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The overall goal of this project is to ensure a safer and more efficient journey through the ED by providing senior clinician input at the beginning of the patient's presentation to the ED.

Organisational Objective

- Improving the timely access to safe and quality ED care and reducing the ED length of stay through a patient focused model
- Reallocating the ED workforce and physical spaces to meet demand and provide patients with earlier access to assessment and care.
- Enabling senior medical decision-makers for early assessment and disposition decisions
- Limiting the length of patients' initial assessment by the Senior Medical Officer assessments (less than 10minutes)
- Operating at peak periods of activity in ED — design the model to reflect local presentations and presentation flows

Project Goals and Objectives

- Improved quality outcomes for patients — early treatment and risk stratification
- Improved patient and carer experience by providing clearly defined processes with the patient at the centre
- Improved patient flow and system outcomes
- The creation of an organised and coordinated way of managing ED business to improve the working environment.

3. Scope of the implementation and EDSAS model used

What were the specifics of the EDSAS model you implemented in your ED?

The scope of the project for implementing the SAS MoC was specifically confined to:

1. Triage process – involving the arrival of the patient to the triage desk, pre-registration, triage category allocation and allocation within the department.
2. Clerical registration
3. Senior Clinician review
4. Processing within the first 2 hours of presentation
5. Diagnostic investigations will include:

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- Quantitative data collection – presentation numbers in relation to time of day and day of week; triage categories with time / day breakdown; workforce breakdown medical / nursing and clerical; average length of stay (LOS)
- Qualitative data collection: process mapping; patient stories (10); staff survey; focus group

In	Out
Triage process **Clerical registration** **First seen clinician** **Ordering of diagnostic tests** **Workforce breakdown medical /nursing / clerical**	**Category 1 patients** **Booked admissions** **APAC patients / or other scheduled return for specialty review** **Treatment >3 hours**

In what ways did you deviate from the documented NSW EDSAS model and why?

The model required a designated workforce and presumes appropriate physical space/real estate to provide sequential patient flow through the department which we could not provide. Therefore the workforce had to be provided from current daily medical and nursing staff allocation and patients were allocated according to bed availability or level of acuity.

How did you determine the elements of the model that would suit your ED's purposes?

By identifying service gaps/barriers and desired change; constraints both workforce and physical space, then adjusting the model to achieve the initial objective, which is to improving the timely access to safe and quality ED care and reducing the ED length of stay through a patient focused model of care.

4. Methodology used in the implementation

This section should evaluate the success or otherwise of the methodology used to implement the model of care.

What were the barriers and enablers to project success or otherwise?

Barriers

- Part time workforce for Staff specialist, CMO
- Ongoing rotation of training senior registrars
- Overseas workforce cultural barriers
- ED physical environment
- Time constraints due to competing demands with substantive positions of team leaders
- Ongoing leadership from staff specialists
- Conflict of interest and workflow demands for senior staff specialist due to operating in a dual role

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Enablers

- Support and involvement from multidisciplinary teams such as: Medical Imaging, Pathology, and Allied Health
- Positive engagement of key stakeholders to address issues and develop solutions
- Collecting, collating and analysing patient journey timelines to determine departmental service gaps
- Positive departmental attitude towards change
- Whole of hospital approach to issues rather than ED centric approach

What was your communication strategy and how effective was it?

- Monthly update to executive sponsors
- Regular meetings with key stakeholders
- Multidisciplinary focus groups
- Ongoing feedback through in-services, presentations and email

To what extent was it useful in your implementation of the EDSAS model?

The EDSAS Implementation tool kit proved valuable guidelines and templates that were modified to for our department.

Not all templates were used, however a project timeline was maintained to track project progress and ongoing responsibilities of team members.

Are there any areas that you would recommend need revision?

Recommend developing patient timeline and process mapping templates for associated departments such as Medical Imaging and Pathology. These departments are intrinsically linked and understanding their processes enables collaboration and efficiency.

Within this project patient journey timeline and extra-departmental process mapping templates were developed for the collection of data specific to the project objectives. Focus group issues and solutions template were also developed.

To what extent did you use the templates in the Appendix section?

Not extensively but the below templates were well utilised to guide and check progress

- Implementation plan template
- Monitoring measures template
- Evaluation Plan

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What recommendations would you offer other EDs about to commence implementation using the toolkit?

To become familiar with these resources at the beginning of the project and referred to them often: the toolkit offers valuable guidance for the development of department specific templates.

3. Measures of success of the implementation of EDSAS

Please include data as follows pre and post implementation of EDSAS (as indicated on page 27 of the NSW ED Models of Care 2012 document)

