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**Literature search results**

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**Search details**

Redesigning emergency care flows

**Resources searched**

Google Advanced Search, MEDLINE, EMBASE, HMIC, NHS Evidence

**Summary**

Search found a number of useful articles and websites on redesigning emergency care patient flows.

**Guidelines**

None

**Evidence based reviews**

None

**Published research**

Google

("emergency care" OR "urgent care" OR "accident and emergency") (hospital OR "secondary care") "patient flow redesign lean") OR ("redesigning emergency care flows" lean)

The following articles relate to Flinders Medical Centre, NSW

**Improving Patient Flow with Lean**
This paper describes the introduction and early results of the Redesigning Care Program at the Flinders Medical Centre. Redesigning Care explicitly applies lean thinking to health care

**Patient Streaming and Patient Flow in Acute Healthcare**

Drawing upon multiple cases in a number of different acute facilities, the paper will propose a new definition of patient or care pathways and discuss the concept of patient flow.

**Patient journeys: the process of clinical redesign**

Ben-Tovim DI, Dougherty ML, O'Connell TJ, McGrath KM.
Clinical process redesign is a successful improvement method that has been used to increase access to health services in 60 public hospitals across New South Wales, and at Flinders Medical Centre (FMC) in South Australia. This article outlines the clinical process redesign programs being used.

**Implementing and sustaining transformational change in health care: lessons learnt about clinical process redesign**

McGrath KM, Bennett DM, Ben-Tovim DI, Boyages SC, Lyons NJ, O'Connell TJ.
The key elements for success are leadership by senior executives, clinical leadership, team-based problem solving, a focus on the patient journey, access to data, ambitious targets, strong performance management, and a process for maintaining improvement.

**Redesigning care at the Flinders Medical Centre: clinical process redesign using "lean thinking"**

Ben-Tovim DI, Bassham JE, Bennett DM, Dougherty ML, Martin MA, O'Neill SJ, Sincock JL, Szwarcbord MG.
The program has fallen into three main phases, each of which is described in this article: "getting the knowledge"; "stabilising high-volume flows"; and "standardising and sustaining". *Results to date show that the Redesigning Care program has enabled the hospital to provide safer and more accessible care during a period of growth in demand.

**Use of Lean in the Emergency Department: A Case Series of 4 Hospitals**

Eric W. Dickson MD, Zlatko Anguelov MD, Annals of Emergency Medicine
One year post-Lean, length of stay was reduced in 3 of the EDs despite an increase in patient volume in all 4. Each observed an increase of patient satisfaction lagging behind by at least a year. The narratives indicate that the closer Lean implementation was to the original Toyota principles, the better the initial outcomes.

**Application of Lean Manufacturing Techniques in the Emergency Department** Iowa, USA
Although the Lean principles represent a fundamental change in the way we think of delivering care, the specific process changes we employed tended to be simple, small procedure modifications specific to our unique people, process, and place.

**Emergency Department Prescribes Lean for Process Improvement** Cedar Rapids, USA
Beyond Bricks and Mortar: Rethinking the Emergency Department

From Diagnosis to Cure: A Process Improvement Journey
Michael C.W. Caesar, Asha Chouhan and Angela Ko, Electronic Healthcare 7(2), 2008
This article shares the story of how University Health Network, a major healthcare organization in Toronto, Ontario, embarked upon clinical process improvement projects using Lean methodologies and principles, including the emergency department.

Useful websites
The Right Emergency Care Project (PowerPoint)
Lean Enterprise Institute

Victorian Government Health Information
PFC 2005 Patient Flow handbook
PFC 2005 - Action learning sets
Discussion paper on 'Streaming care: fast track services in emergency departments"

Lean thinking across a hospital: redesigning care at the: Flinders Medical Centre
A National Programme for Improving Patient Flows - on inpatient flows but may be useful
Solutions for Problems: The NHS, Lean Thinking and Six Sigma
Value stream mapping the emergency department
Evaluation Of The Lean Approach To Business Management And Its Use In The Public Sector

Healthcare databases (HMIC and MEDLINE)
This is the article David gave us as a starting point. It is included because there is a full text link with it.

