

Emergency Department Streaming Project 2012-13

Final Report

Aim

To improve the patient experience and reduce waiting times in Victorian public health services. Methods by which this can be achieved include:

- Early assessment, fast tracking and early initiation of clinical care
- New patient flow designs to improve both responsiveness and safety

Overview

In 2011, the Victorian Government committed \$400,000 over four years to assist hospitals to improve the patient focus of their work practices (streaming initiatives) in emergency departments (ED). Each year since the project's inception, three health services have been funded (\$30,000 each) to improve ED access by implementing projects that aim to streamline the patient journey from the ED to either admission or discharge. A number of strategies were used by health services that focused on the efficient flow of patients and a team-led care approach to improve treatment times and overall length of stay in the ED, as well as the patient experience.

Key Improvements

Box Hill Hospital, Bendigo Hospital and St Vincent's Hospital were funded to undertake streaming projects in the ED between October 2012 and March 2013. Detailed project information is attached. Interpretation of these results should take into account seasonal variation and the timeframe of the project.

The overall improvements resulting from the projects include:

- 6.1% increase in NEAT performance for all ED patients (Bendigo)
- 1:40 hour decrease in average length of ED stay for ICU patients (Bendigo)
- 10% increase in appropriate patients being admitted to ED SSU (St Vincent's)
- 10% reduction in average paediatric ED length of stay and 28% reduction in average paediatric time to treatment (Box Hill)

Transferable Solutions

Key changes implemented include:

- Communication processes between ED and wards in relation to patient admission
- Multidisciplinary teams leading each patient stream
- Use of rapid-upfront assessment by senior clinicians
- Pathway development between different areas of the hospital
- Flexible models of care to accommodate specific patient groups
- Allocation of dedicated paediatric clinical staff

Project aims

To improve ED patient flow and streamline the patient journey

Duration

Six month projects are funded each year over four years, commencing in 2011-12

Cost

\$100,000 annually over four years

Project sites

2011-12
Austin Hospital
Frankston Hospital
Latrobe Regional Hospital

2012-13

Bendigo Hospital
Box Hill Hospital
St Vincent's Hospital

Supporting activities

Redesign Network Meeting
3 December 2012

Winter Access Planning
Symposium
25 June 2013

Bendigo Hospital

Reduced length of stay for acute patients transferred to the High Dependency Unit

health

Overview

Bendigo Health Care Group provides a range of services, including emergency care for approximately 42,000 emergency presentations annually, to the community of the Loddon Mallee region.

The primary objective of this streaming project was to decrease the average length of stay for High Dependence Unit (HDU) patients presenting acutely to the ED. This project included the development and implementation of pathways to define and stream patients to the appropriate ward location using an electronic 'patient journey board'.

Key actions

Standardised use of patient journey board

An electronic patient journey board was introduced to allow staff throughout the hospital to view outstanding bed requests and manage patient flow within the ED and wards. Hourly patient journey board rounds were introduced to maintain accountability for all patients waiting for admission or discharge.

Earlier bed requests

The length of stay for ED patients presenting to the ED requiring admission to a MAPU or ICU had increased due to delays between bed requests and admission. To address this, bed requests for these patients were prioritised. The average time between patient arrival and bed request was reduced from 3:06 hours to 2.55 hours.

Summary of outcomes

NEAT performance

NEAT performance for all ED patients has increased from 71.6% in August 2012 to a three month average of 77.7% at the conclusion of the project.

Reduced average length of stay

Delayed acceptance of the patient cohort who present too acutely for general ward admission but not acutely enough for ICU results in prolonged length of stay in the ED. Pathway development was used to stream patients to the most appropriate location. This contributed to the average length of stay for patients admitted to the MAPU or ICU being reduced from 6:58 hours and 6:47 hours in August 2012 to 6:24 hours and 5:07 hours respectively in March 2013.

Learnings

Challenges		Change in approach
1	Patients unassigned to a stream of care have prolonged lengths of stay in the ED	Improved communication and documentation via the electronic patient journey board
2	Inpatient units not proactive in accepting responsibility for undifferentiated ED patients	Proactively communicate with consultants regarding patient admission and changing clinical status in real time
3	Most appropriate place for clinical care of seriously ill patients is the ED if no HDU bed available	Move to creation of Critical Care Unit within Medical Unit to address the issue (expected delivery mid 2013)

Results at a glance

Primary objective

Reduce average length of stay for HDU patients in the ED

Results

6.1% increase in NEAT performance for all ED patients

1:40 hour reduction in average length of stay for ED ICU patients

Supporting activities

Introduction of an electronic patient journey board to monitor bed requests and improve acceptance of patients between the ED and wards

Education for ward staff to increase awareness of ED practices and processes

Implementation of pathways and communication channels to facilitate streaming patients between ED and wards

Key project contacts

Diana Badcock
ED Director

Carol Ann Lever
ED Nurse Unit Manager

Suellen Pepperell
Redesign Lead

Box Hill Hospital

Reduced time to treatment and length of stay for paediatric patients in the ED

health

Overview

Box Hill Hospital is the largest campus of Eastern Health, providing a large range of healthcare services to eastern metropolitan Melbourne. Paediatric presentations constitute approximately 16% of Box Hill's total ED presentations.

