

# Emergency Medicine Programme

## Implementation Guide 6:

### Strategies to Improve the Efficiency of Care Processes in the ED

January 2013

# Introduction



## Contents:

- Improving ED flow
- Optimising ED Team Function
- Efficient use of ED clinical areas

This presentation provides an overview of ways to improve processes, team-work and the use of infrastructure to improve the efficiency of ED patient care.

It focuses on the throughput elements of the systems-wide approaches needed to resolve ED overcrowding and improve ED efficiency.

# A Systems-Wide Approach



A systems-wide approach, across the entire healthcare community is needed to resolve many of the problems that result in avoidable delays in EDs. The ED Input/Throughput/Output model is a framework outlining factors that contribute to ED demand and efficiency.

**Process improvement within the EMP focuses on improving ED Throughput.**

INPUT	THROUGHPUT	OUTPUT
<b>Availability of alternatives</b>	<b>ED Processes</b>	<b>Bed Availability</b>
<b>Demographics</b>	<b>ED staffing</b>	<b>ED/Hospital interaction</b>
<b>Population health status</b>	<b>Access to admitting teams</b>	<b>Alternatives to admission</b>
<b>Referral practices</b>	<b>Diagnostics</b>	<b>Transport services</b>
	<b>ICT Systems</b>	<b>Community Care Capacity</b>

# EMP Approach to Improving ED Efficiency



- There are few quick solutions to increasing ED efficiency but small focussed changes can bring significant improvement over time.
- Not all the measures outlined in this guide will be applicable in all EDs – local customisation is required.
- ED overcrowding should not preclude engagement attempts to improve ED processes - its presence should prompt staff to do all that they can within the ED to improve the elements of care that are within their control.

# EMP Approach to ED Process Improvement



- Clinical practice should never be distorted and the quality of care should not be compromised in the pursuit of time targets.
- Not all time spent in the ED should be considered a delay; complex cases may require critical care-level treatment, extensive clinical investigation and sequential review.
- It should be possible nonetheless to deliver all components of ED-based emergency care within a 6-hour timeframe in at least 95% of presentations. ED patient care of more than 6 hours duration may suggest inefficient ED processes, the occurrence of avoidable delays or that the patient requires admission or Clinical Decision Unit based care.

# The 3:2:1 Approach for Admissions



A **3:2:1** model is recommended so that most patients are managed within a 6 hour time-frame. This New South Wales<sup>2</sup> model proposes that for patients requiring admission:

- EM teams should aim to complete assessment and care **within 3 hours of arrival**
- Admitting teams should aim to complete assessment **within 2 hours of referral**
- Patients should move to a ward area **within 1 hour of completion of assessment** by admitting teams.

This guidance does not apply where admitting team assessment occurs in a ward area. All hospitals should have policies to enable patients referred for admission to be transferred rapidly to in-patient areas if beds are available.

# Improving Flow



In process management terms, ED care is a series of linked queues and service transitions.

Flow describes the smooth movement of patients through ED processes.

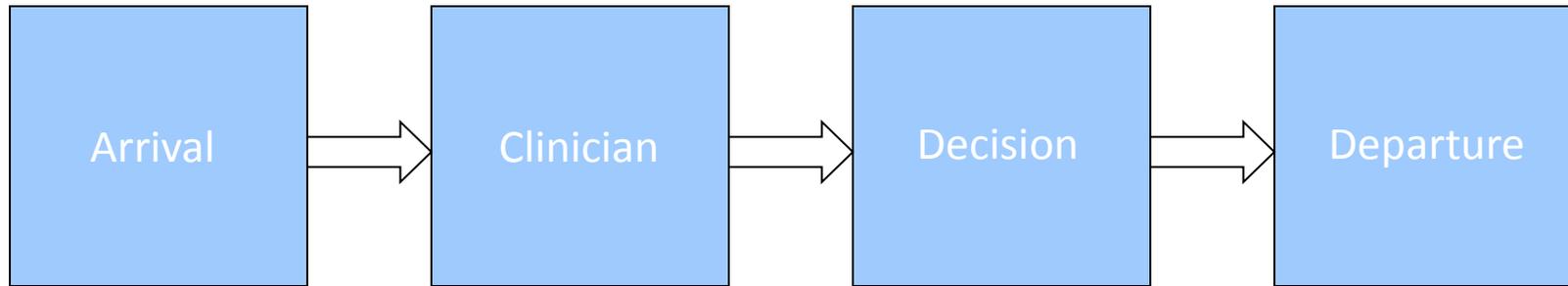
The time spent by patients in EDs can be reduced without compromising the quality of care through the reorganisation of care processes.<sup>4,5</sup>