5. Redesigning emergency department patient flows: application of Lean Thinking to health care

Author(s): King DL, Ben-Tovim DI, Bassham J
Citation: Emergency Medicine Australasia, August 2006, vol./is. 18/4(391-7), 1742-6731
Publication Date: August 2006
Abstract: OBJECTIVE: To describe in some detail the methods used and outcome of an application of concepts from Lean Thinking in establishing streams for patient flows in a teaching general hospital ED. METHODS: Detailed understanding was gained through process mapping with staff followed by the identification of value streams (those patients likely to be discharged from the ED, those who were likely to be admitted) and the implementation of a process of seeing those patients that minimized complex queuing in the ED. RESULTS: Streaming had a significant impact on waiting times and total durations of stay in the ED. There was a general flattening of the waiting time across all groups. A slight increase in wait for Triage categories 2 and 3 patients was offset by reductions in wait for Triage category 4 patients. All groups of patients spent significantly less overall time in the department and the average number of patients in the ED at any time decreased. There was a significant reduction in number of patients who do not wait and a slight decrease in access block. CONCLUSIONS: The streaming of patients into groups of patients cared for by a specific team of doctors and nurses, and the minimizing of complex queues in this ED by altering the practices in relation to the function of the Australasian Triage Scale improved
patient flow, thereby decreasing potential for overcrowding.

Source: MEDLINE

Full Text:
Available in full text at EBSCO Host

These articles are A&E, EAU. Patient Flow:

1. Decreasing lab turnaround time improves emergency department throughput and decreases emergency medical services diversion: a simulation model.


Citation: Academic Emergency Medicine, November 2008, vol./is. 15/11(1130-5), 1553-2712

Publication Date: November 2008

Abstract: BACKGROUND: The effect of decreasing lab turnaround times on emergency department (ED) efficiency can be estimated through system-level simulation models and help identify important outcome measures to study prospectively. Furthermore, such models may suggest the advantage of bedside or point-of-care testing and how they might affect efficiency measures. OBJECTIVES: The authors used a sophisticated simulation model in place at an adult urban ED with an annual census of 55,000 patient visits. The effect of decreasing turnaround times on emergency medical services (EMS) diversion, ED patient throughput, and total ED length of stay (LOS) was determined. METHODS: Data were generated by using system dynamics analytic modeling and simulation approach on 90 separate days from December 2, 2007, through February 29, 2008. The model was a continuous simulation of ED flow, driven by real-time actual patient data, and had intrinsic error checking to assume reasonable goodness-of-fit. A return of complete laboratory results incrementally at 120, 100, 80, 60, 40, 20, and 10 minutes was compared. Diversion calculation assumed EMS closure when more than 10 patients were in the waiting room and 100% ED bed occupancy had been reached for longer than 30 minutes, as per local practice. LOS was generated from data insertion into the patient flow stream and calculation of time to specific predefined gates. The average accuracy of four separate measurement channels (waiting room volume, ED census, inpatient admit stream, and ED discharge stream), all across 24 hours, was measured by comparing the area under the simulated curve against the area under the measured curve. Each channel's accuracy was summed and averaged for an overall accuracy rating. RESULTS: As lab turnaround time decreased from 120 to 10 minutes, the total number of diversion days (maximum 57 at 120 minutes, minimum 29 at 10 minutes), average diversion hours per day (10.8 hours vs. 6.0 hours), percentage of days with diversion (63% vs. 32%), and average ED LOS (2.77 hours vs. 2.17 hours) incrementally decreased, while average daily throughput (104 patients vs. 120 patients) increased. All runs were at least 85% accurate. CONCLUSIONS: This simulation model suggests compelling improvement in ED efficiency with decreasing lab turnaround time. Outcomes such as time on EMS diversion, ED LOS, and ED throughput represent important but understudied areas that should be evaluated prospectively. EDs should consider processes that will improve turnaround time, such as point-of-care testing, to obtain these goals.

