

Emergency Department Models of Care

July 2012



Health

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SHPN (HSPI) 120204

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August 2012



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Executive Summary

Since the publication in 2006 of the 'Emergency Models of Care' document for NSW Hospitals, the acceptance and implementation of emergency care models have broadened. This has been coupled with the creation of new models to assist Emergency Departments (ED) to provide safe and timely access to emergency care. Six years later, PricewaterhouseCoopers has been engaged to, in consultation with the NSW Ministry of Health (NSW Health), the Emergency Care Institute and the community of those involved in Emergency Care, revise this document.

In 2011, NSW Health carried out a review to discover what current models of care (MOC) are in place in EDs and the effectiveness of these models for managing demand for their services. The review identified challenges faced by EDs in the operation of current models, key principles required for models to operate effectively and monitoring measures for ongoing review and quality improvement. The review also aimed to create a standardised suite of models of care to assist hospitals to provide access to timely, safe and quality emergency care and to meet the National Emergency Access Target.

Based on this review and our consultations, this revised Models of Emergency Care Document (the Document) includes ten Emergency Department models of care and a number that are external to the ED and support the hospital in managing demand for emergency care. Each model has been designed to facilitate the ideal patient journey through ED.

The Document includes models that are likely to be in place in EDs currently and require revision, as well as those that have been newly developed in NSW. It is intended that Hospital Executives and the ED use the Document to:

- Assess the current Models of Care in their Emergency Departments using the given criteria
- Assess the potential to introduce models to their hospitals that may improve patient care and flow, the patient experience and clinical outcomes

- Complete a self-assessment of each relevant MOC to identify opportunities for improvement within their own hospitals, as well as to identify key areas that require ongoing monitoring for their effectiveness.

After considering the components of each model, the ED and hospital should have a clear understanding of how the model works, what data is required to demonstrate a need for the model, key factors required to implement the model and measures to assess the model's effectiveness.

The Document also describes the benefits and challenges experienced by EDs who have previously introduced these Models of Care. Reflecting on these lessons, the hospital and ED can plan accordingly for a model's implementation in their own location. A 'case for implementation' is given for each MOC which will enable the ED and hospital to address key questions related to the need for implementation, and hence improve decision-making for planning and implementation.

Created to support this document is a self-assessment tool for each Emergency Model of Care. The purpose of the tool is to allow Local Health Districts to assess if a MOC is appropriate for their ED or if an implemented MOC is functioning to its utmost potential. The tool is intended to be used at an ED level in a collaborative approach with all key stakeholders.

The Self-Assessment tool rates the effectiveness of each model. Results of the self-assessment are then linked to responses based on the key principles described for each MOC. A robust evaluation of each model can be used to generate an action plan for an ED to improve the functioning of current Models of Care being used, or to consider the implementation of new models.

It is recognised that not all of the Models of Emergency Care are applicable for all NSW Emergency Departments. Decisions to implement them will be made based on the staff, patient presentations and space available in the ED to operate each model.

The demands placed on Emergency Departments are obvious, as are the needs for the efficient use of resources and processes to improve the timeliness, safety and quality of emergency care. The Models of Care presented in this document represent a synthesis of the most current information and analysis of options for the effective operation of EDs. They should be considered an important resource for improving emergency care for patients, and part of a whole-of-hospital approach that will support the ideal patient journey and achievement of the National Emergency Access Targets.

The need for Emergency Care Models

1.1 Emergency Care in Australia

Emergency Departments (EDs) are under increasing pressure due to the high demand for ED access to available inpatient beds. This lack of available resources to meet emergency demand is leading to crowding and access block resulting in prolonged patients waits for an inpatient bed.

While efforts are being made to address this, including improving available bed stock and the development of hospital avoidance programs, EDs must continue to improve their operational efficiency. ED presentations across all triage categories have increased in NSW EDs ¹, resulting in increased admission workloads, ED crowding and delayed access to emergency care. The number of attendances has increased to the point that 11 NSW EDs in 2010/11 had greater than 50,000 presentations ².

One way to meet the demand for emergency care is to optimise ED and hospital bed capacity. The recent 'National Health Reform Agreement on Improving Public Hospital Services' includes a measure to improve this. The National Emergency Access Target (NEAT) aims to improve access to emergency care by reducing access block and its associated negative outcomes. This target requires ED patients to be admitted, referred for treatment in an inpatient unit, or discharged within four hours.

Only by engaging a whole-of-hospital can the obstacles to effective patient flow be removed and the NEAT target achieved ³. For example, effective patient discharge and ward transfer mechanisms can facilitate the timely transit of the emergency patient into a hospital bed, as can improving the time to inpatient acceptance for ED patients. However, in NSW hospitals, the target is currently not being achieved. Significant changes will need to occur in the acute hospital and community care settings to do this.

ED overcrowding has been increasingly prevalent for over 20 years ^{4,5}. Evidence from initiatives to address overcrowding suggests a need to change current practices throughout the system to meet access targets, make better use of resources and maintain the quality of care delivery.

The limitations of current ED and hospital processes include:

- When ED front-end processes are not streamlined. These processes include: patient arrival and triage, registration, bed or clinical area placement, a review by a nurse and the medical assessment. The patient can often encounter lengthy periods of waiting between each of these processes.
- When the patient is assessed by a senior medical officer only after spending considerable time with junior medical staff, or other clinical providers, leading to delays in decision-making and implementing treatment.
- When patients are placed into a bed on their arrival, regardless of whether their presentation necessitates a bed. This can lead to subsequent bed block within ED rather than the efficient use of beds.
- When there are an increasing number of undifferentiated patients in the ED waiting room who are at risk of deterioration.
- When there is a delay for review and acceptance of emergency admissions by the inpatient team, which may be due to many factors including competing work demands, and lower prioritisation of new admissions.
- When there is a lack of available beds in the hospital, resulting in access block, crowding and no treatment and/or bed spaces in the ED. As a result, ED patients may be managed outside the allocated clinical spaces of ED. Furthermore, ambulances may off-load ED patients into unmonitored areas.
- When hospital back-end processes are not streamlined, resulting in delayed discharge, and the 'least sick' patients occupying designated inpatient beds while new, emergency-admitted patients queue in the ED awaiting an inpatient bed.

1 NSW Health Annual Report: Total ED Attendances by Year 2000-01 to 2008-09 & *DPE Predictions: 2009/10 to 2010/11.

2 NSW Ministry of Health, Health Information Exchange extraction on 6th October 2011.

3 Department of Health and Ageing. National Health Reform. Expert Panel Review of Elective Surgery and Emergency Access Targets under the National Partnership Agreement on Improving Public Hospital Services. Section 3: The Way Forward – Emergency Departments. (Accessed 04.04.12) <http://www.yourhealth.gov.au/internet/yourhealth/publishing.nsf/Content/Expert-Panel-Report-Section-3>

4 Wilner J, Gentle C, Halfpenny J, Heins A, Mehrotra A, Mikhail M, & Fite D, Optimizing Emergency Front-End Operations, *Annals of Emergency Medicine*, 2010, vol. 55, no.2, pp142-160

5 Forero, R., Hillman, K. M., McCarthy, S., Fatovich, D. M., Joseph, A. P. and Richardson, D. B. (2010), Access block and ED overcrowding. *Emergency Medicine Australasia*, 22: pp. 119–135. doi: 10.1111/j.1742-6723.2010.01270.x

1.2 A review of Emergency Models of Care in NSW

In 2006, as part of the Clinical Services Redesign Program for NSW Health, a Models of Emergency Care ⁶ (MOC) document was created. The models of care document aimed to assist Emergency Departments and hospitals in providing the ideal patient journey as developed by the NSW Health Emergency Care Taskforce. It provided a summarised set of possible ED processes and included experiences from NSW EDs, other jurisdictions and published literature. Since publication, there has been widespread acceptance and introduction of these models into NSW EDs, albeit in different forms.

With increasing workload pressures on EDs and hospitals, the NSW Ministry of Health carried out a review in 2011 to examine the effectiveness of existing Models of Care and discover any new models in place. The purpose of the review was to construct a standardised suite of models of care that will assist hospitals to provide access to timely, safe and quality emergency care, while reconfiguring downstream operations to assist the hospital to meet the National Emergency Access Target.

The review set out to:

- Define high-level principles for contemporary models
- Explore new ED models
- Inform capital planning of future EDs.

The review considered multiple sources of data and consulted widely with key emergency care stakeholders. A summary of issues revealed:

- ED models of care are not standardised.
- Proven models of care have not been implemented using a standardised process.
- Model of care business rules are not consistently adhered to, resulting in the reduced effectiveness of the models.
- A lack of confidence in the models of care by clinicians can result in a decline in their application.

Findings from the review revealed the need to revise and update the previous 2006 Models of Emergency Care to include:

- A revision of existing models of emergency care
- Contemporaneous and innovative models that have since been developed

- A set of high-level principles for each model
- A summary of the challenges and lessons learnt from other EDs in implementing the models
- A self-assessment checklist for EDs and hospitals to evaluate their existing Models of Care and take action to improve and standardise current practice.

⁶ NSW Department of Health, 2006, Models of Emergency Care, NSW Health Clinical Redesign Program.

The ideal ED patient journey

The *Ideal Emergency Department Journey* outlines elements and principles that support the ideal journey of all patients as they travel through an Emergency Department (ED) in NSW.

It is a fundamental and underlying principle that only patients requiring the specialist care that an ED can provide should be managed in an ED. Patients who do not require medical assessment or resuscitation, but do require hospital admission for further care, should not be admitted via the ED. Similarly, patients for whom another community or hospital service can provide the required care should access that service directly. In general, transferring patients from one ED to another for repeated assessment represents an inefficient use of health service resources and should be avoided. If a health service, for local reasons, decides to use an ED to provide non-ED services, this must be explicit in service agreements and the resourcing of that ED.

The ideal patient journey has been used to develop the new models of care described in this document. To deliver the ideal journey there must be a strict focus on:

- Getting the right **patient** to the right **place** for their care that is supported by the right **resources** to ensure the smooth flow of patients through the ED.
- Early assessment and streaming to an appropriate MOC both within the ED and outside the ED.
- Designated specialty MOC for patient cohorts.
- A team approach to patient care.
- Ensuring tasks are performed by the provider who can most efficiently perform the task (where 'efficiency' balances quality, cost and minimising duplication of work).
- Coordinated patient care including between specialist consultants, diagnostics services and community care.
- Strong monitoring and evaluation measures.
- Adherence to the principles of the new models of care.

The ideal journey has several key areas:

- Beginning the journey
- Triage and registration
- Resuscitation and trauma

- Acute Care of complex, non-ambulatory, high acuity patients (see Acute care and 2 : 1 : 1)
- Early senior assessment and streaming of patients to appropriate MOC (see early ED Senior Assessment Streaming, Clinical Initiatives Nurse)
- Care for lower acuity, complex, non-ambulatory patients (see Sub-acute, Early Treatment Zone)
- Care for non-complex, ambulatory patients (see Fast Track and the currently being piloted 'Urgent Care Centres')
- Non- ED models (see Short Stay Units, Medical and Surgical Assessment Units).

2.1 Characteristics of the Ideal ED Patient Journey

The characteristics of the ideal ED patient journey are part of a patient-centric approach to the management of patient cohorts. They are aimed at:

- Reducing the delays in the patient journey through early senior medical assessment of patients, fast tracking and early initiation of clinical care.
- Providing faster access to care through:
 - a coordinated team approach to patient care
 - eliminating duplication of processes
 - reducing unproductive waiting periods
 - reducing the total time spent in an ED
 - standardising care to reduce variation for conditions such as chest pain.
- Providing multiple MOC options to assess and treat patients.
- Realigning staff roles and resources to establish Models of Care.
- Streaming patients to the correct MOC, reducing the incidence of models blocked with inappropriate patients for that model.
- Using designated beds for patients who need a further period of assessment, investigation or observation before movement to the next MOC or being discharged home.
- Ensuring that people with minor injuries or illness are treated and discharged efficiently.
- Providing appropriate locations outside the ED for

patients who need only a short-stay admission.

- Promoting the NSW Health policy for the direct admission from the ED to the inpatient unit.
- Promotion and provision of whole-of-hospital resources to support the streamlined flow of patients from ED to the inpatient units and back to the community.
- Improving the patient experience when accessing Emergency care.

2.2 Ideal patient journey

The Figure 1 illustrates the desired patient flow through an ED in a NSW hospital. The emphasis of the journey is to stream patients into the most appropriate model of care for them as early as possible. This is achieved by focusing on a quick triage and promoting early assessment, intervention and disposition.

Not all patients will be assessed and treated by the Clinical Initiatives Nurse as part of the ideal patient journey. Additionally, the triage nurse can for a small number of presentations, refer the patient to areas outside ED. Examples of this are to the Medical Assessment Unit or the trial of the 'Urgent Care Centre'.

It is important to note that a critical part of the ideal patient journey is the patient experience. The patient experience is influenced by many factors - the attitudes of staff, access to timely and appropriate care, the patient's confidence in the staff caring for them, and the quality of the care provided. Patient experience is also influenced by whether it meets the patient's expectations and the level of communication provided along all points in the patient journey. A positive patient experience is considered an important indicator of the effectiveness and quality of care ⁷.