Flow principles:

- Measure and understand flow variation;<sup>3</sup>
- Identify and reduce flow bottlenecks;
- Eliminate unnecessary tasks.

It is possible to apply these concepts to the stages in a patient's ED care journey.

# The Four Stages of ED Patient Care



The pathway of ED patient care can be reduced to these four key steps.

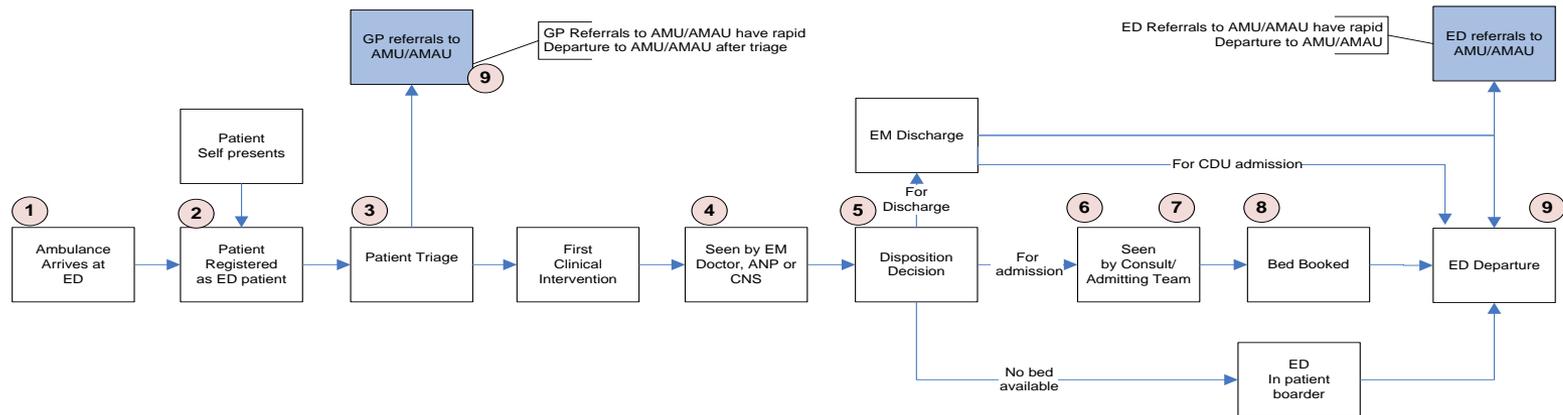
Interim steps on the patient pathway are outlined by the EMP.

Nine time-points will be used by the SDU to monitor ED throughput as a component of acute hospital performance in unscheduled care.

# The ED Patient Path and Time-points



## ED Processes



○ 1 -9 SDU National ED Process Data Points

# Patient Registration



Preventing delays to registration has been shown to reduce overall ED waiting times.<sup>6</sup>

Strategies may include:

- Registration in cubicle (bedside registration);<sup>6</sup>
- Implementation of mini-registration with deferred completion of full registration;<sup>6</sup>
- Matching administrative staffing levels to service demand;<sup>6</sup>
- Ensuring ED Information system interfaces are easy to use with as few screens as possible;<sup>6</sup>
- Organising the work environment and work practices to optimise efficiency. This process improvement activity should be driven by Reception/Administration teams.