Source: MEDLINE

2. Clinical process redesign for unplanned arrivals in hospitals

Author(s): O'Connell, Tony, Bassham, Jane E, Bishop, Rod O, Clarke, Christopher W, Hullick, Carolyn J

Citation: Medical Journal of Australia, 2008, vol./is. 188/6(S18-S22), 0025-729X
**Publication Date:** 2008

**Abstract:** Emergency department performance had been deteriorating in NSW Health facilities and at Flinders Medical Centre before a fundamentally new approach involving a redesign method, additional bed capacity and more rigorous hospital performance management was applied. Redesign was undertaken in over 60 hospitals in New South Wales. Numerous disconnections and misalignments in the process of care delivery have been uncovered during the diagnostic phase of this redesign. Solutions addressed the entire patient journey through the hospital, to produce smoother patient flow along the continuum of care. To achieve a sustained improvement in performance, numerous solutions must be simultaneously implemented in each hospital. With this multipronged approach, a turnaround in NSW emergency access performance has been achieved in the face of rising demand for services; the improvement has continued over three years. This article reports on the authors findings from system-wide redesign for unplanned hospital attendances. Cites eight references. [Journal abstract]

**Source:** HMIC


**Author(s):** Crilly, Tessa, Plant, Marilyn

**Citation:** Health Services Management Research, 2007, vol./is. 20/1(37-47), 0951-4848

**Publication Date:** 2007

**Abstract:** OBJECTIVES: A primary care trust (PCT) used its position as lead commissioner in a health economy to search for efficiency gains and to improve the patient journey through accident and emergency (A&E) services in a hard-pressed acute hospital. The project generated an action research approach. As a by-product, we developed a model of the hospital system based on a case study that can be replicated and used to set utilization targets at the micro-level of the hospital organization. This addresses a gap in the literature on hospital utilization that currently focuses on macro-population levels of analysis or simulation models that demand complex data. Primary and secondary care services, in contrast, require a pragmatic model of utilization supported by a few key, readily available data items. METHODS: Mixed quantitative and qualitative methods were adopted in an approach of collaborative enquiry among stakeholders of the health economy. We used the flexible planning tenet of action research that evolved into the subjective meaning tenet by which, to achieve authoritative findings, it was necessary to broaden the line of enquiry to address participants' perceptions. RESULTS: We have described the current patient flow and a redesigned pathway through A&E services together with targets and action required to reduce admissions, delayed discharges and diagnostic waits in the emergency hospital system. Primary care had a key role in changing the culture, communication and treatment within A&E services. CONCLUSION: (i) This study was rapid and sustained a high level of energy and purpose among stakeholders. Action research is an appropriate method to apply to transformational change in the modernization of health-care systems; (ii) Modelling of system dynamics is a critical dimension to the success of whole system change; (iii) Primary care commissioning power is an under-used, but influential, lever for change. At a point when the PCT commissioning structure is under threat, this project exemplifies primary care's ability to engineer change in acute hospital services. 4 figs. 10 refs. [Abstract]

**Source:** HMIC

4. Patient flow in the emergency department: is timeliness to events related to length of hospital stay?

**Author(s):** Clark K, Normile LB

**Citation:** Journal of Nursing Care Quality, January 2007, vol./is. 22/1(85-91), 1057-3631
Publication Date: January 2007

Abstract: Management of critically ill patients occurs frequently in emergency departments (ED) while waiting for intensive care beds to become available. The purpose of this study was to investigate effects of timeliness of interventions in the ED on ED outcomes and hospital length of stay. Sample size was 1536 intensive care unit admissions. Timeliness to first medication and order for intensive care unit bed to leaving the ED influenced both ED and hospital length of stay. Timely interventions affect outcomes, access, and quality of care.

Source: MEDLINE

Full Text: Available in fulltext at EBSCO Host

6. Evaluation of a fast track unit: alignment of resources and demand results in improved satisfaction and decreased length of stay for emergency department patients.

Author(s): Rodi SW, Grau MV, Orsini CM

Citation: Quality Management in Health Care, July 2006, vol./is. 15/3(163-70), 1063-8628

Publication Date: July 2006

Abstract: BACKGROUND: Emergency departments (EDs) are struggling with overcrowding. The Institute for Healthcare Improvement recently concluded that reducing delays is critical to improving all aspects of emergency care. To reduce cycle times and improve patient flow, we developed a separate stream of care focused on low-acuity patients in our academic ED. METHODS: Strict triage criteria were developed, and patients were seen by a physician's assistant in a dedicated section of the ED. Two anonymous surveys (patient and staff) and a time cycle analysis were performed before and after the intervention. RESULTS: Eighty-seven preintervention patient surveys (response rate = 60%) and 91 postintervention surveys (response rate = 79%) were collected. Demographic data were comparable. All domains of patient satisfaction were significantly improved in the postintervention group and were correlated with the length of stay that decreased from 127 to 53 minutes (P < .001). CONCLUSIONS: This study supports an emphasis on improving turnaround time as a primary driver of satisfaction, and demonstrates that a simple intervention characterized by focusing existing resources on the needs of a specific population can significantly improve health care delivery. Thoughtful alignment of resources with the needs of specific patient populations should similarly streamline care in other clinical settings.