2.3 Direct referrals

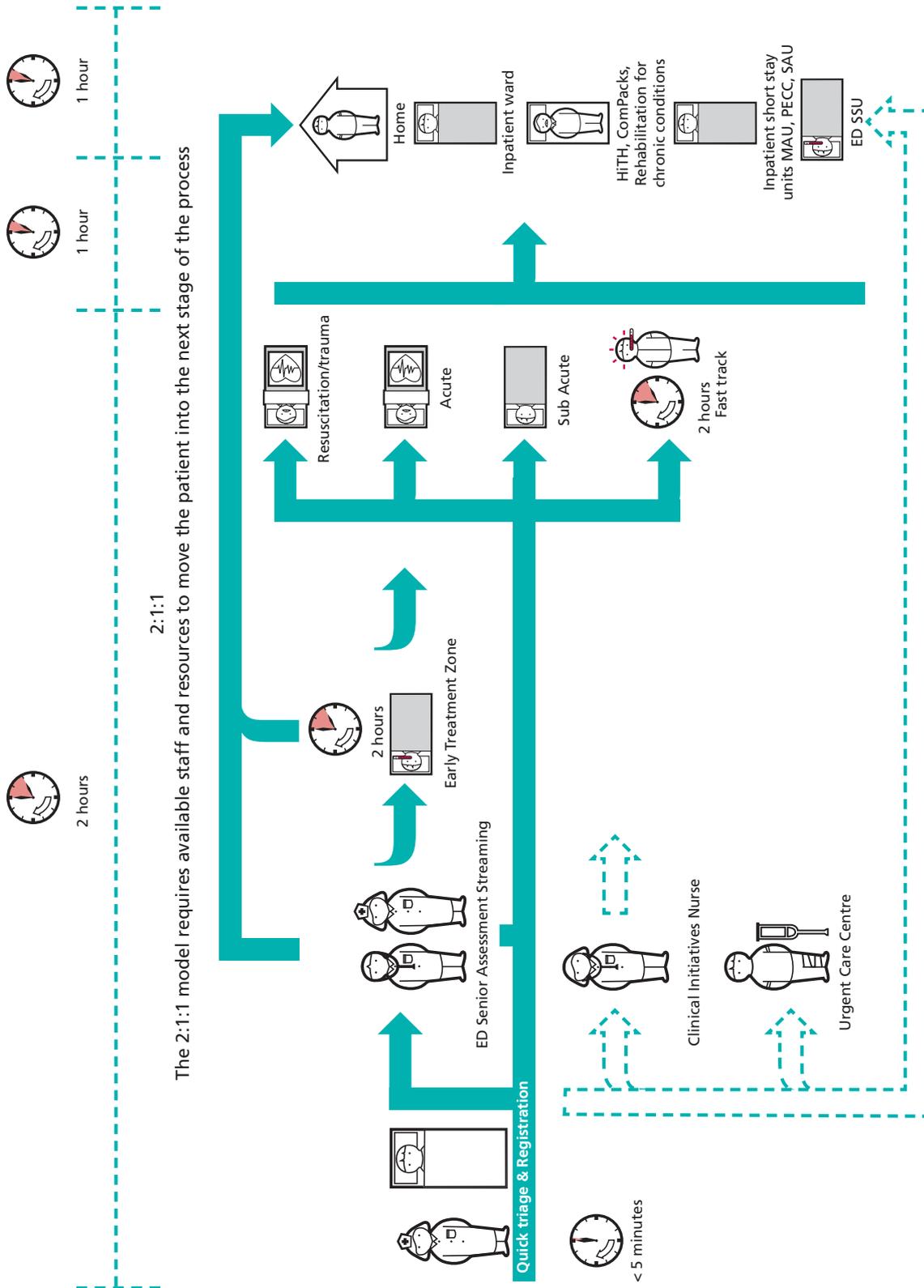
There are many patient presentation types to acute care that do not need ED care and would benefit from a direct referral to an alternative service, a speciality service or Model of Care. A direct referral to another provider would be the ideal patient journey for those patients who need care, but do not require emergency care. These referrals should be made directly from the referral source or from Triage under appropriate guidelines. Examples of patient groups and referral destinations are provided below. This

list is not exhaustive and includes:

- Mental health
- Dental
- Sexual assault without injuries requiring ED management
- Early pregnancy assessment service
- Palliative care
- Aged care assessment and rehabilitation
- Specialist referral (rooms or direct to inpatient ward)
- Hospital in the home and post-acute care services
- Outpatient's clinic referral
- Urgent Care Centre
- Medical Assessment Unit
- Surgical Assessment Unit
- Post-operative review patients
- Drug and alcohol patients
- Fracture reviews.

⁷ Ontario Hospital Association, 2011, Leading Practices in Emergency Department Patient Experience, Prepared for the Ontario Hospital Association by InfoFinders 2010/2011.

Figure 1: The Ideal Patient Journey with streaming to models of care within ED and external to ED.



Emergency Department Models of Care

The following section describes all the Models of Care in the ideal ED patient journey. It provides detailed information about the current ED models, developed to improve patient flow through the ED and explains how they work, the benefits and challenges, the case for change and monitoring measures for success.

The Models of Care are relevant to all EDs that are level three and above. While they may not be applicable to EDs with no onsite medical staff, the principles are the same for all NSW EDs. These principles are that: EDs cater to emergency patients – patients who would be better served by an alternative care provider should be referred directly to that provider; the ED should not be used as an alternative when other services are unavailable; care should be streamlined; and there should be no duplication of assessment and treatment.

The information in each MOC will help the ED and hospital to understand:

- The key principles of the model.
- The key requirements to operate the model.
- Considerations to help understand why your ED would use the model.
- Benefits and challenges of using the model.
- The monitoring measures that can be used to assess the model effectiveness and success.

The following descriptions should be used as a guide to understand the potential options available to improve patient flow and clinical outcomes in your ED. The models are set out in tables and provide the user with essential information to determine if the model is suitable for your ED. The MOC tables include the following sections:

- *What is the model?* This section explains how the model functions. Use this to determine if the characteristics of the model meet the needs of your ED to improve patient flow and clinical outcomes.
- *Why use the model?* This section details the reasons why the ED would implement this model by highlighting key areas of ED that the model can improve. Use this information to determine if the model can assist your ED to improve patient flow and clinical outcomes.

- *Key principles.* This section explains in more detail the essential requirements of the model to function effectively. Without these principles in place the likelihood of the model failing is high. Determine if your ED can successfully adhere to the principles. Also use this section as a reference when determining business rules, policies and processes for the model in your ED.
- *Benefits of the model.* This section reveals the expected benefits of the model and provides examples of potential improvements that you may expect if the model is implemented correctly. Analyse your current performance data to determine if these benefits can improve patient flow, clinical outcomes and performance measures in your ED.
- *Challenges.* This section highlights key challenges that have been experienced by others when implementing the model. Use this as a guide when designing your implementation plan to mitigate potential issues that may arise.
- *Case for implementation.* This section includes questions to support the need of the ED to implement the MOC. Use these questions as a reference to determine if there is readiness in your ED to implement the model. They can also be used when designing your implementation plan or when assessing if your model has been implemented correctly.
- *What you need to run the model.* This section explains the essential requirements to run the model successfully in your ED. This includes the physical space, staffing and business rules of the model. It is important to use this section as a reference when designing your implementation plan and when assessing if your model has been implemented correctly.
- *Monitoring measures.* This section outlines suggested monitoring measures that your hospital can use to evaluate the effectiveness of the model. Use these measures when implementing or assessing an established MOC as they will help to determine the effectiveness and highlight any weakness of the model.

After considering each component of the model, your Emergency Department should have a clear understanding of how the model works, the potential benefits and

challenges, the key aspects of what is needed to implement the model and the measures to assess the model's effectiveness.

Other model of care considerations Paediatric emergency patients

The Model of Care document is applicable to both paediatric and adult emergency patients. The principles and other information included in each model can be applied to the care of the paediatric patient.

For the majority of EDs, catering to a mix of paediatric and adult patients, the unique needs of paediatric patients and their families must be considered. The factors for consideration in model selection and implementation are:

1. The physical space and geographical layout of the ED. This will influence the care of paediatric patients in the different models of care.

In EDs with a separate and designated paediatric area, streaming to that area may be all that is required. For other EDs, local guidelines will determine the applicability of the model for paediatric patients and whether they will be assessed and treated in an area that also treats adult patients. For example, paediatric patients streamed to a mixed Fast Track model for assessment and treatment.

In considering the model for both paediatric and adult patients, it is important to consider the emotional needs of a sick or injured child, and that they should be protected from stressful situations in ED and where possible, exposure to adult patients.

2. *The skills and level of experience of staff in caring for paediatric patients.* In an ED it is necessary to have staff with appropriate training and experience in the emergency management of children and adolescents – this includes medical and nursing staff. The skill level of staff is an essential component of any model of care that caters to children and needs to be well thought-out when planning and implementing a model of care.

The Australasian College for Emergency Medicine policy on Hospital Emergency Department Services for Children can be found at: http://www.acem.org.au/media/P11_Hosp_ED_Services_for_Children_-ACP-ACEM.pdf. The Royal Australasian College of Physicians also has guidelines on standards for the care of children and adolescents in health services.⁸

8 National Standards for the Care of Children and Adolescents in Health Services RACP, 2008: <http://www.racp.edu.au/index.cfm?objectid=393E4ADA-CDAA-D1AF>

Staffing the ED Models of Care

Operating multiple models of care in an ED requires good governance and coordination, and sufficient numbers of appropriately skilled staff to operate each model. A lack of appropriately skilled staff can lead to failure of the model and suboptimal clinical outcomes for the patient. For successful operation and staffing of multiple models, several factors need consideration.

Clinical Leadership. To effectively staff multiple models of care in an Emergency Department requires clinical leadership for effective governance, operation and safe delivery of care for patients. The ED medical and nursing leaders are responsible for the effective communication and coordination of care across all ED models in place. With multiple models, it is essential that there is a well coordinated approach to delivery of care to avoid any one model operating effectively at the expense of other areas of ED, and to prevent models operating in isolation.

Clinical Expertise. The models of care in this document provide guidance to the skill mix of staff required for each model. To effectively operate multiple models in your ED, the staffing levels and skill mix requirements should be determined based upon analysis of activity data and the volume of patients who will be treated.

The skill mix and expertise of staff needs to match the requirements of each model to deliver care – providing the **right skills** in the **right place** to make the **right decisions**. There is recognition of the specialist emergency nursing skills available, such as the Nurse Practitioner, Clinical Initiatives Nurse, Advanced Clinical Nurse and the First Line Emergency Care (FLEC) trained nursing staff.

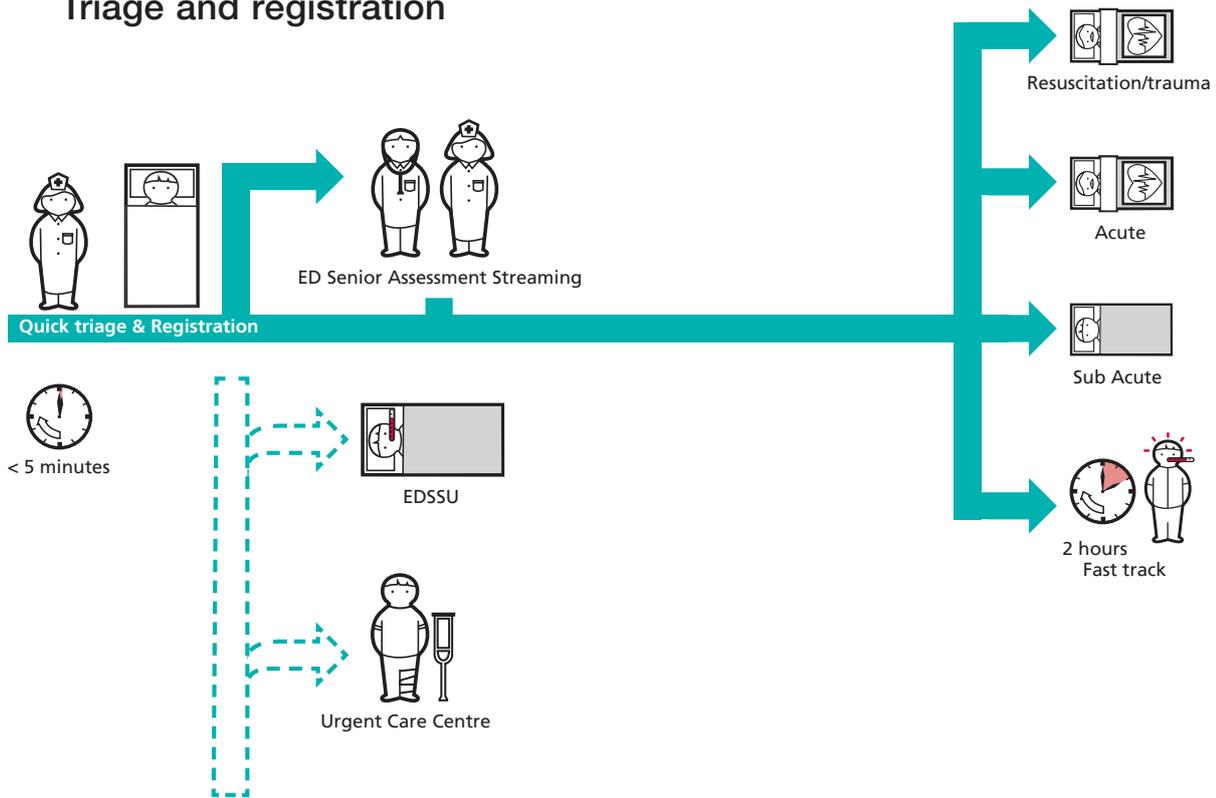
This document also recognises the importance of the availability of senior medical clinical skills for optimal decision making and resource allocation at the earliest point in the patient's journey, supervision of ED clinical care delivery, and the important additional roles of specialist senior medical staff in supervision and training of junior clinical staff.

In providing clinical expertise in each model appropriate training and education of staff is essential and this requires ongoing and updated training as required. Establishing and maintaining the skills and expertise of staff is critical to providing safe and quality emergency care.