CHARACTERISTICS	CONTROL GROUP	INTERVENTION GROUP	
Eligible patients – ATS categories 2, 3, 4 and 5	44	45	Same number of patients reviewed across both bandwidths
Time to medical intervention: irrespective of ATS categories	31 (95% CI 24 – 37)	22 (95% CI 18 -27)	Median difference of 20 minutes (95% CI 21 - 23) Two sided p < 0.03
Length of stay: irrespective of ATS categories	312 (95% CI 124 - 228)	176 (95% CI 244 - 380)	Median difference 244 minutes (95% CI 224 - 264) Two sided p < 0.01
Time to off load from ambulance stretcher – all ATS categories	16 (95% CI 10 - 22) n= 6 patients	11 (95% CI 6 - 16) n = 13 patients	Median difference 14 minutes (95% CI 12 - 15) Two sided P< 0.18
Time to medical intervention – ATS category 3	28 (95% CI 20 - 36) n= 23 patients	20 (95% CI 14 - 25) n=22 patients	Median difference of 24 minutes (95% CI 22 - 25) Two sided p < 0.08
Length of Stay - ATS category 3	265 (95% CI 198 - 332) n= 22 patients	177 (95% CI 146 - 208) n= 22 patients	Median difference 221 minutes (95% CI 202 - 239) Two sided p < 0.019
Time to medical intervention – ATS category 4	43 (95% CI 28 - 58) n= 14 patients	31 (95% CI 21 - 41) n= 14 patients	Median difference 37 mins (95% CI 34 - 40) Two sided p < 0.17
Length of Stay - ATS category 4	209 (95% CI 147 - 271) n= 15 patients	153 (95% CI 86 - 220) n=14 patients	Median difference 181 minutes (95% CI 166 - 196)Two sided p < 0.20
Time to medical intervention – ATS category 5	9 (95% CI -144 - 161) n= 1 patients	11 (95% CI - 21 - 43) n= 3 patients	Median difference 10 minutes (95% CI 7 - 13) Two sided p < 0.8
Length of Stay - ATS category 5	80 (95% CI -144 - 161) n = 1 patient	48 (95% CI-21-43) n = 2 patient	Median difference 64 minutes (95% CI 7 - 121) Two sided p < 0.43
Time from triage to ordering pathology	67 (95% CI 50 - 83) n = 25 patient	23 (95% CI 14 - 33) n = 14 patient	Median difference 45 minutes (95% CI 35 - 55) Two sided p < 0.00001
Time from triage to pathology results	123 (95% CI 104 - 142) n = 25 patient	77 (95% CI 55 - 100) n = 14 patient	Median difference 100 minutes (95% CI 90 - 110) Two sided p <0.003
Time from triage to ordering medical imaging	65 (95% CI 43 - 87) n = 23 patient	36 (95% CI 18 - 50) n = 20 patient	Median difference 50 minutes (95% CI 43 - 56) Two sided p < 0.08
Time from triage to availability of medical imaging results	114 (95% CI 78 - 149) n = 23 patient	106 (95% CI 84 126) n = 24 patient	Median difference 108 minutes (95% CI 105 - 110) Two sided p < 0.62

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	CONTROL GROUP	INTERVENTION GROUP
NEAT	85%	83%
ToC	96%	95%
EAP	91%	94%
DID NOT WAIT	1	0
TIME TO ANTIBIOTICS	Currently meeting KPI	

6. Discussion

Was the implementation of EDSAS successful, why or why not?

The implementation of a new EDSAS is ongoing and will require further evaluation to refine the MoC over the next 6 – 12 months

What were the lessons learnt during this implementation?

An extra-departmental approach has been instrumental in building positive relationship and communication across multiple departments for the identification of issues and development of solutions to ensure optimal patient care. This approach has provided avenues to build ongoing positive relationships that will only enhance a team and whole of hospital approach to patient care.

What impact has this model had on operational management of you ED?

- The model has had a positive team build impact not only in the emergency department but across medical imaging, pathology and allied health. It has highlighted barriers to care such as
- Identified delays and cultural barriers to ED doctors consulting the ED Staff specialist which in turn delays time to disposition and appropriate diagnostics
- Improved communication processes for between clerical, nursing and medical staff
- Improved more efficient clerical registration process
- Highlighted gaps in care delivery for fast track patients and allocation of patients to ED acute beds
- Emphasised the importance of providing clinical expertise at the beginning of the patient's journey.

What would you do differently next time and why?

Extend the timeframe of the project to assess and reflect on the outcomes over a longer period. In addition gather data over the weekends to assess barriers and processes afterhours. Pursue earlier engagement of senior medical staff in a leadership role to assist in generating change across the medical staff, rather than from a nursing lead perspective.

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What strategies did you put in place to ensure sustainability of EDSAS?

- Identify medical and nursing staff that value and have a whole of hospital outlook in regards to delivery safe and timely patient care.
- Ensure departmental staff is well informed of project progression and milestones through focus groups, in-service and emails
- Continued engagement of multidisciplinary departments such as Medical Imaging, Pathology and Allied Health through quarterly meetings to maintain and promote collaboration and consistent processes.
- Assess and evaluate at 3 months and 6 month intervals

7. Conclusion

Where to from here? Please include plans for further evaluation of the impact of EDSAS on your ED and sustainability of this model in your ED.

- Commence extended trial period of the new EDSAS MoC over following 6 months utilising existing staff from ED workforce
- Education/fact sheet for SNR Registrars and Registered nurses re ED SAS Model of care process
- Maintain communication and engagement with multidisciplinary teams to ensure treatment and processes are on track, reduce waiting times and increase efficiencies
- Educate work force and patients regarding model of care process through in services and communiqué for all staff and patients to ensure awareness, and maintain momentum and engagement of all involved
- Define business rules as a guide to streaming process and roles
- Develop criteria and evaluate at 3 and 6 months periods in regards to productivity drivers, patient interviews, staff satisfaction.
- Measure performance via the current productivity drivers:
    - NEAT: 2013 >71% patients discharged, admitted to an inpatient ward or transferred to another facility within 4 hours of arrival to the ED
    - Emergency Access Performance: >80% admitted patients transferred within 8 hours

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- Transfer of Care: >90% of all patients arriving by NSW Ambulance Service transferred of care to the ED within 30 minutes
- Triage category:

Category 1 – 100% seen within 2 minutes

Category 2 – ≥ 80% seen within 10 minutes

Category 3 – ≥ 75% seen within 30 minutes

Category 4 – ≥ 70% seen within 60 minutes

Category 5 – ≥ 70% seen within 120 minutes

Report prepared by

Genevieve McKinnon CNS

Project Lead EDSAS

August 2013

Chief Executive sign off on final report

Name: VICKI TAYLOR

Signature:

Date: 16.08.2013