The objective of this streaming project was to decrease the average time to treatment by 20 minutes and decrease the average emergency department (ED) length of stay for paediatric patients by 20% by the completion of the project. This project included the creation of a paediatric-specific space in the ED, as well as increasing the capacity for treating paediatric presentations to the ED with the designation of specific paediatric staff in the ED and reviewing models of care for the treatment of paediatric patients.

Key actions

Creation of a dedicated paediatric space in the ED

A dedicated paediatric focus has been created within the ED to facilitate timely assessment and treatment of paediatric patients who can be difficult to accommodate within a busy ED. Resources such as additional paediatric-specific equipment and creation of a dedicated paediatric shift within the ED to support improved treatment of paediatric patients were included in this part of the project. Learnings from this project will be included in Box Hill's ED redevelopment.

Summary of outcomes

Reduction in paediatric average length of stay

Average length of stay in the ED for paediatric patients was reduced by 10% from approximately 200 minutes at the beginning of the project to approximately 180 minutes in April 2013.

Reduction in paediatric average time to treatment

Average time to treatment for paediatric presentations to the ED was reduced by approximately 13 minutes, a reduction of approximately 28% over the period of the project.

NEAT performance

Paediatric performance against the NEAT target has improved to 76% of paediatric patients treated within 4 hours. This is an improvement in performance of approximately 6% compared to the beginning of the project in September 2012.

Learnings

Challenges	Change in approach
1 ED staff have variable frequency of contact with paediatric patients	Review and develop a training and education program for staff to maintain paediatric knowledge
2 Lack of consistent approach, nurse-initiated interventions more difficult due to skill levels	Standardise pathways for common conditions (link to Women & Children program)
3 Triage desk too high, paediatric triage cannot be completed at desk	Bring triage to patient – Computer on Wheels (COW) docked to triage area

Results at a glance

Primary objective

Reduce paediatric time to treatment and paediatric length of stay in the ED

Results

10% reduction in paediatric average length of stay in the ED

28% reduction in paediatric average time to treatment in the ED

6% increase in NEAT performance for paediatric ED patients

Supporting activities

Creation of a dedicated paediatric space in the ED

Provision and management of paediatric-specific equipment in the ED

Dedicated paediatric shift created in the ED to manage the treatment of paediatric patients

Key project contacts

Andrew Maclean
ED Director

Daniel Fleming
Project Facilitator

Overview

St Vincent's Hospital provides tertiary healthcare services to a large and diverse community from all areas of metropolitan Melbourne.

The approach of this project was to introduce a new ED model of care that incorporated streaming to the admitted and discharge patient streams. This model of care will support improved patient flow throughout the ED. The streams are: Red (admitted), Yellow (non-admitted and treated within 4 hours), Green (non-admitted/fast track and treated within 2 hours), and SSU (short stay unit).

Key actions

Streaming model of care

80% of patients presenting to the ED are discharged home or to another facility. The streaming model focuses on this high volume patient cohort and aims to reduce length of stay in the ED. Patients are streamed based on likely disposition of admitted or non-admitted. Results were measured by the percentage of patients accurately placed and admitted/discharged according to their stream.

- Green = 91% of patients discharged
- Yellow = 71% of patients discharged
- Red = 32% of patients admitted to a ward

Up-front assessment

Overall patient length of stay is impacted due to long waits for senior clinician assessment. A senior ED clinician has been allocated to conduct rapid up-front assessment of patients within new diagnostic lounge spaces in the ED.

Summary of outcomes

Appropriate SSU usage

St Vincent's undertook work to standardise the criteria for all patients admitted to the SSU in order to reduce overall length of stay. The project sought to ensure the availability of short stay beds for appropriate patients only, and not for patients awaiting ward admission. The project achieved 95% effectiveness.

Reduced operating time on bypass

St Vincent's reduced the percentage of operating time on bypass from 1.5% at the beginning of the project to 0.4% at the project's completion.

Patient disposition accurately predicted

Triage nurses allocated patients to the correct stream 81% of the time, exceeding the expected 80% target.

Learnings

Challenges		Change in approach
1	Triage nurse hesitant to make initial prediction of patient stream	Communication and feedback with triage nurses, and education on streaming roles
2	Patient streaming not used during periods of high patient volume in the ED	Developing hospital-wide response to support an efficient streaming model and further streamline patient access.

Results at a glance

Primary objective

Incorporate a streaming ED model of care

Results

91% of patients allocated to green stream discharged

81% of patients allocated to correct stream by triage nurse

95% appropriate patient admissions to the SSU

Reduction of 1.1% of operating time on bypass

Supporting activities

Allocation of a senior ED clinician for rapid up-front assessment of patients to decrease median time to treatment

Standardised compliance with SSU policy

Key project contacts

Andrew Walby
ED Director

Robina Bradley
Redesign Lead

Kelly Wilson
Redesign Lead