In determining your skill mix requirements for the ED, you can refer to the NSW Health Emergency Department Workforce Research Project ⁹ and ED Workforce Analysis Tool ¹⁰ and other specific resources ¹¹.

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- 9 NSW Department of Health, 2010, NSW Health Emergency Department Workforce Research Project: Final Report. 2010 http://www.health.nsw.gov.au/pubs/2010/ed_workforce_research.html
- 10 NSW Health 2011, Emergency Department Workforce Analysis Tool, 2nd Edition http://www.health.nsw.gov.au/pubs/2011/edwat_ed2.html
- 11 ACEM recommendations http://www.acem.org.au/media/policies_and_guidelines/G23_Constr_Workforce.pdf

3.1 Triage and registration



What is the preferred model?

Triage and registration is streamlined to facilitate an efficient process that does not itself create a barrier to further assessment and clinical care. Only essential triage functions should occur at the point of triage: the determination of patient acuity and level of urgency, basic first aid if needed, and referral to the most appropriate area for treatment. This can include models of care both within the ED and within the hospital.

This is followed by a quick registration by a clerical officer co-located with the triage nurse which is an essential element of the process. Full registration of patients can then be completed by clerical staff at the bedside or another ED location.

Why use the preferred model?

By focusing on the core role of triage and limiting triage assessments to under 5 minutes, the time spent waiting to be triaged can be reduced and timely patient access to care improved. This can also reduce the pressure on triage staff, reducing workload by limiting redundant assessments or treatment interventions.

Key principles

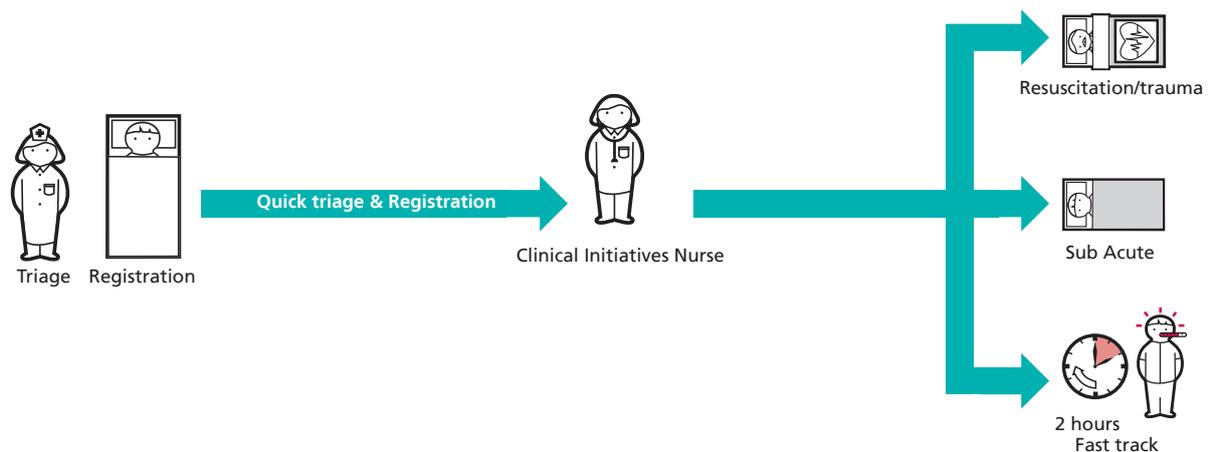
- Triage is the first point of contact for the patient on arrival in ED.
- To reduce queuing, co-locate triage and registration or use mobile registration by clerical staff.
- Promote 'quick triage' by:
 - Limiting triage to an under 5 minute encounter
 - Removing patient interventions at triage apart from basic first aid
 - Avoiding duplication of processes by multiple care providers (doctors, nurses), such as non-decision-makers taking a detailed medical history.
 - Facilitating the timely movement of patients to the next clinical process by maintaining available bed or treatment spaces in the ED.
- Adopt a flexible approach to triage with documented plans for peak periods or surges in demand.

Benefits of the model	<ul style="list-style-type: none"> ■ Improved patient and staff experience ■ Reduced waiting time to be triaged ■ A faster triage process ■ Early streaming to Models of Care ■ Reduced unnecessary workload for the triage nurse ■ Mobile (bedside) clerical registration allows clinical care to be prioritised over clerical processes.
Challenges	<ul style="list-style-type: none"> ■ Physical barriers to co-locating clerical registration and triage ■ The lack of existing capacity to support quick triage (i.e. space to move the patient to) ■ The existing health service culture of requesting additional interventions at triage ■ Inadequate clinical resources in smaller EDs lead to increased pressure on the triage nurse to undertake detailed assessments at triage and commence clinical care. ■ Inflexible local processes whereby patients are not referred to more appropriate hospital or community services.
Case for implementation	<p>To assess the successful implementation of this model in your ED, consider the following:</p> <ul style="list-style-type: none"> ■ Triage is a fundamental component of ED management; all presenting patients undergo triage. The exception is triage bypass for a specific cohort of patients, for example, when pre-arrangements have been made to transfer patients directly to the cardiac catheter laboratory. ■ What competency frameworks are in place for triage staff? ■ What staff have achieved competency to work at triage? ■ What are the expectations of staff working at triage? ■ Are there flexible and documented processes in place to manage peak periods or surges of demand at triage (for example, additional staff available to triage for short periods of time during the peaks)? ■ What models of care are in place to support a quick triage process? ■ What capacity do you have to support a quick triage process?
What you need to run the model	<p>Staff</p> <ul style="list-style-type: none"> ■ Triage should be undertaken by suitably trained and skilled Registered Nurses as per 'PD2008_009 Triage of Patients in NSW Emergency Departments'. ■ Each hospital or LHD should have local protocols for triage competence. It is recommended at a minimum that the Emergency Triage Education Kit (Etek) is completed in conjunction with a period of supervision. ■ Fluctuations in triage demand will require EDs to assess if one or two triage staff are required to meet demand for short periods. This needs to be a detailed and standardised practice. <p>Business rules</p> <ul style="list-style-type: none"> ■ Guidelines on what activities should and should not be undertaken at triage should be in place. ■ Well-documented processes should be in place for triage and registration that are understood by all Emergency Department staff. ■ Develop monitoring guidelines to assess if quick triage is being undertaken by staff. ■ ED processes and available capacity are in place to enable a quick triage and avoid 'defensive' triage practices, for example carrying out a lengthy and detailed triage during busy periods when a patient may be required to wait.

Monitoring and
evaluation

- Time from start to end of triage
 - The appropriateness of triage category allocation
 - Number of occasions when flexible plans were activated to support peak periods of demand; analysis to understand the underlying causes (for example, growth in ED presentations, downstream system delays)
 - Time to treatment by a clinician, by triage category.
 - Patient complaints and adverse events.
 - Staff feedback
-

3.2 Clinical Initiatives Nurse



What is the model?

The Clinical Initiatives Nurse (CIN) is a senior nursing role to manage patients queuing in the ED waiting room. The three priorities of the CIN role in the emergency department waiting rooms are:

1. Review patients within their triage benchmark time to ensure they remain clinically safe
2. Provide ongoing communication with the patient
3. Initiate diagnostics or treatment with a particular emphasis on managing the patient's pain (NSW Ministry of Health 2012). For detailed information about CIN, please refer to <http://www.ecinsw.com.au/CIN>

It should be noted that this model may not be utilised in rural EDs where Registered Nurses in the rural sector may complete the First Line Emergency Care Course (FLECC). This course prepares and credentials them as an Advanced Clinical Nurse (ACN) who can provide early appropriate management of acute and life threatening conditions, and relieve pain and discomfort for patients at hospitals where Medical Officers are not immediately available. More information can be found at: <http://www.ecinsw.com.au/flecc>

Why use the model?

To improve the quality of care for patients in the waiting room. This includes reassessment of waiting room patients, early commencement of diagnostics and treatment and communication of wait times and ED processes.

Key principles

- Maintain a nursing presence in the ED waiting room to facilitate a safe clinical environment
- Communicate with patients and carers regarding ED processes and provision of relevant education on their health issues
- Assess patients following triage with a view to:
 - initiate diagnostics or treatment (with a set end point)
 - escalate care, if required.
- Refer patients to appropriate services that may be external to the ED, for example a Medical Assessment Unit (MAU).

Benefits of the model	<ul style="list-style-type: none"> ■ The triage process is streamlined by allowing the triage nurse to focus on assessment of acuity while the CIN monitors the waiting room ■ Improved safety in the waiting room by monitoring patients to detect changes in clinical urgency and escalating care if needed ■ Reduced anxiety and aggression in the waiting room by communicating waiting status and ED processes to patients and family ■ Ability to commence early diagnostics services or treatment ■ Improved patient flow by referring patients to other MOCs.
Challenges	<ul style="list-style-type: none"> ■ During times of peak activity, the CIN becomes a second triage nurse, covers meal breaks of other ED staff or is utilised as an 'extra' nursing staff member within the ED — this leaves waiting room patients unattended. ■ Triage staff may become complacent about sending patients to the waiting room as they know the CIN will be monitoring the waiting room. ■ Medical staff waiting to attend patients until after the CIN nurse has carried out diagnostics testing, or being delayed in assessing patient by CIN assessment process.
Case for implementation	<p>To assess the need for implementation or the refinement of this model in your ED, consider the following:</p> <ul style="list-style-type: none"> ■ Does your ED have significant capacity challenges requiring clinical queue management in the waiting room? ■ Does your ED have an appropriate system for monitoring the waiting room? ■ Does your ED have established communication processes for patients in the waiting room? ■ How is your ED performing in triage to treatment times (especially in category 4–5)? ■ What is the percentage of patients in your ED who did not wait? ■ Has your ED experienced adverse events and incidents for patients in the waiting room? ■ Are there multiple complaints from patients and family in the waiting room?
What you need to run the model	<p>Staff</p> <ul style="list-style-type: none"> ■ A Registered Nurse with appropriate emergency nursing experience across a broad range of ED roles ■ The completion of the CIN educational program and competency in the use of relevant CIN practice protocols ■ Recognition by the organisation of the CIN role as a dedicated resource, not to be implemented on an ad-hoc basis or regularly removed during peak activity or to cover unplanned leave or other vacancies. <p>Skills required by staff</p> <ul style="list-style-type: none"> ■ Confidence, knowledge and experience to practise proactively in a self-directed role with awareness of the role scope and boundaries, whilst maintaining good communication with other ED team members. This requires a balance of judgment and the assertiveness to seek assistance when required

- Demonstrated ability to interact and respond to others in a personable and professional manner that takes into account unexpressed concerns. This requires well-developed listening and questioning skills and the ability to negotiate for desired outcomes.
- Working knowledge of local service delivery models and appropriate referral pathways.

Physical space

The CIN will need space that is separate but close to the waiting room to perform patient assessment, diagnostics and treatment duties.

The physical requirements will depend on the type and volume of patients likely to be managed in the area.

Consider:

- the need to be close to the triage and waiting rooms
- access to pathology and other diagnostic/treatment equipment
- physical space for write up areas and workspace for the CIN.

Equipment needs

Clinical equipment that the CIN may require access to includes the following:

- Emergency trolley and basic airway, emergency drugs and administration equipment
- Blood Glucose monitoring machine
- Dressing and wound care equipment
- Pharmacy cupboard and fridge
- Splinting/ supportive bandages
- Procedure trolleys and examination lights
- A trolley, bench or chair in the examination area
- A vital signs monitor with pulse oximeter
- Wheelchairs.

Business rules

- Develop diagnostics and treatment protocols for the CIN to work within, approved by the usual ED clinical governance procedures
- Ensure strong management and adherence to operational policies.

Monitoring and evaluation

- Patient experience:
 - Pain control
 - Provision of information about their condition and treatment
 - Did Not Wait data
 - Waiting time for treatment by triage category
 - Time to analgesia for patients triaged to the waiting room
 - Adverse events in the waiting room, patient incidents and complaints
 - Appropriateness of diagnostics orders: number and rate of unnecessary or inappropriate pathology and imaging tests
 - Feedback from ED staff.
-

3.3 Resuscitation (including trauma)



What is the model? The Resuscitation Model of Care is a set of guidelines that outline the most appropriate clinical and preparatory processes and team model that should be used in the resuscitation of patients in the ED (including trauma management).

It is recognised that all EDs have many of these processes in place, yet there remains variation in the implementation of training and support and communication processes.

Why use the model? The resuscitation MOC describes a coordinated and strategic approach to managing resuscitation patients.

It allows the ED to appropriately allocate resources to provide quality care and to minimise disruptions to the rest of the ED. The key reason for implementing the Resuscitation MOC is to provide:

- A coordinated team approach to better manage patients requiring resuscitation
- A structured process for resuscitation patients
- Standardised communication between pre-hospital personnel and ED staff who will assume care for the inbound patient(s)
- Appropriate delivery and turnaround times for diagnostic services
- Optimal allocation of staffing resources – this will allow senior ED decision makers to provide oversight of the care of the patient requiring resuscitation whilst minimising delays to the general ED workflow.

Key Principles

Establish team, training and guidelines

- Establish a resuscitation and trauma team, defining membership, leadership, roles and responsibilities
- Conduct training for the team to improve team competencies (knowledge, skills attitudes) and achieve desirable performance outcomes (timely responses, high quality decision-making, and reduced patient safety risks).
- Use clinical guidelines to enhance decision-making in trauma/resuscitation management (ITIM/EMST/ALS).
- Use clinical protocols to enhance decision-making in the management of the severely ill or injured child.

Information management

- Use the standardised handover tools of IMIST – AMBO to obtain handover from pre-hospital personnel
- Standardise the communication process to the relevant team members following pre-hospital notification of an inbound critically ill patient.