# Time to Triage



Strategies to prevent Triage queues:

- Triage is a process, not a place; patients do not have to be in a specific area to be triaged.
- Standardisation of processes and training will improve triage efficiency; the recommended systems to be used in Irish EDs are the Manchester Triage System (MTS) and the Irish Children's Triage System (*in development*).
- Match Triage nurse staffing to service demand, particularly at peak times.
- Embed triage protocols in the ED ICT.
- Prioritise triage of next new patient.
- Use Rapid Assessment and Treatment (RAT) to deliver post-triage care, particularly at peak times.<sup>6</sup>

# Rapid Assessment and Treatment



This is an evidence-based initiative shown to reduce Total ED time:

- It reduces duration of initial triage by deferring non-essential activities
- Protocol-based frontloading of clinical investigation by nursing teams using protocols for blood tests, x-rays and other clinical investigation reduces delays and contributes cost-efficiencies. <sup>5,6</sup>

Resources required:

- The re-organisation of triage and initial assessment work:
  - ✓ Manchester Triage all adult patients and use the Children's Triage System
  - ✓ Rapid ECG for patients with suspected STEMI
  - ✓ Timely pain management
  - ✓ Prioritise other initial assessment processes
- A dedicated nurse may be required at peak times depending on demand though RAT activities should be routinely undertaken by the entire nursing team.
- Senior clinician-led RAT may improve overall ED performance at peak times. This may also be termed Senior Intervention Following Triage (SIFT).

# Triage and Rapid Assessment & Treatment



## Triage

- Manchester Triage
- Children's Triage System
- Pain Assessment
- Infection Control and Prevention Assessment

## RAT (also called Advanced Triage)

- Initial ECG
- Mental Health Triage
- Commence Investigation
  - Blood tests & cannulation;
  - Urine testing;
  - Nurse requesting X-rays;
  - Organise OT, Physio or Medical Social Work Consultation;
  - Clean and dress wounds.
- Streaming to Fast-track/ANP
- Senior clinician-led RAT

# Streaming



Streaming contributes to ED process efficiency and may include:

- Fast-track of low acuity/low complexity care;
- Streaming to ANP services;
- Streaming to Network Local Injury Units;
- Streaming to Multidisciplinary Team assessment (Physiotherapy, Occupational Therapy and Social Work);
- Streaming of Paediatric Emergency Medicine patients within the ED;
- Streaming to Deferred Care;
- Streaming to Condition-Specific Pathways of care.

See *EMP Implementation Guide 5 – ED Streaming* for further information

# Triage to Time Seen by Clinician



Increase the availability of the clinician resource by:

- Optimising the number of patients a clinician can see in each shift:
  - ✓ Re-distributing work that can be undertaken by other team members
  - ✓ Reducing delays between patient assessments by having patients in cubicles ready for examination
  - ✓ Ready availability of clinical equipment and supplies
  - ✓ Streaming of low-acuity, low-complexity patients to Fast-track and ANP streams
- Senior clinician-led RAT to reduce delays for patients to be assessed by a treating clinician.
- Ensuring medical and ANP staffing levels are matched to service demand.

# Time Seen by Clinician to Disposition Decision



Decrease unnecessary delays to disposition decision by:

- ✓ Front-loading clinical investigations and Multi-Disciplinary Team assessment;
- ✓ Ensuring previous clinical notes are available when the patient is assessed;
- ✓ Having systems to alert clinicians to the availability of test results;
- ✓ Organising tasks to minimise the time clinicians spend on non-core work;
- ✓ Providing clinical decision-making tools in the clinical environment;
- ✓ Enhancing the senior supervision of training-grade doctors to expedite high quality decision making;
- ✓ Providing a suitable environment for the completion of clinical notes, case discussion and necessary “thinking time”.