Source: MEDLINE

These articles focus on Fast Track, Emergency service, hospital and Length of Stay

1. Appropriateness of diagnosis and orientation of 996 consecutive patients admitted in an emergency department with flow-based organization.

Author(s): Allo JC, Vigneau JF, Jiang J, Ranerison R, Caroline E, Dabreteau A, Der Sahakian G, Perruche F, Dhainaut JF, Brunet F, Claessens YE

Citation: European Journal of Emergency Medicine, February 2009, vol./is. 16/1(23-8), 1473-5695

Publication Date: February 2009

Abstract: BACKGROUND: Recent data, focused on the inability to transfer emergency patients to inpatient beds, has shown this to be the single most important factor contributing to overcrowding. Our Emergency Department (ED) was reorganized in the year 2000 based on the optimization of patients' flow. In this model, the emergency team had to refer patients
to units fitting best to their condition with minimal delays. **OBJECTIVES:** To evaluate adequacy of both diagnosis between emergency room and hospitalization wards and patients' orientation in the context of an early discharge from the ED. **METHODS:** We collected data from 996 consecutive nontrauma patients for whom an admission was decided. Duration of stay in the ED and all related parameters were studied. Patients were categorized according to the adequacy of the diagnosis proposed at ED discharge as compared with the final diagnosis at hospital discharge. The patients' orientation appropriateness was also assessed. **RESULTS:** Despite a median duration of time of 6 h (21 min-54 h) diagnostics made by the emergency physicians and the patients' orientation were considered as adequate in most of the cases (66 and 96%, respectively). Fast track developed with medical intensive care and cardiology intensive care allowed referral of patients requiring these specific units within 2.2 h (27 min-17 h) and 2 h (41 min-8 h), respectively. The ED length of stay was highly influenced by the admission location and by the patient's age. **CONCLUSION:** A short time of stay in the ED is compatible with both a good diagnosis and a good orientation of ED patients requiring admission for specialized care.

**Source:** MEDLINE

2. **Effect of emergency department fast track on emergency department length of stay: a case-control study.**

**Author(s):** Considine J, Kropman M, Kelly E, Winter C

**Citation:** Emergency Medicine Journal, December 2008, vol./is. 25/12(815-9), 1472-0213

**Publication Date:** December 2008

**Abstract:** **OBJECTIVE:** To examine the effect of fast track on emergency department (ED) length of stay (LOS). **DESIGN AND SETTING:** Pair-matched case-control design in a public teaching hospital in metropolitan Melbourne, Australia. **PARTICIPANTS:** Patients treated by the ED fast track (cases) between 1 January and 31 March 2007 were compared with patients treated by the usual ED processes (controls) from 1 July to 15 November 2006 (n = 822 matched pairs). **INTERVENTION:** ED fast track was established in November 2006 and focused on the management of patients with non-urgent complaints. **MAIN OUTCOME MEASURES:** The primary outcome measure was ED LOS for fast-track patients. Secondary outcomes were waiting times and ED LOS for other ED patients. **RESULTS:** Median ED LOS for non-admitted patients was 132 minutes (interquartile range (IQR) 83-205.25) for controls and 116 minutes (IQR 75.5-159.0) for cases (p<0.01). Fast-track patients had a significantly higher incidence of discharge within 2 h (53% vs 44%, p<0.01) and 4 h (92% vs 84%, p<0.01). **CONCLUSIONS:** ED fast track decreased ED LOS for non-admitted patients without compromising waiting times and ED LOS for other ED patients.