Predictive planning

- Formalise resuscitation and trauma activation procedures
- Develop a contingency plan for multiple resuscitation and trauma presentations so there is minimal impact on other models of care in the ED
- Align hospital services to support the response to patients requiring resuscitation and trauma management, for example, collaboration with specialty services to expedite care such as general surgery, intensive care and anaesthetics.
- Define the trauma call criteria
- Use a tiered trauma call criteria if required
- Document procedures to stand down members of the resuscitation and trauma team when their role is no longer required.
- Equip and organise the resuscitation and trauma bays using the principles of lean thinking.

Diagnostic services

- Align diagnostic services (e.g. medical imaging, pathology, blood bank) to support resuscitation and trauma team decision-making. This includes making available to them equipment, diagnostic staff, reported results and patient transport services.

Benefits of the model

- A standardised approach to managing clinical support aspects of resuscitation and trauma in the ED
- A coordinated team-based approach to managing resuscitation and trauma patients in ED
- Appropriate staffing of resuscitation and trauma management which allows the ED to function efficiently during resuscitation or trauma management.

Challenges

- Establishing a culture of coordination and a team approach to managing resuscitation and trauma throughout the hospital
- Ensuring staff adhere to their roles and responsibilities during a resuscitation and trauma so the rest of the ED continues to function effectively
- Timely access to diagnostics services and turnaround times for results
- Limited access to ICU, HDU, CCU beds, and delays due to ongoing negotiations with specialty groups for ED patients to access such beds
- Access block in the ED resulting from a lack of available inpatients beds leading to ED crowding and the use of resuscitation beds for patients who do not require resuscitation management.

Case for implementation

To assess the need for implementation of this model in your ED, consider the following:

- All EDs should have a dedicated area for the resuscitation of patients.
- Is your ED a designated trauma centre that requires the ability to respond to patients presenting by ambulance with multiple trauma?
- What volume of resuscitation/trauma patients are managed by your ED?
- Does your ED have established communication tools and processes in place?
- Is there a coordinated response from staff members for the management of resuscitation patients?

What you need to run the model

Staff

- A workforce with the skills and competency in advanced emergency care for the adult and paediatric patient – Resuscitation and Trauma.
 - Sufficient numbers of adequately skilled staff to meet the dual objectives of appropriately managing resuscitation patients whilst continuing work in other areas of the ED.
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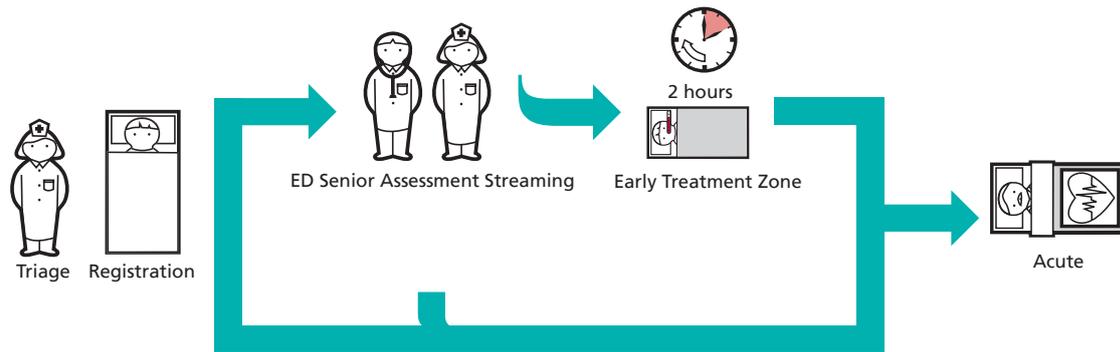
Business rules

- Communication tools and processes are documented and followed.
- Clear lines of responsibility and procedures are in place for the management of patients requiring resuscitation.
- Clinical management procedures and pathways are in place for common presentations.
- Appropriate equipment and resources are available to ensure timely, safe and quality resuscitation care.
- The resuscitation area must be fully equipped to manage all types of paediatric emergencies.
- Resuscitation and trauma activation criteria is clearly defined and followed.

Monitoring and evaluation

- Waiting time for treatment by triage category
 - Resuscitation and trauma patient outcomes
 - Audit and monitoring of hospital resource allocation and support processes, and routine follow up by management
 - Morbidity and mortality meetings
 - Trauma response activation and team member attendance
 - National Emergency Access Target (4 hour).
-

3.4 Acute Care



What is the model?

The Acute Care Model of Care is a set of principles and processes that aim to promote efficiency in initiating, assessing, performing and transferring the care of patients who are acute, potentially unstable and complex. These are patients that require:

- Cardiac monitoring
- Frequent observation
- Specialised interventions
- A higher level of care
- A more comprehensive management plan.

Why use the model?

An Acute Care MOC is essential in all EDs to:

- Focus on the optimal treatment of acutely ill patients
- Provide access to acute care in a timely manner
- Promote initial assessment by senior physician decision maker, allowing focussed investigations and treatment, and reducing any duplication of work between Junior and Senior Medical Officers, and other clinical providers (for example, CIN)
- Improve turnaround time for diagnostics and specialist review
- Standardise processes for consistent results.

Key Principles

- An initial senior assessment by a senior ED Physician to establish the patient management plan and likely disposition
- Adoption of a team approach to patient management
- Timely access to specialist consultants and diagnostic turnaround times
- Coordination of care using clinical pathways (for example, chest pain pathway, sepsis pathway)
- Promoting a culture to regularly review patients to progress them to the next point of care
- A standardised process for handover of patients from ED medical staff to inpatient or community medical staff
- Compliance with policies supporting the timely movement of admitted patients from the ED to an inpatient unit
- A standardised clinical environment for each acute bed, that is, each bed area is setup and stocked with standardised equipment and organised using the principles of lean thinking.

Benefits of the model	<ul style="list-style-type: none"> ■ Early diagnosis – patients are seen initially by a senior ED Physician to establish a management plan and expected disposition ■ Reduced duplication in assessment and diagnostics ■ Improved turnaround times for diagnostics services and specialist consultations ■ Reduced delays in transferring patients to the inpatient unit ■ Minimised delays to accessing clinical equipment as all bed areas are set up in standardised way.
Challenges	<ul style="list-style-type: none"> ■ Ensuring sufficient availability of senior medical staff will require devolution of lower level clinical tasks and support to other providers; and/or increasing senior medical staffing numbers ■ Changing the practice of Junior Medical Officers reviewing Acute Care patients before Senior Medical Officers. ■ Appropriate use of standardised clinician pathways, for example, a chest pain pathway to optimise patient clinical care and risk stratification for all patients ■ Implementing a standardised clinical handover tool/process that encompasses handover within the ED and then to specialty teams and inpatient units ■ Delays in transferring patients to the ward because there is a culture of: <ul style="list-style-type: none"> - consulting teams requiring a full assessment and diagnosis before accepting patients to the inpatient unit - negotiating patient transfers with ward staff, for example, to accommodate ward staff meal breaks - patients deemed too sick for the ward but not sick enough for a High Dependency unit - patients kept overnight in ED due to lack of overnight delegation of ward transfer decisions (to accommodate referral calls 'en bloc' being made to admitting consultants in morning). ■ Poor engagement from diagnostic services regarding timely access to services and results.
Case for implementation	<p>All EDs should have an area which allows for the care of unstable, complex patients. The following questions are important when reviewing your acute model of care:</p> <ul style="list-style-type: none"> ■ Does your ED have an appropriate area for treatment and monitoring of unstable, complex, high acuity patients? ■ Does your ED experience delays in moving patients to monitored beds due to acute beds being occupied by less complex, less acute patients? ■ Are delays experienced in completing diagnostics, and the formulation of management plans and disposition decisions? ■ Is there duplication of work between senior and junior medical staff in the diagnosis and management of unstable, complex, high acuity patients? ■ Are delays experienced by the Inpatient Team reviews of acute patients? ■ Are delays experienced in transferring patients to an inpatient unit? ■ Are clinical pathways in place for the management of common presentations to ED?

What you need to run the model

Staff

- A sufficient number of available Senior Medical staff who are trained and experienced to make timely decisions about investigations, management plans and disposition
- An appropriate mix of the clinical skills of nursing and medical staff to care for acute patients

Physical space

- Most EDs will already have an established acute care area. If not, an area of ED with cardiac-monitored treatment spaces should be dedicated to the assessment and care of acute patients only, and should be located close to the resuscitation and triage rooms.

Business rules:

- A team approach to patient management – the team should consist of a senior decision-maker directing junior RMO and nursing staff.
- Timely access and turnaround times for diagnostic (medical imaging and pathology) services that meet the needs of EDs for making timely decisions.
- Use of clinical pathways (for example chest pain pathway, sepsis pathway) and other standardised management processes to reduce variation in clinical management and to support best practice.
- A standardised process in place to handover patients from ED Medical staff to the consulting inpatient team. This would ideally be a handover from an ED Consultant to a Speciality Consultant to minimise the requirement for speciality Registrar review in ED (Refer to NSW MoH PD2009_060 Clinical Handover – Standard Key Principles Policy Directive).
- Timely access to Specialist Consultants for the purpose of expediting safe patient care. This will require guidelines in place that support a specialty Registrar review within one hour from the time of the review request.
- Consistent utilisation of the Decision to Admit policy to expedite admission to the inpatient unit (Refer to NSW MoH PD2009_055 Emergency Department – Direct Admission to Inpatient Wards Policy Directive).
- Timely (1 hour) transfer to the ward bed.

Monitoring and evaluation

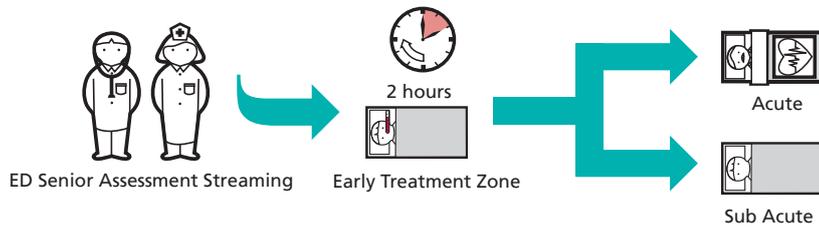
ED measures

- Waiting time for treatment by triage category
- Proportion of patients seen up-front by a senior emergency physician

ED and whole-of-hospital measures

- ED patient total length of stay
 - National Emergency Access Target (4 hour)
 - Time to Transfer of Care
 - Time to Speciality consult/review
 - Time to transfer to an inpatient unit
 - Patient outcomes
 - Patient complaints and reported incidents.
-

3.5 Early Emergency Department Senior Assessment and Streaming



What is the model?

Early ED Senior Assessment and Streaming (ED SAS) is a flexible Model Of Care that can operate during peak periods of demand. The MOC is an assessment and treatment process that focuses on determining an early diagnosis, clinical management plan and disposition decision for patients. An important component of the model is the streaming zone, although the model functions most effectively with three key core components. These components are:

1. Triage and registration:

- Triage assessment that is limited to < 5 minutes to establish the patient's level of urgency only. Interventions are limited to first aid only.
- An essential element of the process is the quick registration by a clerical officer co-located with the triage nurse. Full registration of patients can then be completed by clerical staff at the bedside.

2. Streaming Zone (physical space and appropriate staff):

- Early clinical decision-making by a senior ED Physician and early streaming of patients to appropriate care areas within or outside of the ED in < 10 minutes.
- The Senior ED physician is preferably an ED Staff Specialist, senior ED Registrar or senior Career Medical Officer.
- The Streaming Coordinator (nurse) is an essential part of the streaming zone. They are responsible for maintaining the overall oversight and general management of the Streaming Zone and ensuring that patient flow is maintained.

3. The Early Treatment Zone (ETZ) is a multi-functional and flexible clinical area that may be utilised in the following way:

- A clinical area where the patient management plan formulated in the streaming zone can be implemented and completed with the patient then discharged within 2 hours.
- A clinical area where the patient management plan can be commenced prior to the patient moving to another area in ED, for example, into the acute area.
- An internal waiting/results pending area for patients still requiring observation prior to discharge or who are waiting for test results, such as pathology.

Why use the model?

Use this MOC to improve the flow through the ED, reduce waiting times and reduce time to patient treatment.

High quality clinical decision-making as early as possible in the patient journey will more efficiently allocate ED and hospital resources from the outset. This is achieved by promoting early diagnosis and the development of a clinical management plan or disposition decision by a senior medical decision-maker.

Key principles

- This is not a stand-alone model of care: it requires the integration of patient flow systems and the physical space to support and sustain it. This integration will include streaming to models of care within the ED (for example, ETZ, Fast Track, Sub-acute) as well as streaming options outside of the ED (for example, Medical and Surgical Assessment Units and other inpatient wards, the Psychiatric Emergency Care Centre, Hospital in the Home services and Outpatients).
- Reallocate the existing ED workforce and physical spaces to provide earlier senior assessment and care of patients.
- It is essential to:
 - Assign a senior medical decision-maker for early assessment and disposition decisions to enable all patients to be safely assessed in the Streaming Zone
 - Limit the patient's initial assessment by the Senior Medical Officer to < 10 minutes before being streamed into a MOC.
 - Have robust Models of Care in place within and outside the ED for the ED SAS to stream to.
- Operate ED SAS at peak periods of demand in the ED – the model is designed to be flexible to meet the needs of individual EDs and different types of patient presentations.
- Include triage category 3 – 5 presentations and triage category 2 presentations as appropriate.
- Ensure a one-way directional flow of patients with no returning to the waiting room.