# Disposition Decision to ED Departure



Decrease unnecessary delays to ED Departure by:

- ✓ Facilitating direct admission to ward areas whenever beds available
  - ✓ Admitting teams completing patient assessment within 2 hours of referral
  - ✓ Patients being moved to ward beds as rapidly as possible
  - ✓ Use of a check-list to ensure all discharge documentation is completed
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- Access to patient transport systems is beyond the direct control of the ED but ED teams should monitor access and contribute to initiatives to minimise transport delays for patients.
  - Monitoring of the time from EM discharge (when EM care is complete) to ED departure (when the patient leaves the ED) may uncover delays to ED departure that have causes external to the ED.

# Optimising ED Team Efficiency



- Staff costs are by far the largest component of ED costs so staffing must be managed optimally to ensure value for money.
- Process efficiency is “all about the work”. Task allocation across the team and multidisciplinary team coordination are crucially important.
- All Multi-disciplinary Team roles in the ED can be examined to identify ways to increase their effectiveness and efficiency.
- This section outlines ways to optimise ED team efficiency and suggests questions for ED and hospital management teams to consider in supporting ED team efficiency.

*It's all about the work because it's all about the patients!*

# Optimising ED Team Efficiency



Team efficiency and quality of patient care are enhanced through the provision of:

- An appropriate work environment;
- Adequate and well coordinated clinical supervision;
- Use of standardised multidisciplinary protocols and integrated care pathways;
- Opportunities for professional development;
- Good team communication;
- Excellence in team leadership;
- Clear roles, responsibilities and accountability for all team members.

# Administrative Staff



Administrative Support is crucial to the effective operation of the ED.

People:

- Do Administrative staffing levels match patterns of service demand?
- Are Administrative staff deployed in clinical areas to support nursing and medical teams?
- Do ED Administrative staff receive appropriate training in Customer Care and skills appropriate to their role?

Process:

- Are ED Administrative staff included in process improvement activity in the ED?
- Can administrative workflows be redesigned to improve efficiency?
- Are appropriate stationary/office supplies accessible to all ED staff?
- Do hospital patient record storage systems facilitate ED administrative staff in obtaining patient case notes?

Technology:

- Are ED ICT systems available and easy for Administrative staff to use?

# Nursing



- Are nurses doing non-clinical tasks that could be reallocated to other members of the ED team?
- Is the nursing resource released by reductions in ED overcrowding redirected to the initial stages of ED patient care to improve quality and reduce clinical risk for ED patients?
- Do nursing staffing levels match patterns of service demand and patient acuity?
- What are the current and required nursing competencies to improve overall process efficiency?
- Can procedures for patient handover between shifts and on ward admission be redesigned to make them more effective but less time consuming?

# Advanced Nurse Practitioners



ANPs are a valuable resource in any ED; their clinical time should be used for maximum effect.

- Are ANPs doing “non-value added” tasks that could be allocated to other members of the ED team?
- Do ANP staffing levels match patterns of service demand ?
- Are ANP audit findings and service development activity being translated into quality improvement for patients?

Examples of poor use of the ANP resource:

- × Time spent finding patients and available assessment cubicles
- × Time spent finding supplies
- × Duplication of note-keeping

# Doctors



EM doctors are key decision makers – the effective use of senior decision makers in an ED reduces total ED time. <sup>7</sup>

- Are medical rosters structured to match patterns of service demand and prevent formation of queues?
- How can training needs be balanced with service needs within the medical team?
- Are doctors doing non-clinical tasks that could be reallocated to others?

Examples of the inefficient use of the medical staff resource:

- × Time spent finding patients and empty assessment cubicles
- × Time spent finding supplies
- × Duplication of note-keeping
- × Undertaking unnecessary clinical investigations
- × Having to make more than one phone call to contact an admitting team.