**Source:** MEDLINE

**Full Text:**

Available in fulltext at [Highwire Press](https://www.highwire.org)

Available in print at

3. **Streaming by case complexity: evaluation of a model for emergency department Fast Track.**

**Author(s):** Ieraci S, Digiusto E, Sonntag P, Dann L, Fox D

**Citation:** Emergency Medicine Australasia, June 2008, vol./is. 20/3(241-9), 1742-6723

**Publication Date:** June 2008

**Abstract:** **OBJECTIVES:** To evaluate a patient flow streaming system within a teaching hospital's ED, using functional principles to separate patients into two streams on the basis of
complexity rather than acuity, severity or disposition. METHODS: The project used
conceptual principles, such as patient complexity and 'lean thinking' theory, to create a new
Fast Track patient stream, which was separately resourced. Data collected before and after
implementation of the Fast Track system were analysed to evaluate the system. RESULTS:
Following implementation of the system, significant improvements were observed in several
key ED performance indicators. Mean waiting time was reduced from 55 to 32 min, mean
treatment time was reduced from 209 to 191 min, compliance with New South Wales
Department of Health waiting-time benchmarks increased from 59% to 77% and the
percentage of patients who did not wait to complete their treatment halved from 6.2% to 3.1%.
CONCLUSIONS: Key features in the success of the system included use of dedicated senior
staff for Fast Track patients, and quarantining of clinical resources. The ED aiming to improve
their waiting times and throughput should consider using complexity as a key criterion for
triaging patients into separate streams. A low-complexity patient stream in the ED provides an
ideal focus for advanced nursing practice.

Source: MEDLINE

Full Text:
Available in fulltext at EBSCO Host

☐ 4. Assessing the impact of streaming in a regional emergency department

Author(s): Kinsman L, Champion R, Lee G, Martin M, Masman K, May E, Mills T, Taylor MD,
Thomas P, Williams RJ, Zalstein S

Citation: Emergency Medicine Australasia, June 2008, vol./is. 20/3(221-7), 1742-6723

Publication Date: June 2008

Abstract: OBJECTIVE: To evaluate the impact of a streaming model, previously validated in
metropolitan EDs, on selected performance indicators in a regional ED. METHOD: Multiple
linear regression models were applied to monthly time series data from 43 months prior to the
intervention and 15 months following the intervention to measure the impact of the streaming
model on the following performance indicators: (i) percentage of emergency patients admitted
to an inpatient bed within 8 h; (ii) percentage of non-admitted emergency patients with a
length of stay of less than 4 h; and (iii) percentage of emergency patients who left without
being seen by a doctor or nurse practitioner. SETTING: Bendigo Health ED in regional
Victoria. RESULTS: Prior to the introduction of streaming, there was a downward trend in
both the percentage of emergency patients admitted to an inpatient bed within 8 h, and the
percentage of non-admitted emergency patients with a length of stay of less than 4 h. After
the introduction of streaming, these trends were reversed (P = 0.008 and P = 0.004,
respectively). There was no statistically significant change in the trend associated with the
percentage of emergency patients who left without being seen (P = 0.904). CONCLUSIONS:
The implementation of the streaming model had an impact on the two performance indicators
associated with length of stay in this regional ED, but did not have a significant impact
(positive or negative) on the percentage of patients who did not wait to be seen. These results
might interest other EDs in regional hospitals.

Source: MEDLINE

Full Text:
Available in fulltext at EBSCO Host

☐ 5. Fast track: has it changed patient care in the emergency department?

Author(s): Kwa P, Blake D

Citation: Emergency Medicine Australasia, February 2008, vol./is. 20/1(10-5), 1742-6723
Abstract: OBJECTIVE: To determine whether the introduction of a designated fast-track area altered the time to care and patient flow in an Australian mixed adult and paediatric ED.

METHODS: Retrospective cohort study of all patients presenting to the ED between 08.00 and 22.00 hours, during a 6 month period before and after the opening of a fast-track area. Data were stratified according to Australasian Triage Scale (ATS) category, and comparisons were made for performance indicators, waiting time, length of stay and did-not-waits.

RESULTS: During its operational hours, fast track managed 14.9% of all patients presenting to the ED. There was a significant increase in the proportion of all ATS 4 patients seen within their target times (77.8% to 79.9%, P < 0.001). There was a trend towards improved performance in ATS categories 2, 3 and 5. Median patient waiting times were significantly decreased in ATS 4 (24 to 22 min, P < 0.001) and ATS 5 (27 to 25 min, P < 0.05), but increased in ATS 2 (3 to 4 min, P < 0.05). No deterioration in performance or waiting time for ATS 1 was shown. There was a decreasing trend in the proportion of patients who did not wait to be assessed by a doctor in ATS categories 4 and 5. These improvements occurred despite a 12% increase in patient attendances and no change in medical staffing levels.