Benefits of the model

- Reduced triage times with a focus on quick assessment and assigning level of urgency
 - Early senior medical assessment and decision-making with a treatment plan
 - Reduce the ED length of stay by providing better initial decision-making, improving timely access to safe and quality ED care
 - Early initiation of appropriate investigations
 - Reduced time to appropriate treatment, for example, time to antibiotics and analgesia
 - Development of a definitive patient management plan in the Streaming Zone that improves the patient's whole ED journey and will have a flow-on effect for the entire ED
 - Reduces the total time in ED for these patients (validated in 3 months of data from the Westmead Pilot Project and the subsequent implementation of the model, 2011).
 - Senior decision-making at the beginning of the ED patient journey has the positive impact of more efficient bed utilisation within ED
-
- More meaningful and detailed risk stratification of patients from the time of arrival in the ED
 - Early streaming of patients to appropriate care areas inside and outside of the ED
 - Improved patient and carer experience
 - The creation of an organised and coordinated way of managing ED business to improve the working environment.
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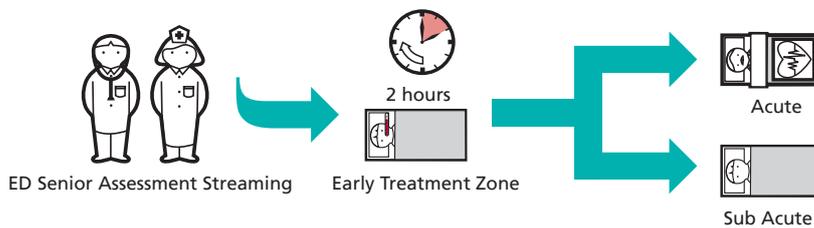
Challenges	<ul style="list-style-type: none"> ■ Implementing the ED SAS without having in place supporting models of care and/or the physical space for it. This includes a quick triage, ETZ and Fast Track area. ■ Changing the process of how patients are assessed and streamed, i.e. a senior decision-maker sees a patient directly after triage and determines a provisional diagnosis within 10 minutes, then streams the patient to the next MOC. ■ Determining the staffing arrangements for when the model is flexed up and down. ■ Ensuring that there are sufficient senior medical and nursing staff in the ED staff profile to operate the model. ■ To have only one-way directional patient flow – many EDs currently refer patients back into the waiting room while awaiting test results and disposition decisions, due to established practices or a lack of alternative space.
Case for implementation	<p>To assess the need for implementation of this model in your ED, consider the following:</p> <ul style="list-style-type: none"> ■ Does your ED experience inefficient patient flows? ■ Is your ED meeting waiting time to treatment targets (especially in categories 3–5)? ■ What is the average length of stay for patients in the ED (especially in categories 3–5)? ■ What proportion of patients in your ED did not wait for assessment and treatment? ■ Is your ED meeting National Emergency Access Targets (4 hour targets)? ■ Is your ED meeting transfer of care times? ■ Does your ED experience bottlenecks at triage?
What you need to run the model	<p>Staff</p> <ul style="list-style-type: none"> ■ It is essential that the model includes an in-charge senior ED Medical Officer, preferably an ED Staff Specialist, senior Registrar or senior CMO. Without a senior decision-maker the MOC cannot function effectively. ■ An assistant medical officer, for example a Junior Registrar/CMO/RMO, will be used to complete documentation/ brief assessment, order investigations, commence treatment and review results. ■ Nursing staff will be assigned defined roles and responsibilities. This will include a Streaming Coordinator to facilitate the flow of patients from triage into and through the MOC and to nurses in the streaming and early treatment zones. <p>Physical space</p> <p>The physical requirements will depend on the volume of patients likely to be managed in the area, and the procedures that drive practice and the maintenance of effective flow.</p> <p>Consider:</p> <ul style="list-style-type: none"> ■ The proximity to key diagnostic and treatment services such as radiology and plaster room ■ The number of treatment spaces needed to optimise the use of the MOC ■ The need for specific treatment equipment for minor procedures ■ Workspace and write-up areas for clinicians. <p>Business rules</p> <ul style="list-style-type: none"> ■ Develop business rules that facilitate the MOC processes in the ED, for example, operating hours and staffing skill mix. ■ Ensure flow through the MOC is constant. This role is undertaken by the streaming coordinator. ■ Ensure strong management and adherence to operational policies.

Monitoring and evaluation

- Waiting time for treatment by triage category.
 - Average ED patient Length of Stay (LOS) and LOS for triage categories 3–5
 - Number of 'did not waits'
 - National Emergency Access Target (4 hour target)
 - Transfer of care time
 - Clinical indicators such as time to analgesia and time to antibiotics
 - Clinical outcomes for high volume cases (for example chest pain).
 - Patient satisfaction and complaints
 - Staff feedback
 - Occasions when the model is activated/opened.
-

The 'Early ED SAS Model of Care and Implementation Toolkit' has been developed to assist EDs to implement this model. More detail about the ED SAS MOC and implementation toolkit can be accessed from ARCHI at www.archi.net.au and the ECI at www.ecinsw.com.au/edsas

3.6 Early Treatment Zone



What is the model?	<p>The Early Treatment Zone (ETZ) is a multi-functional and flexible clinical area that may be utilised as:</p> <ul style="list-style-type: none"> ■ A clinical area where the patient management plan from the streaming zone can be implemented and completed with the patient then discharged within 2 hours ■ A clinical area where the patient management plan can be commenced prior to the patient moving to another area in ED, e.g. into the acute area ■ An internal waiting area for patients still requiring observation prior to discharge or who are waiting for results of tests such as pathology
	<ul style="list-style-type: none"> ■ The promotion of unidirectional flow through the ED – following assessment in the Streaming Zone, patients can complete initial treatment in ETZ rather than going back to the waiting room to await commencement of treatment. This process also helps patients feel they have progressed in the queue. ■ An area where inpatient teams assess ED patients. This is particularly useful for ambulant patients who do not need to occupy an ED bed for the purpose of a quick assessment prior to admission, thereby preserving ED bed capacity. It should be noted that this area should not be utilised in lieu of inpatient unit beds or other hospital locations for admitting patients who do not require the services of the ED ■ A buffer to maintain ED acute area bed capacity.
Why use the model?	<p>The ETZ complements the ED SAS MOC as it provides an area for patients to be assessed and/or enables the continuation of investigations and treatment before transition to another model of care, inpatient unit or home.</p>
Key principles	<ul style="list-style-type: none"> ■ Designated area within the ED to commence treatment. ■ Total LOS of patients within the Early Treatment Zone (ETZ) should be limited to < 2 hours with the patient then moving to either another MOC or discharged home. ■ Patients who require intensive nursing care are not suited to this model.
Benefits of the model	<ul style="list-style-type: none"> ■ Ability to commence treatment or continue investigations while a patient waits for transition to the correct MOC. ■ Improves patient flow through the ED. ■ Allows the patient to progress through to a dedicated area of ED rather than back to the waiting room.

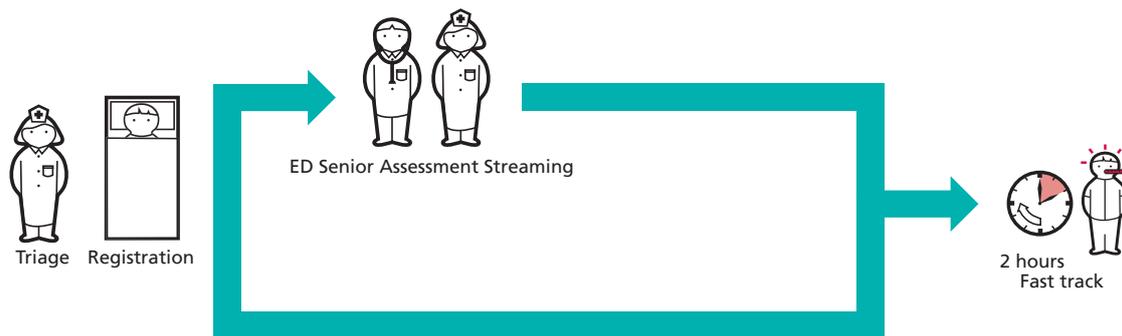
Challenges	<ul style="list-style-type: none"> ■ Establishing guidelines on how the ETZ will be flexed down, that is the time of accepting last patients into the model and where patients still in the ETZ will be transferred to when it needs to close. ■ Locating a physical space that is close to the Streaming Zone. Staffing available to staff the model when it is flexed open.
Case for implementation	<p>To assess the need for implementation of this model in your ED, consider the following:</p> <ul style="list-style-type: none"> ■ Does your ED experience inefficient patient flows? ■ Is your ED meeting waiting time to treatment targets (especially in categories 3–5)? ■ What is the average length of stay for patients in the ED (especially in categories 3–5)? ■ What proportion of patients in your ED did not wait for assessment and treatment? ■ Is your ED meeting National Emergency Access Targets (4-hour targets)? ■ Is your ED meeting Transfer of Care times? ■ Does your ED experience overcrowding in the waiting room? ■ Is your ED implementing an Early ED SAS model and requires an appropriate area for ongoing patient management and assessment? ■ Does your ED return patients to the waiting room while awaiting test results and disposition decisions?
What you need to run the model	<p>Staff</p> <ul style="list-style-type: none"> ■ Senior nursing staff with clearly defined roles and responsibilities ■ Identify if existing staff positions can be realigned to work in the ETZ or if new staff are required. <p>Physical space</p> <ul style="list-style-type: none"> ■ The ETZ should be separate from the acute area in the ED and ideally close to the Streaming Zone or triage. ■ The physical requirements will depend on the volume of patients likely to be managed in the area and how to maintain an effective flow through the ED. <p>Consider</p> <ul style="list-style-type: none"> ■ The proximity to key areas of the ED including radiology and pathology ■ The number of treatment spaces needed to optimise the use of the area ■ Workspace and write-up areas for clinicians. <p>Business rules</p> <ul style="list-style-type: none"> ■ Develop a policy for the management of the ETZ. This should include a set of inclusion/exclusion criteria to stream patients from Triage or the Streaming Zone to the ETZ. ■ Limit treatments to those with short treatment timelines (< 2 hrs) before they are discharged home or to another MOC. ■ Develop guidelines that outline the operation of the model including opening and closing processes, staffing and the acceptance time of last patients. ■ Ensure strong management and policing of operational policies.

Monitoring and
evaluation

- Waiting time for treatment by triage category
 - Average ED LOS
 - ETZ LOS
 - Occasions of patient breaches of 2-hour target
 - Occasions in which model is activated/opened
 - National Emergency Access Target (4-hour target)
 - Patient outcomes and incidents
 - Patient satisfaction and complaints
 - Staff feedback.
-

The ETZ is included in the Early ED SAS Model of Care and Implementation Toolkit. More detail about the ED SAS MOC and implementation toolkit can be accessed from ARCHI at www.archi.net.au and the ECI at www.ecinsw.com.au/edsus

3.7 Fast track



What is the model?

Fast track is a dedicated area in the ED to treat ambulant, non-complex (single system problem) patients who can be discharged within < 2 hours. Triage streams patients into the Fast Track using a pre-determined inclusion/exclusion fast track criterion.

Fast Track zones aim to increase ED throughput by:

- Expediting the care of ambulatory patients with less urgent complaints (Al Darrab et al, 2006; Considine et al 2010)
- Diverting the care of patients who meet particular clinical criteria through a separate stream in the ED (Ieraci et al, 2008)
- Using a geographically dedicated area staffed by dedicated senior medical and nursing staff (Considine et al 2010)
- Dedicated senior medical and nursing staff working to optimise the performance of fast-track systems as they have the ability to make timely treatment and disposition decisions with minimal consultation (Considine et al 2010)
- Providing care that is standardised and targeted to specific conditions and injuries.

Why use the model?

Fast Track zones provide an alternative option to treat non-complex patients in a timely manner, reducing long waiting times for minor problems.

A study by Ieraci et al (2008) demonstrated a reduction in the mean waiting time for fast track patients from 55 minutes to 32 minutes and a reduction in the mean treatment time from 209 to 191 minutes.

Key principles

- Expedite the journey for less-urgent / non-complex patients
- Use dedicated staff (Ieraci 2008)
- Operating hours should reflect high demand periods (Considine et al 2010) – in some EDs, demand may be sufficient for Fast Track to operate as 24-hour seven day per week service.
- Uses quarantined space where patients are treated in a dedicated area by dedicated staff
- Commence treatment early
- Strict inclusion and exclusion criteria supported by business rules
- Clinical protocols that promote early initiation of nursing care
- Rapid access to appropriate imaging and pathology
- Patients with a single system problem that can be discharged in < 2 hours
- Easy access to specialty outpatient, GP and community care referral services.

Benefits of the model	<ul style="list-style-type: none"> ■ Dedicated staff focus on efficient quality care for non-complex patients ■ Overall improvement in the delivery of patient care (Ieraci et al, 2008; O'Brien et al, 2006; Quattrini et al, 2009) ■ Decrease in did-not-waits (Combs et al, 2006 & Ieraci, et al, 2008) ■ Higher incidence of patient discharges within 2 hours as compared to EDs with no Fast Track (Considine et al, 2008) ■ Reduce waiting time to treatment and average length of stay (Ieraci et al, 2008; O'Brien et al, 2006; Quattrini et al, 2009) ■ Increased throughput of lower acuity patients (Wilner et al, 2010) ■ Provides an environment where patients are assessed and treated away from the acute care area ■ Treatment protocols promote patient safety and allow for nurse-initiated management of low acuity patients who meet a well-defined criteria ■ Utilising the Nurse Practitioner, Physiotherapist or another clinical provider to provide care for appropriate Fast Track patients allows medical staff to focus their attention on more urgent and complex patients – appropriate Fast Track patients may have all their care, including discharge, completed by that one provider.
Challenges	<ul style="list-style-type: none"> ■ Patients that do not fit the fast track inclusion criteria being placed in the MOC when the ED is busy. This blocks the fast track with inappropriate patients who take longer than 2 hours to discharge, rendering the model ineffective. ■ Not having senior decision-making staff allocated and dedicated to the MOC. Without senior decision-makers who can discharge patients, the model is not effective in improving patient flow. ■ Some EDs have a culture that believes lower acuity patients should have to wait until all high acuity patients are seen. ■ Fast track does not operate during the night.
Case for Implementation	<p>To assess the need for implementation or the refinement of this model in your ED, consider the following:</p> <ul style="list-style-type: none"> ■ Does your ED experience inefficient patient flow for patients with minor illness or injuries? ■ What is the average length of stay (especially in discharged category 3–5 patients)? ■ How is your ED performing in triage to treatment times (especially in discharged category 3–5 patients)? ■ What percentage of patients 'did not wait' in your ED? ■ Does your ED experience lower acuity patients blocking acute care beds?