# Improving Flow: Experienced Emergency Clinicians



Senior clinicians are an expensive resource – ensure their clinical time is used effectively in direct patient care, clinical decision making and supervision.

Use their time wisely - ensure that tasks that can be safely delegated to other team members do not default to senior clinicians.

- Consultants in EM can work more efficiently than doctors in training.
- Middle Grade doctors - Registrars, Specialist Registrars and Staff Grade Doctors - are invaluable members of the EM clinician team.
- Advanced Nurse Practitioners provide expert patient care within their scope of practice.

*Experienced EM doctors are able to manage the entire spectrum of ED presentations. Although many professional groups contribute to clinical decision making in the ED, some can only manage limited cohorts of patients. If deployed when there is insufficient demand from their target cohort, these practitioners may not have sufficient work to do, resulting in inefficiencies (termed 'carve-out'). This scenario is prevented by having sufficient numbers of "pleuripotent" EM clinicians.<sup>8</sup>*

# Therapy Staff



- Are appropriate Therapy services available to the ED to contribute to admission avoidance strategies, provide timely patient care and contribute, where appropriate, to ED review clinic activity?
- Can nursing staff refer patients directly to Therapy services reducing the time to patient assessment?
- Is duplication of assessment avoided through collaboration between ED Therapy and Medical Social Work services?
- Are Therapist staffing levels designed to match service demand?
- Is there good communication between Therapists and other members of the ED team?

# Health Care Assistants/Care Attendants



The Care Attendant role is invaluable to the ED team; their work contributes greatly to process efficiency in the ED.

- Are Care Attendants trained to undertake clinical tasks appropriate to their role?
- Are good systems in place to ensure patients on trolleys are transported in a timely manner to and from areas in the hospital?
- Are Care Attendants expected to undertake tasks not appropriate to their role?
- Are Care Attendants included in ED Clinical Governance activity?
- Do Care Attendant staffing levels match service demand and patient acuity?

# ED Infrastructure and Supplies: Trolley Bays



Is access to ED trolleys managed effectively?

- ED overcrowding undermines our ability to use ED infrastructure appropriately.
- Patients who do not need trolleys for the entirety of their ED stay should not remain on trolleys if other patients need them.
- Patients who need trolleys must have access to them. Clinicians should inform CNMs whether patients need to remain on trolleys.
- Are there efficient systems in place for ED trolleys to be cleaned and redressed between patients?
- Are there systems in place to bring extra trolleys to the ED at short notice, if necessary?
- Are there protocols in place to direct the use of telemetry and monitoring to prevent access block in monitored bays?

# ED Infrastructure and Supplies: Sub-wait



- A seated sub-wait area (results waiting) should be used to accommodate patients who do not need trolleys when waiting for clinical investigation results.<sup>9</sup>
- A private room should be available for patient re-assessment and discussion once the results are available.
- Ideally, patients should not be returned to the waiting room when waiting for results as this is often perceived as a retrograde step by patients.
- Patient comfort should be maximised in waiting rooms and sub-wait areas.
- Patients in sub-wait areas should be capable of being observed by nursing staff.

# ED Supplies and Infrastructure



## Equipment and supplies:

- Is ED equipment accessible to clinical staff without wasting time searching for supplies?
- Are there efficient systems for ED equipment to be maintained and repaired?
- Are there efficient and effective systems for inventory management?

## Infrastructure:

- Standards for ED infrastructure are referenced in the EMP Report 2011.
- Any ED build project is an important opportunity to ensure that the ED infrastructure reflects and supports efficient care processes.

## Process Improvement:

- Could processes be organised to minimise time wasted walking between areas in the ED?

# Summary



This presentation outlines ways to improve the efficiency of ED care processes through:

- Improving ED flow
- Optimising Team function
- Efficient use of ED infrastructure and supplies

Further information is available in the references to this presentation and the EMP Report 2012.

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