CONCLUSIONS: Fast track in an Australian mixed ED can help meet the demand of increasing patient attendances, allowing lower-acuity patients to be seen quickly without a negative impact on high-acuity patients.

Source: MEDLINE

Full Text:

Available in fulltext at EBSCO Host

6. Accuracy of triage nurses in predicting patient disposition.

Author(s): Holdgate A, Morris J, Fry M, Zecevic M

Citation: Emergency Medicine Australasia, August 2007, vol./is. 19/4(341-5), 1742-6731

Publication Date: August 2007

Abstract: OBJECTIVE: Increasing demand to reduce patient waiting times and improve patient flow has led to the introduction of a number of strategies such as fast track and patient streaming. The triage nurse is primarily responsible for identifying suitable patients, based on prediction of likely admission or discharge. The aim of the present study was to explore the accuracy with which triage nurses predict patient disposition. METHODS: Over two separate 1-week periods, triage nurses at two urban tertiary hospitals electronically recorded in real time whether they thought each patient would be admitted or discharged. The patient's ultimate disposition (admission or discharge), age, sex, diagnostic group, triage category and time of arrival were also recorded. RESULTS: In total, 1342 patients were included in the study, of which 36.0% were subsequently admitted. Overall, the triage nurse correctly predicted the disposition in 75.7% of patients (95% CI: 73.2-78.0). Nurses were more accurate at predicting discharge than admission (83.3% vs 65.1%, P = 0.04). Triage nurses were most accurate at predicting discharge in patients with higher triage categories and most accurate at predicting discharge in patients with injuries and febrile illnesses (89.6%, 95% CI: 85.6-92.6). Predicted discharge was least accurate for patients with cardiovascular disease, with 41.1% (95% CI: 26.4-57.8) of predicted discharges in this category subsequently requiring admission. CONCLUSION: Triage nurses can accurately predict likely discharge in specific subgroups of ED patients. This supports the role of triage nurses in appropriately identifying patients suitable for 'fast track' or streaming.

Source: MEDLINE

Full Text:

Available in fulltext at EBSCO Host
7. Evaluation of Fast Track.

Author(s): Combs S, Chapman R, Bushby A

Citation: Accident & Emergency Nursing, January 2007, vol./is. 15/1(40-7), 0965-2302

Publication Date: January 2007

Abstract: This paper is the second of two articles discussing the execution and evaluation of implementing a Fast Track program in a West Australian outer metropolitan hospital Emergency Department. The first paper in the series outlined the implementation process over a 12-month period. This current paper presents the findings of the 12-month evaluation utilising Statistical Process Charts. The object of this evaluation was to undertake analysis of data throughout the change process and demonstrate the effectiveness of implementing Fast Track into the Department. Following the implementation of Fast Track, the Department's "Did not wait" rate decreased over a 12-month period from 10% to 5.4%, without a detrimental impact on treatment times for the patients with serious illnesses and injuries. Furthermore, Fast Track resulted in patients with minor injuries or illnesses being seen, treated and discharged within 2 hours of presentation. Indeed the journey time decreased for all Emergency Department patients. As a result of Fast Track, the Emergency Department waiting area is less congested and staff moral has increased. A further consequence of Fast Track is that nurses are providing more advanced clinical services to patients.

Source: MEDLINE

Full Text: Available in print at Pilgrim Hospital Staff Library

8. Impact of streaming "fast track" emergency department patients.

Author(s): O'Brien D, Williams A, Blondell K, Jelinek GA

Citation: Australian Health Review, November 2006, vol./is. 30/4(525-32), 0156-5788