What you need to run the model

Staff

- Dedicated senior decision-makers who are competent to make fast and safe decisions about treatment, investigations and discharge. This could include Staff Specialists, the Senior Registrar, the ED CMO, the Nurse Practitioner and the Physiotherapist.
- Nursing staff should have competencies in plastering, suturing, cannulation, venipuncture, and physical assessment.
- Analyse the unit's current staffing profile to identify whether existing positions can be re-aligned to divert staff to this area or if new staff are required.

Physical space

- The Fast Track Zone should be separate from the acute area in the ED, but close to the waiting room, plaster room, and procedure rooms.
- The configuration of the Fast Track Zone can vary significantly ranging from designated access to two cubicles to a specifically designed and segregated treatment area.
- The physical requirements will depend on the volume of patients likely to be managed in the area and how it contributes to maintaining an effective flow through the ED.

Consider

- The proximity to key areas of the existing ED including radiology, plaster room, procedure room and waiting rooms
- The number of treatment spaces needed to optimise the use of the area
- The need for specific treatment areas (such as minor procedures and eye rooms) and a results-pending area.
- Workspace and write-up areas for clinicians.

Clinical operations

- Clinical protocols that promote early initiation of care by senior clinicians including nursing and other provider staff
- Standing order protocols to manage conditions such as sprains and strains, minor wound management, tetanus prophylaxis, and nurse-initiated analgesia
- Consider the availability and skill level of other staff disciplines such as endorsed ENs who are accredited to administer IMI medication and oral S4 medications.

Access to diagnostics

- There should be strong engagement with diagnostic services such as Radiology and Pathology that should include agreed turnaround times for diagnostics testing and results.
 - Consider pre-booked slots in radiology based on historical throughput for Fast Track patients.
-

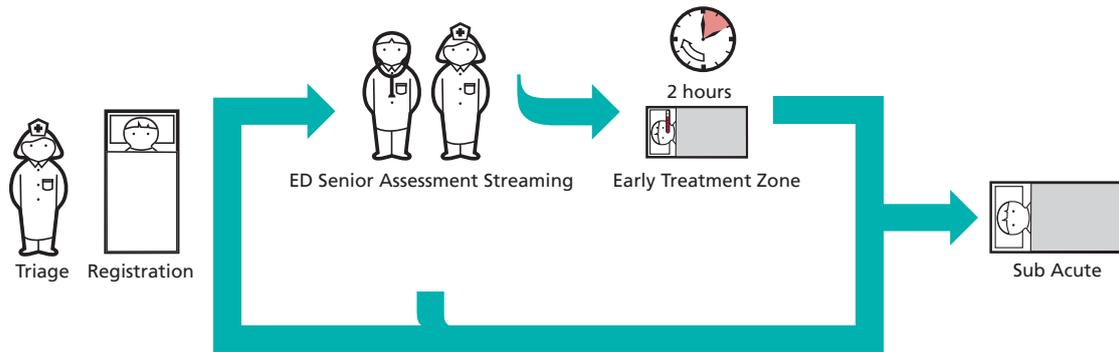
Business rules

- Develop a policy for the management of the Fast Track Zone. This should include a set of inclusion/exclusion criteria to stream patients from Triage to Fast Track.
- Inclusion/exclusion criteria should include those patients who (at Triage) are non-complex (single system problem), have limited care or clinical management requirements and are likely to be treated and discharged home within 2 hours.
- Limit treatments to those with short treatment timelines (< 2 hrs) and stat therapies. Avoid treatments such as IV infusions that have the potential to block the area.
- Avoid complex patients with multiple co-morbidities that require multiple investigations.
- Ensure the flow through the unit is constant. Patients should not wait within the assessment area for review. Those who need to wait for re-evaluation should do so in a waiting or results pending area.
- Ensure strong management and policing of operational policies

Monitoring and evaluation

- Waiting time for treatment by triage category
 - Total time in ED (the aim is discharge within 2 hours of presentation)
 - Implement monitoring systems to track each patient through Fast Track – breaches over 2 hours should be monitored and patients managed through the system
 - Admitted patients from fast track
 - Unplanned returns to ED within 48 hrs.
 - Did not wait rates.
 - National Emergency Access Target (4-hour target).
 - Patient incidents and complaints
 - Staff feedback
-

3.8 Sub-acute



What is the model?

Sub-acute Model Of Care is a designated area in the ED for patients:

- Who are low acuity and do not require an acute bed or cardiac monitoring
- Who can be high-complexity (with multiple co-morbidities), resource-intensive and require multiple investigations, consults and/or procedures, and are therefore not eligible for Fast Track or an Urgent Care Centre, and/or
- Who are non-ambulant and need to be cared for on a bed for treatment.

NOTE: It is essential that careful attention is paid to the selection of patients suitable for a subacute model – they are to be low risk patients with vital signs within normal parameters, and not require cardiac monitoring.

Why use the model?

The Sub-acute MOC is used to treat undifferentiated patients who are neither unstable nor do they require intensive observation (therefore, their management in the acute area of the ED is not needed). However, they are not suitable for ambulatory areas. These patients may have complex medical problems but do not present with an acutely life-threatening illness or injury.

The LOS for these patients is usually greater than 2 hours; hence, they are inappropriate for allocation to Fast Track and Urgent Care Models of Care as it would likely cause bottlenecks and reduce flow through those areas.

Key principles

- Dedicated space in the ED for sub-acute patients.
- An area used for complex patients that require > 2 hours to determine a management plan in which time they need to be managed on a bed, for example, an undifferentiated patient that does not fit an acute bed criteria but is too complex to be assessed and treated in a Fast Track Zone.
- Support patient flow through the ED by not blocking access to monitored beds in the acute area or Fast Track treatment areas with patients that take a long time to assess or treat.

Benefits of the model

- Allows this group of patients to receive dedicated care in an appropriate environment
- Supports patient flow through the ED by placing this patient group into the most appropriate beds, minimising the block to rapid assessment units such as fast track/UCC or to acute beds that have cardiac monitoring
- Provides an environment where patients are assessed and treated away from the acute area of the ED

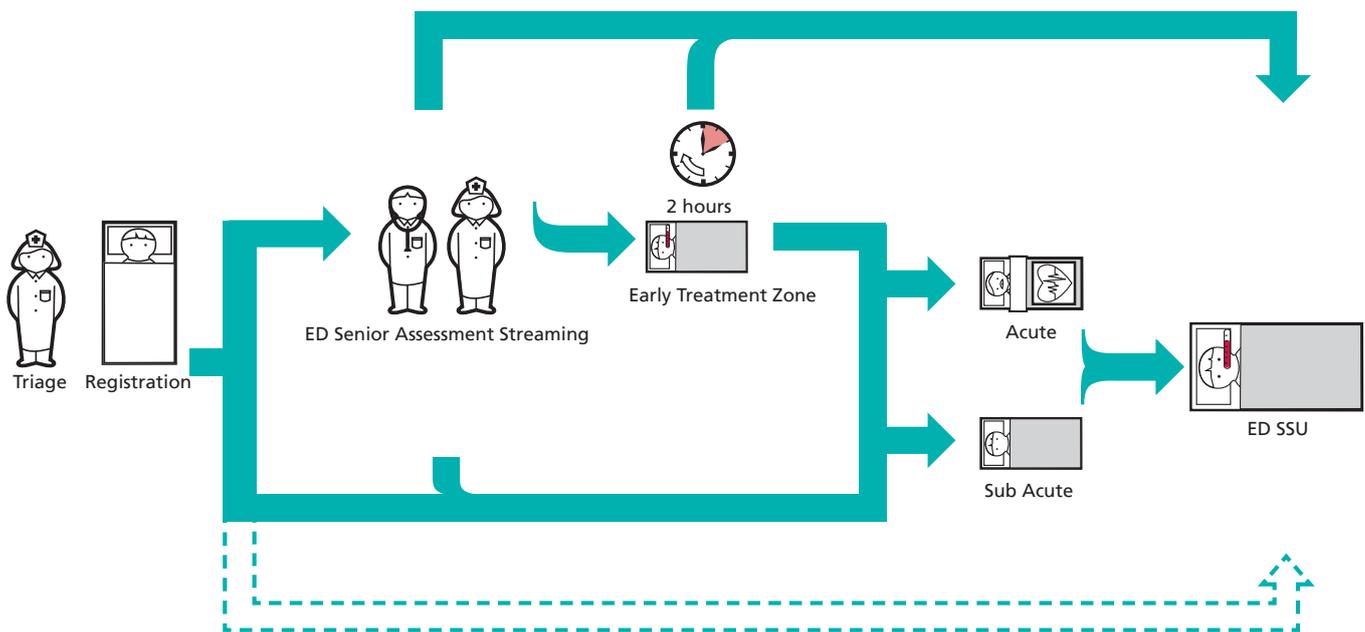
Challenges	<ul style="list-style-type: none"> ■ Dedicated physical space for sub-acute patients may not be currently available ■ Staff resistance to the Sub-acute MOC as staff may consider this patient cohort can be managed in short stay units. For patients who have been assessed and given a diagnosis in the community (i.e. they are not undifferentiated), and otherwise meet the sub-acute MOC criteria, the short stay unit may be more appropriate.
Case for implementation	<p>To assess the need for the implementation or refinement of this model in your ED, consider the following:</p> <ul style="list-style-type: none"> ■ Does your ED suffer from inefficient patient flow? ■ Are acute care beds being utilised by complex, low-acuity patients who do not require monitoring or the more intensive nursing care required for unstable patients in the acute area? ■ Do complex, low-acuity, non-ambulant patients delay access to treatment spaces in the Fast Track model? ■ Are patients in Fast Track breaching time targets?
What you need to run the model	<p>Physical space</p> <ul style="list-style-type: none"> ■ Sub-acute should have a designated area of non-monitored beds. This can be co-located or away from acute care. For smaller departments, a sub-acute area may be combined with another area of the ED. <p>Business rules</p> <ul style="list-style-type: none"> ■ Develop inclusion and exclusion criteria ■ Monitor breaches of inappropriate patients being placed into Sub-acute ■ Ensure flow into and out of Sub-acute by assessing which patients can be placed into the Sub-acute area from either the acute area or other MOC. ■ Allocate appropriate staffing to ensure timely assessment and management of these patient. ■ Ensure strong management and adherence to operational policies.
Monitoring and evaluation	<ul style="list-style-type: none"> ■ Waiting time for treatment by triage category ■ National Emergency Access Target (4-hour target) ■ Average ED length of stay ■ Transfer of Care time ■ Patient outcomes, incidents and complaints ■ Staff feedback.

Key principles	<ul style="list-style-type: none"> ■ All members of the patient care team both within the ED and specialty inpatient teams are provided with key timeframes in order to achieve the 4-hour target. ■ ED, inpatient teams and hospital executive and support service teams will work collaboratively to meet these timeframes for each stage of the 2 : 1 : 1 process. <p>2 hours or less is allocated for:</p> <ul style="list-style-type: none"> ■ The ED to assess and provide clinical management and/or stabilisation of the patients ■ ED to determine if admission is likely ■ An inpatient referral to be made ■ An inpatient bed requested <p>1 hour or less is allocated for:</p> <ul style="list-style-type: none"> ■ Inpatient units to accept the patient <p>1 hour or less is allocated for:</p> <ul style="list-style-type: none"> ■ The patient to be transferred to the ward, or the patient to be discharged home or transferred to another facility.
Benefits of the model	<ul style="list-style-type: none"> ■ Improved access within 4 hours for patients admitted to an inpatient unit via the ED
Challenges	<ul style="list-style-type: none"> ■ Ensuring sufficient available ED resources, such as space and staff, to enable the productive use of the first 2 hours of the patient's time, and minimise unproductive waiting between care periods ■ Staff from all areas of the hospital adhering to the 4-hour time frame ■ Engagement from the diagnostic services, specialist units and ward staff to make each group accountable to the performance timeframes.
Case for implementation	<p>To assess the need for implementation this model in your ED, consider the following:</p> <ul style="list-style-type: none"> ■ Does your ED and hospital experience inefficient patient flow? ■ Is your hospital meeting the 4-hour National Emergency Access Target? ■ Does your ED have good engagement with inpatient teams? ■ Does your ED experience delays in diagnostic turnaround times and inpatient review?
What you need to run the model	<p>Staff</p> <ul style="list-style-type: none"> ■ Ensure strong hospital executive management which adheres to, promotes and supports adherence by all units and staff to the hospital's operational policies. This MOC seeks to involve all hospital staff members (hospital executive, medical, nursing, allied health and support services) from the ED to inpatient wards. <p>Information</p> <ul style="list-style-type: none"> ■ Data must be collected, analysed and shared to find and fix the causes of blocks and delays within the system which prevent staff from being able to achieve the required performance within the required timeframes. <p>Business rules</p> <ul style="list-style-type: none"> ■ Develop business rules to ensure all Department Heads are accountable for eliminating system blockages and constraints ■ Develop business rules to ensure all staff are accountable for adherence to the 2 : 1 : 1 timeframes ■ Review on a regular basis patient length of stay in ED and inpatient areas: <ul style="list-style-type: none"> - To recognise best practice principles which can be shared throughout the hospital - To identify constraints in the hospital system to assist with hospital executive determination of actions required to alleviate constraints. ■ Implement guidelines to ensure flow is consistent through the ED and through other hospital services and inpatient units.