Publication Date: November 2006

Abstract: OBJECTIVE: Fast track systems to stream emergency department (ED) patients with low acuity conditions have been introduced widely, resulting in reduced waiting times and lengths of stay for these patients. We aimed to prospectively assess the impact on patient flows of a fast track system implemented in the emergency department of an Australian tertiary adult teaching hospital which deals with relatively few low acuity patients. METHODS: During the 12-week trial period, patients in Australasian Triage Scale (ATS) categories 3, 4 and 5 who were likely to be discharged were identified at triage and assessed and treated in a separate fast track area by ED medical and nursing staff rostered to work exclusively in the area. RESULTS: The fast track area managed 21.6% of all patients presenting during its hours of operation. There was a 20.3% (-18 min; 95%CI, -26 min to -10 min) relative reduction in the average waiting time and an 18.0% (-41 min; 95%CI, -52 min to -30 min) relative reduction in the average length of stay for all discharged patients compared with the same period the previous year. Compared with the 12-week period before the fast track trial, there was a 3.4% (-2.1 min; 95%CI, -8 min to 4 min) relative reduction in the average waiting time and a 9.7% (-20 min; 95%CI, -31 min to -9 min) relative reduction in the average length of stay for all discharged patients. There was no increase in the average waiting time for admitted patients. This was despite major increases in throughput and access block in the study period. CONCLUSION: Streaming fast track patients in the emergency department of an Australian tertiary adult teaching hospital can reduce waiting times and length of stay for discharged patients without increasing waiting times for admitted patients, even in an ED with few low acuity patients.

Author(s): Combs S, Chapman R, Bushby A

Citation: Accident & Emergency Nursing, October 2006, vol./is. 14/4(197-203), 0965-2302

Publication Date: October 2006

Abstract: This paper is the first of two articles discussing the implementation and evaluation of an innovative Fast Track process. This current paper explains how one metropolitan hospital identified the need to establish Fast Track in their Emergency Department and the journey that was taken to implement the initiative. The other paper presents the findings of the evaluation of the Fast Track process over a twelve month time frame. Fast Track is the treatment of minor injuries and illnesses by designated clinicians within the Emergency Department. The model was based upon the available literature from studies on Fast Track and "See and Treat" conducted in the United Kingdom, North America and Australia, and was adapted to address the type of presentations arriving at the hospital's Emergency Department. The initial change management process lasted twelve months and as a result Fast Track has revolutionised the way many patients are treated in the Emergency Department. Furthermore, Fast Track has provided nurses with the opportunity to achieve advanced skills in the areas of suturing and plastering.

Source: MEDLINE

Full Text: Available in print at Pilgrim Hospital Staff Library

11. Evaluation of a fast track unit: alignment of resources and demand results in improved satisfaction and decreased length of stay for emergency department patients.

Author(s): Rodi SW, Grau MV, Orsini CM

Citation: Quality Management in Health Care, July 2006, vol./is. 15/3(163-70), 1063-8628

Publication Date: July 2006

Abstract: BACKGROUND: Emergency departments (EDs) are struggling with overcrowding. The Institute for Healthcare Improvement recently concluded that reducing delays is critical to improving all aspects of emergency care. To reduce cycle times and improve patient flow, we developed a separate stream of care focused on low-acuity patients in our academic ED. METHODS: Strict triage criteria were developed, and patients were seen by a physician's assistant in a dedicated section of the ED. Two anonymous surveys (patient and staff) and a time cycle analysis were performed before and after the intervention. RESULTS: Eighty-seven preintervention patient surveys (response rate = 60%) and 91 postintervention surveys (response rate = 79%) were collected. Demographic data were comparable. All domains of patient satisfaction were significantly improved in the postintervention group and were correlated with the length of stay that decreased from 127 to 53 minutes (P < .001). CONCLUSIONS: This study supports an emphasis on improving turnaround time as a primary driver of satisfaction, and demonstrates that a simple intervention characterized by focusing existing resources on the needs of a specific population can significantly improve health care delivery. Thoughtful alignment of resources with the needs of specific patient populations should similarly streamline care in other clinical settings.

Source: MEDLINE
12. Effects of a fast-track area on emergency department performance.

Author(s): Sanchez M, Smally AJ, Grant RJ, Jacobs LM

Citation: Journal of Emergency Medicine, July 2006, vol./is. 31/1(117-20), 0736-4679

Publication Date: July 2006

Abstract: To determine if a fast-track area (FTA) would improve Emergency Department (ED) performance, a historical cohort study was performed in the ED of a tertiary care adult hospital in the United States. Two 1-year consecutive periods, pre fast track area (FTA) opening-from February 1, 2001 to January 31, 2002 and after FTA opening-from February 1, 2002 to January 31, 2003 were studied. Daily values of the following variables were obtained from the ED patient tracking system: 1) To assess ED effectiveness: waiting time to be seen (WT), length of stay (LOS); 2) To assess ED care quality: rate of patients left without being seen (LWBS), mortality, and revisits; 3) To assess determinants of patient homogeneity between periods: daily census, age, acuity index, admission rate and emergent patient rate. For comparisons, the Wilcoxon test and the Student’s t-test were used to analyze the data. Results showed that despite an increase in the daily census (difference [diff] 8.71, 95% confidence interval [CI] 6 to 11.41), FTA was associated with a decrease in WT (diff -51 min, 95% CI [-56 to -46]), LOS (diff -28 min, 95% CI [-31 to -23]) and LWBS (diff -4.06, 95% CI [-4.48 to -3.46]), without change in the rates of mortality or revisits. In conclusion, the opening of a FTA improved ED effectiveness, measured by decreased WT and LOS, without deterioration in the quality of care provided, measured by rates of mortality and revisits.

Source: MEDLINE

13. How does fast track affect quality of care in the emergency department?


Citation: European Journal of Emergency Medicine, February 2006, vol./is. 13/1(32-5), 0969-9546

Publication Date: February 2006

Abstract: STUDY OBJECTIVES: Use of fast track has been shown to improve the emergency department flow of less urgent patients. It has been speculated, however, that this could negatively affect the care of urgent patients. The objective of this study was to determine whether a dedicated fast track for less urgent patients [Canadian Triage and Acuity scale category 4/5 (CTAS 4/5)] affected (1) the time to assessment for urgent patients (CTAS 3), (2) the length of stay for less urgent patients (CTAS 4 and 5), and (3) the left-without-being-seen rate. METHODS: In June 2003, fast track was opened in our emergency department from 13:00 to 19:00 h. A before-after intervention comparison analysis was completed for 1 week in Aug 2002 and the same week in Aug 2003. Data collected included (1) time to assessment of CTAS 3 patients, (2) the length of stay for CTAS 4/5 patients, and (3) percentage of patients who left without being seen. RESULTS: A total of 368 patients were reviewed for 2002 and 380 patients were reviewed for 2003. Median time to assessment of CTAS 3 patients presenting from 13:00 to 19:00 h was reduced from 66 min (Interquartile range: 40, 94 min) in 2002 to 60 min (IQR: 38, 108 min) after fast track was open in 2003 (P = 0.95). Median length of stay of CTAS 4 and 5 patients was reduced from 170 min (IQR: 111, 256 min) to 110 min (IQR: 69, 185 min) (P < 0.001). The overall left-without-being-seen rate decreased from 5% (20/368) to 2% (9/380). CONCLUSION: A dedicated fast track for CTAS 4/5 patients can reduce the length of stay and the left-without-being-seen rate with no impact on CTAS 3 patients seen in the main emergency department.

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8. Factors that affect the flow of patients through triage

Author(s): Lyons M., Brown R., Wears R.

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Abstract: Objective: To use observational methods to objectively evaluate the organisation of triage and what issues may affect the effectiveness of the process. Design: A two-phase study comprising observation of 16 h of triage in a London hospital emergency department and interviews with the triage staff to build a qualitative task analysis and study protocol for phase 2; observation and timing in triage for 1870 min including 257 patients and for 16 different members of the triage staff. Results: No significant difference was found between grades of staff for the average triage time or the fraction of time absent from triage. In all, 67% of the time spent absent from triage was due to escorting patients into the department. The average time a patient waited in the reception before triage was 13 min 34 s; the average length of time to triage for a patient was 4 min 17 s. A significant increase in triage time was found when patients were triaged to a specialty, expected by a specialty, or were actively "seen and treated" in triage. Protocols to prioritise patients with potentially serious conditions to the front of the queue had a significantly positive effect on their waiting time. Supplementary tasks and distractions had varying effects on the timely assessment and triage of patients. Conclusions: The human factors method is applicable to the triage process and can identify key factors that affect the throughput at triage. Referring a patient to a specialty at triage affects significantly the triage workload; hence, alternative methods or management should be suggested. The decision to offer active treatment at triage increases the time taken, and should be based on clinical criteria and the workload determined by staffing levels. The proportion of time absent from triage could be markedly improved by support from porters or other non-qualified staff, as well as by proceduralised handovers from triage to the main clinical area. Triage productivity could be improved by all staff by becoming aware of the effect of the number of interruptions on the throughput of patients.

Source: EMBASE

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