Monitoring and
evaluation

- National Emergency Access Target (4 hour target)
 - ED LOS
 - Targets at each point of the 2 : 1 : 1 process
 - Patient outcomes
 - Adverse events and patient complaints
 - Staff feedback.
-

3.10 Emergency Department Short Stay Units



What is the model?

Emergency Department Short Stay Units (ED SSU) refer to designated units, co-located with the ED, which have been developed for the short-term care of ED patients who require observation, specialist assessment and diagnostics and whose length of hospital stay is deemed to be limited (for example less than 24 hours).

The clinical and operational governance of the ED SSU resides with the ED Director and Nurse Manager or their delegates. The ED SSU should have clearly defined policies and procedures for management of clinical conditions within specific time limits. The ED SSU should be physically quarantined from other hospital units and have an attending doctor assigned 24 hours a day (Juan et al, 2006). This fosters a culture of only transferring patients that fit the strict criteria for admission, for example, patients that, at the time of their presentation to the emergency department, have a predicted short length of stay and high probability of home discharge.

The criteria for admission to an ED SSU will vary between institutions but should be consistent with the following principles:

- There should be a focused goal for the period of observation.
- ED SSU should target patients with a range of low to moderate risk symptom complexes who, with optimal diagnostic support, can be discharged within a 4–24 hour period.
- The use of clear diagnostic or management pathways to minimise clinical risk for patients, for example, for low to moderate risk chest pain.

The size of each ED SSU will be defined depending on local practices and clinical management strategies/pathways.

Why use the model?	<p>The ED SSU model has been developed to provide a short period of assessment, course of therapy or observations for a group of patients who no longer require ED care. In the past these patients would have remained in an ED or been admitted to an inpatient unit. These units are designed to provide short-term (< 24 hours) assessment and/or therapy for select conditions in order to streamline the episode of care. ED SSU front-loads resources to provide an intensive period of evaluation, treatment and supervision. The ultimate aim is to improve patient care, and improve flow through ED, thereby improving ED bed access and reducing inpatient LOS for these patients.</p>
Key principles	<p>The EDSSU is designed for patients who require hospital treatment, observation and/or further assessment but are not likely to require a hospital stay of more than 24 hours. It provides:</p> <ul style="list-style-type: none"> ■ Improved patient flow for the ED to increase its capacity, reduce patient length of stay and assist in reducing long ambulance off-load times ■ A more comfortable environment for patients than the ED ■ A safety net function against inappropriate discharge. ■ A shorter LOS for this patient group than would occur with inpatient admission to a hospital ward. ■ Key functions of an EDSSU are: <ul style="list-style-type: none"> - Observation - Specialist assessment and diagnosis - Short-term high-level management of patient conditions ■ EDSSUs are not: <ul style="list-style-type: none"> - Temporary ED overflow areas - Used to keep patients that are awaiting an inpatient bed - Overflow areas for other specialty services ■ ED SSU must: <ul style="list-style-type: none"> - Be separate from the ED bed base - Be managed by the ED Director (or a delegate who is an emergency medicine specialist). Successful Australian models have emphasised an emergency physician in charge; however, joint management with a consultant from another specialty (if applicable) has been described elsewhere. - Have dedicated medical and nursing staff with ED experience available 24 hours a day - Have defined number beds with clinical services (oxygen, suction, patient ablution facilities) - Have specific admission and discharge criteria and policies.
Benefits of the model	<p>EDSSU allows the ED and hospital to function more efficiently by:</p> <ul style="list-style-type: none"> ■ Increasing ED patient turnover ■ Reducing ED LOS for medical patients ■ Improving patient flow through the ED ■ Facilitating timely ambulance off load ■ Increasing the overall hospital bed capacity which saves hospital bed days.

Challenges

- Inappropriate placement of patients in the ED SSU. Examples are:
 - The EDSSU being used as a holding bay for patients awaiting bed allocation on the ward
 - The EDSSU being used as a way to improve KPIs, for example, transfer of care times.
- Pressure from hospital executives to use ED SSU beds for hospital inpatient care or the backwards flow of patients to ED, for example, patients from Intensive Care Units who are unable to access an inpatient general ward bed.
- If the EDSSU is physically located too far away from the ED it can impede patient flow.

Despite the best intentions to place appropriate patients in the EDSSU who will be discharged within 24 hours, a proportion of these patients will require admission to an inpatient unit. Monitoring of the number of these patients and reasons for failure is imperative, as is recognition that a failure rate in the order of 10–15% is desirable to ensure suitable patients are not missed.

Case for implementation

To assess the need to implement this model in your ED, consider the following:

- Is there inefficient patient flow?
 - What is the proportion of patients assessed and treated in your ED that require a maximum stay of 24 hours to complete treatment?
 - Does your ED treat patients who experience a long length of stay?
 - What is the proportion of patients discharged from an inpatient unit within 24–48 hours of admission from ED? (These patients may have been better managed in an EDSSU.)
 - Is your ED meeting the 4-hour National Emergency Access Target?
-

What you need to run the model

Staff

- The unit is managed by the ED Director (or delegate) and Nurse Manager
- Clinical and operational governance of the ED SSU resides with the ED
- Ensure staff share an understanding of the organisational objectives for short stay and can drive the flow of patients through the unit.

Create a staffing profile that includes:

- A senior nurse who has first-line management responsibility for the running of the unit and will proactively 'pull' appropriate patients from the ED into the EDSSU to improve ED patient flow
- Nursing staff with well-developed clinical skills as appropriate (for example, advanced life support, cannulation, venipuncture, and ECG interpretation)
- Medical staff who have the ability to determine clinical care requirements, and make effective and safe assessment and disposition decisions
- Access to Allied Health staff including Social Workers, Occupational Therapists and Physiotherapists
- Position descriptions for all staff working in the EDSSU.

Physical space

- Quarantined beds for short stay patients only. These should be in an area distinct from the acute ED (co-located or close to the ED) to maintain the focus on intensive assessment, planning and intervention.
- Ensure that the conditions managed within the unit are appropriate to patient.

Business rules

- To function effectively, an EDSSU is dependent upon proactive management; appropriate, dedicated nursing and medical staffing; clearly defined clinical governance; and a multidisciplinary approach to patient care.
- Foster a culture with a focus on multidisciplinary assessment, short-term proactive planning and intervention, for patients who have been assessed and treated in the ED.
- Develop good practice policies, procedures and evidence-based guidelines. Strong management and adherence to operational policies. Patients must be discharged from the EDSSU in less than 24 hours. The most effective EDSSU model will pull patients from the ED.

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- Develop mechanisms to flag early those requiring or that have the potential to require a short stay admission. This information should be fed to the ED SSU in a timely manner.

Use clinical practice guidelines that specify:

- Detailed diagnostic criteria
 - Admission and exclusion criteria
 - Baseline and subsequent investigations
 - Interventions including prescribing guidelines
 - Observations
 - Referrals and discharge criteria.
- Define clinical review mechanisms with clear timelines.
-

Monitor and Evaluation

- Admissions to EDSSU – the number of patients, the number who did not meet admission criteria
 - Length of stay in EDSSU
 - 'Failure rate' – proportion of EDSSU admissions subsequently admitted to hospital inpatient beds
 - Length of stay in ED
 - Emergency Access Performance Target (4-hour target)
 - Did not wait rates
 - Percentage of patients who breach the 24-hour EDSSU discharge target.
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SECTION 4

Streamlining access to acute care

This section provides an overview of models of care that are outside the ED that can support patient flow and provide timely access to acute care services.

The models included in this section can facilitate the diversion of non-emergency department patients away from the ED and into the most appropriate care setting. Models of Care that provide acute care outside of the ED include:

- Medical Assessment Units
- Surgical Assessment Unit
- Hospital in the Home
- Psychiatric Emergency Care Centres

Each of these initiatives is detailed on the following pages.

4.1 Medical Assessment Unit

The Medical Assessment Unit model of care is currently being evaluated in NSW and as such elements of the model may change. You can find information about the MAU model on the ARCHI website at: <http://www.archi.net.au/resources/moc/complex/mau-nsw>

What is the model?

- Medical Assessment Units (MAUs) are inpatient short stay units that are usually close to or co-located with an Emergency Department. They are typically staffed by inpatient teams.
 - MAUs provide an alternative to treatment in the ED for undifferentiated, complex, chronic, non-critical medical patients. These patients are not critically ill but have complicated conditions that take time to assess, and require a range of medical expertise to diagnose and treat.
 - The MAUs provide these patients with an experienced and comprehensive multidisciplinary team that is able to conduct rapid assessments, reach faster diagnoses and provide earlier treatments.
 - Once patients are assessed, their condition diagnosed and some treatment provided, patients will be able to return to home within 48 hours (with community services if needed) or if further treatment is needed, they will be referred to an inpatient team and transferred to a specialty ward.
-

- A typical patient suitable for management in a MAU is the undifferentiated complex non-critical medical patient with co-morbidities. These patients can be streamed from:
 - The community (i.e. GPs, specialist rooms, ambulatory care or other identified community referrals) directly to the MAU through predefined pathways.
 - ED triage direct to MAU – suitability is determined at ED triage usually by the ED nurse or doctor OR the MAU nurse or doctor.
 - Within the ED after a very short period of time – suitability is usually determined within the first hour of the ED stay by the ED nurse or doctor OR MAU nurse or doctor.
- The MAU model of care is to provide two streams of care:
 1. For those patients who go home direct from the MAU. Previously, these patients typically stayed in hospital for 3–5 days. They can now be provided with rapid assessment, faster diagnosis and earlier treatments and sent home safely within 48 hours, with community care if needed. This patient group accounts for approximately 50% of all patients admitted to the MAU.
 2. For those patients who are transferred to a specialty ward from the MAU. Previously, these patients typically stayed in hospital for 7–9 days. They can now be provided with rapid assessments, faster diagnosis and commencement of treatment within the MAU. They are then referred to an inpatient team and transferred to an inpatient ward after approximately 24–48 hrs with a documented plan of care to be followed. These patients can be sent home safely within 5–7days. This patient group accounts for approximately 50% of all patients admitted to the MAU.

Why use the model?

MAUs provide rapid access to an experienced multidisciplinary team at or near to the point of entry into a hospital for undifferentiated, complex, chronic, non-critical medical patients. The MAU team aims to provide rapid assessments, faster diagnosis and earlier treatment to enable patients to return to their home environment within 48 hrs or to an inpatient ward if further treatment is needed.

Key principles

The MAU Model of care provides:

- Patients with rapid access to the MAU (Right Care, Right Time, Right Place, and Right Provider)
- Patients in the MAU with rapid assessment, faster diagnosis and earlier treatment provided within 48 hours
- Patients who require further in-patient care, a continued management plan based on their initial rapid assessment, faster diagnosis and earlier treatment.
- Patients with safe and effective care, and ongoing care or support in their home environment if needed.

Benefits of the model

- Reduction in undifferentiated, complex, chronic, non-critical medical patients presenting to the ED by providing direct referral to the MAU
- Reduced length of stay in the ED for undifferentiated, complex, chronic, non-critical medical patients
- Decreased in-hospital Length of Stay (LOS) by providing rapid assessment, faster diagnosis and earlier treatment at the point of entry into a hospital
- Reduced level of intensive investigations prior to decision-making
- Reduced number of patient outliers on inpatient wards
- Reduction in readmissions due to improved coordination and early activation for community care for those patients discharged home.

Challenges	<ul style="list-style-type: none"> ■ Identification of 'MAU-appropriate patients' prior to or at entry into the hospital ■ Community and ED staff education about patient suitability for the MAU ■ ED MAUs are used as an overflow unit when the ED is busy ■ MAU used as a holding bay until ward beds become available ■ MAU used for acute inpatient admissions when inpatient beds are not available.
Case for implementation	<p>To assess the need to implement this model to support your ED and hospital, consider the following:</p> <ul style="list-style-type: none"> ■ Does your ED experience inefficient patient flow? ■ Are medical patients managed for extended periods in the ED? ■ Is there good coordination of care for medical patients with the community? ■ Is your hospital meeting the 4-hour National Emergency Access Target? ■ What proportion of ED presentations are undifferentiated, complex, chronic, non-critical medical patients? ■ What is the readmission rate for the complex medical patients in your hospital?
What you need to run the model	<p>Governance</p> <ul style="list-style-type: none"> ■ Executive sponsor (i.e. General Manager) who states, models and reinforces that the MAU model of care is critical to the success of the whole hospital ■ MAU Executive Management Committee that meets regularly and is able to action issues immediately. This Committee will include representatives from the hospital Executive, Patient Flow, ED-medical and nursing, MAU medical, nursing and allied health. <p>Medical staff:</p> <ul style="list-style-type: none"> ■ Medical Director specifically dedicated to the MAU to provide clinical leadership, governance and medical services for patients in the MAU. The provision of senior physician cover and presence in the MAU is vital for its success. ■ Admitting medical officer (AMO) dedicated/on-take/rotating to accept patients rapidly into the MAU either from the community, at ED Triage or from within the ED. ■ Dedicated medical staffing (CMO, Registrar level) for the MAU to provide immediate access to medical assessment and to accept patients directly into the MAU, or enable transfer from ED within a short period of time. <p>Nursing staff:</p> <ul style="list-style-type: none"> ■ Nursing Unit Manager (NUM) to lead the MAU team. The size of the bed-base or co-location to another ward will determine if the NUM is dedicated to the MAU only or has another unit/ward responsibilities ■ Care Coordinator position. Ideally a Nurse Practitioner (NP) or Clinical Nurse Consultant (CNC) who is responsible for coordinating care across the patients' journey (inclusive of pre- and post-MAU) in collaboration with the multidisciplinary team. ■ The current 1:4 nurse patient ratio is recommended for the MAU due to the patient cohort (undifferentiated, complex, chronic, non-critical medical patients) and high patient turnover (48-hour length of stay). <p>Allied Health staff:</p> <ul style="list-style-type: none"> ■ Allied Health staff are critical to the functioning of the MAU and in providing coordinated care at the point of entry into the hospital to promote patient function and to expedite patient assessment, treatment, referral and discharge. ■ Allied Health staff should be dedicated to the MAU and not allocated on a rotational basis or daily/weekly/monthly batching from the Allied Health department.

- The size of the MAU bed-base or co-location to another ward will determine the Full Time Equivalent (FTE) for dedicated Allied Health staffing. The MAU patient group (for example, paediatrics, geriatrics, general medical patients) will inform the Allied Health staff selected to work in the MAU.
- 7-day-per-week dedicated Allied Health Staff (especially Physiotherapy, Occupational Therapy and Social Work staff) are recommended. FTE provisions should be made as necessary for staff from pharmacy, dietetics, Speech Pathology, Allied Health Assistants, and play therapy.

Support Staff:

- Clerical support and Clerical Support Officers (CSO) as per normal inpatient ward arrangements
- Dedicated porter/wardsperson/patient transport staff is recommended for units with greater than 15 beds. These services have been shown to decrease delays in patient transport and movements.

Physical space

- Located close to or co-located to the ED but recognised as a separate unit.
- Within close proximity to diagnostic facilities and services (pathology, radiology and pharmacy). It has been shown that increased distance to diagnostic services reduces the likelihood of immediate transfer of patients to MAU.

Business rules

It is recommended that the MAU business rules contain:

- Admission criteria (inclusive of any exclusion criteria)
- An example of admission criteria: The MAU is available for all adult patients who are considered to be a medical admission, require a period of assessment and diagnostic review, are non-critical and stable and do not require resuscitation and stabilisation.
- An example of Exclusion Criteria is given here in Table 1.

Table 1: Exclusion Criteria

Excluded Patients	
Critical Care	Any patient who is to be admitted to ICU, CCU, HDU or other critical care units
High Dependency Airway Unstable	Threatened airway or any patient who requires BiPAP or CPAP Resp rate <8 or >36/min O2Sat <90% HR <40 or >120/min BP <90mmHg systolic (unless usual for patient)
Neurological	Prolonged or repeated seizures Stroke/TIA GCS <14 without a clear identifying cause and/or without CT
Surgical	Any patient who is to be cared for under a surgical team
Renal	Any patient who requires dialysis
Speciality care	Patients with a dominant medical problem requiring specialty care
Complex/Undifferentiated patients who are unstable	Admit under the most appropriate medical team or the "asterisk" Physician
Mental Health	Patients who are involuntarily detained under the NSW Mental Health Act (2007), including those under a Schedule 1
Challenging Behaviours	Violent or disruptive behaviour
Other	Children/patients under 16 years, Nursing mothers, Terminal and palliative patients

-
- Patient Flow pathways and referral mechanisms (inclusive of inbound flows – community, ED Triage, within ED; and outbound flows – home environment (with or without community services), inpatient ward, use of transit/patient discharge lounge).
 - Access to diagnostic services. Priority access given to these services where appropriate for MAU patients.
 - Escalation plans for clinical issues (for example, the deteriorating patient), patient flow issues (entry/exit block), staffing issues (the number of medical/nursing/allied health cover), and bed management issues (for example, outliers in MAU beds, no MAU beds available).

Hours of medical cover for the MAU, for example:

- Consultant on call 24 hours per day 7 days per week.
- The Medical Assessment Unit has direct Consultant cover from 8am to 5pm Monday to Friday, Registrar cover is provided from 8am to 10pm Monday to Friday and 8am to 5pm Saturday and Sunday, RMO/Intern 8am to 4.30pm, Weekend, Aged Care Consultant on call, Intern (Winter weekend cover 8 hours per day).

All other support is provided through the after-hours medical roster.

Monitoring and evaluation

- Average Total Hours in ED for all MAU patients < 3 hours
 - Average length of stay in the MAU (hours) < 48 hours
 - Average length of stay of MAU patients transferred to a ward (days) < 7 days
 - Unplanned readmissions within 28 days of MAU discharge to home or from the MAU/inpatient ward to home < 10%
 - Separations from the MAU
 - Average length of stay of MAU patients aged 65 yrs and over < 48 hours
 - % patients transferred from the MAU within 48 hours
 - % patients discharged home from MAU
 - % patients discharged home from MAU within 48 hours
 - % patients transferred to inpatient ward from MAU
 - % patients admitted directly to the MAU
 - Unplanned readmissions within 28 days for patients discharge from the MAU direct to home.
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4.2 Surgical Assessment Unit

What is the model?	<p>A SAU is a specialised unit (e.g. surgical beds converted to SAU beds) that provides a fast-track route for the assessment of acute adult surgical patients.</p> <p>The SAU reviews and/or admits stable patients from the ED, direct admissions from the Outpatients Department and Visiting Medical Officers Rooms, inter-hospital transfers, and weekend and public holiday presentations.</p> <p>The SAU provides a focal point for emergency surgical admissions in the hospital, providing rapid assessments by senior medical staff followed by prompt investigations and treatment or discharge.</p> <p>The service enables all surgical specialties (excluding obstetrics and gynaecology, neurosurgery and cardiothoracic) to be assessed and admitted or discharged.</p> <p>To support improved care of emergency surgery patients, Emergency Surgery Guidelines have been developed by NSW Health and define the principles underpinning the redesign of emergency surgery in NSW. The benefits of emergency surgery redesign include improved patient outcomes, enhanced patient and surgical team satisfaction and increased trainee supervision in emergency surgery. The guidelines can be found at: http://www.health.nsw.gov.au/policies/gl/2009/pdf/GL2009_009.pdf</p>
Why use the model?	<p>The SAU is used to address the challenge of reducing delays for the assessment of surgical patients, and promoting senior medical review early in the patient's care.</p>
Key principles	<ul style="list-style-type: none">■ Reduce delayed surgical assessment and decision-making for unscheduled general surgical patients■ Cater for acute surgical admissions from the ED, clinics, inter-hospital transfers and the Day Only ward■ A patient's stay in the ED is as short as possible■ Patients are admitted directly into the Surgical Assessment Unit (SAU) after the surgical consultant has accepted care■ Focal point for rapid assessment of surgical patients for plan of care:■ Coordination of further assessment and diagnostic tests■ Observation■ Preparation for theatre.■ Develop surgical admission and discharge officers.
Benefits of the model	<ul style="list-style-type: none">■ Reduced access block for surgical patients (Westmead hospital reduced their access block by up to 43% in 2007)■ Improved flow for all patients presenting for treatment in the ED by freeing up ED beds of surgical patients.
Challenges	<ul style="list-style-type: none">■ Establishing guidelines between surgical staff and ED on how surgical patients will be managed.■ This Model of Care does not have strong governance.

Case for implementation	<p>To assess the need to implement this model to support your ED and reduce assessment delays for unscheduled surgical patients from outpatients, referring hospitals and VMO rooms, consider the following:</p> <ul style="list-style-type: none"> ■ Do surgical patients experience delays and an extended length of stay in ED? ■ Is your Hospital meeting the National Emergency Access Targets (4-hour targets)? ■ What is the proportion of surgical admissions from your ED? ■ Are non-ED surgical patients (i.e. stable patients, with a surgical problem requiring inpatient admission or further surgical assessment, who do not require the specific services of the ED) referred to, and admitted via your ED thus inefficiently using ED resources?
What you need to run the model	<p>Staff</p> <ul style="list-style-type: none"> ■ Medical staff – a senior surgical staff member allocated as the surgical admissions and discharge officer. ■ Dedicated nursing staff, including a Clinical Nurse Consultant (CNC). The CNC role is to liaise with the Nursing Unit Manager, the Patient Flow Manager, and the Emergency Department to monitor and coordinate patient progress. It is also imperative that the CNC facilitates acceptance of suitable surgical patients in the SAU, that is, patients who do not meet the exclusion criteria. <p>Physical space</p> <ul style="list-style-type: none"> ■ The SAU should be a dedicated area. ■ Existing surgical ward beds can be converted into an SAU. <p>Business rules</p> <ul style="list-style-type: none"> ■ Develop a policy to manage patients in the SAU – this should include a set of inclusion/exclusion criteria to stream patients from the ED, clinics, inter-hospital transfers and the Day Only ward. ■ Exclusions would include surgical patients with a critical condition. ■ Formulate strict inclusion and exclusion criteria to maintain the patient flow through both the ED and SAU. ■ Develop protocols to facilitate senior nurse-initiated assessment and referrals for diagnostic tests and standard assessments for possible surgery, in conjunction with a surgical admission and discharge medical officer. ■ Monitor the complaint/conditions and clinical management regimes that are handled in the SAU area.
Monitoring and evaluation	<ul style="list-style-type: none"> ■ % ED patients with an ED LOS < 4 hours ■ % of admitted surgical patients with ED LOS < 4 hours ■ LOS in SAU ■ % transferred out of SAU within 24 hours ■ % discharged to home from SAU < 24 hours ■ % SAU patients transferred to inpatient wards.

4.3 Hospital in the Home

What is the model? In NSW, Hospital in the Home (HITH) includes a range of service delivery models providing admitted and non-admitted care that is delivered in the home (including Residential Aged Care Facilities), clinic or other settings as a substitution for or avoidance of attending a hospital ward.

The NSW Hospital in the Home Service Model is being reviewed at the time of this document's writing. The finalised service model is due for release in June 2012.

Please refer to the website below, where all updated documentation will be provided as it is made available:

<http://www.archi.net.au/resources/moc/community-moc/capac>

Why use the model? Investing in Hospital in the Home will facilitate hospital demand management, affecting key performance indicators such as Local Health District Service Agreements, National Emergency Access Targets and NSW 2021.

There are a number of conditions that have clinical justification for management at home as a direct substitution for a hospital ward. These conditions include:

- Cellulitis
- Pneumonia
- Chronic Obstructive Pulmonary Disease
- Deep Vein Thrombosis
- Urinary Tract Infection
- Red blood cell disorders and transfusions.

HITH services can also be used to expedite transfer of care from short stay units.

Key principles

Service Delivery Models

There is not a single standardised approach to the delivery of HITH across NSW. Local consideration of community need and available resources will facilitate identifying the model(s) required to deliver safe and effective alternatives to inpatient care.

There are three key elements of Hospital in the Home models of care. The combination of variables from each element results in the differences in local service delivery models.

Element	Defining Variables
Patient care need	Admitted or Non-Admitted
Care setting	Home or Clinic or Other (workplace, school)
Medical governance	Specialist or General Practitioner (GP) or Shared Care

There are over 60 services across the state delivering some or all of these models of care.

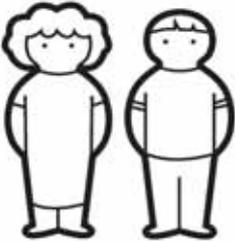
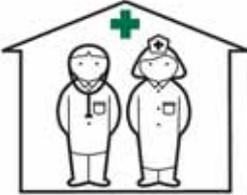
Operating Principles

- HITH offers equivalent or better care, at better value for specific conditions
 - An organisational structure that is based on sound clinical leadership, dedicated staffing and optimal patient volume
 - Clinical governance systems, procedures and clinical practice guidelines that take account of patient acuity, medical accountability, consent and delivery of quality outcomes
 - Multidisciplinary staffing mix
 - Single point of contact for referral and intake (HITH liaison position to find cases)
 - Access to medical records department support
 - Full involvement of patients and carers in the HITH care plan. Patients and carers have an active role in treatment and share responsibility for their own care with the HITH team.
 - Time-limited care
 - 24 hour, 7 day per week, emergency response
 - Established patient registration and data collection processes
 - An ongoing analysis of the types of patient demand, in order to understand the peak capacity potential of the HITH service to the hospital facility.
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Benefits of the model

Evidence shows that both people and the health system benefit from access to acute care in alternate settings to inpatient care (Leff et al, 2005). These benefits include improved outcomes in clinical markers such as reduced levels of confusion and delirium in people who are cared for at home (Leff et al, 2005), and high levels of acceptance of these models by General Practice (Lemelin, 2007) with no increase in carer burden (Leff et al, 2008).

Using alternative models, when appropriate, enables health teams and hospital beds to be managed more efficiently (Deloitte, 2011) and effectively (Leff et al, 2005; Caplan, 2006; DLA Phillip Fox, 2010).

Patients and Carers	Hospital	GP / Other service providers
		
<p>Able to recover in the comfort of own home</p>	<p>More efficient use of hospital beds for acutely ill patients</p>	<p>Improved, coordinated interaction with a specialised hospital service</p>
<p>Reduced risk of adverse events from hospital admission e.g. falls, infections</p>	<p>Improved EAP</p>	<p>Appropriate care for patients in the comfort of their own home</p>
<p>Individualised care Patients and carers report high satisfaction with service</p>	<p>Reduced length of stay in hospital.</p> <hr/> <p>Reduced adverse events from hospital admission</p> <hr/> <p>Increased staff satisfaction</p> <hr/> <p>Better value</p> <hr/> <p>Opportunity to leverage Activity-Based Funding</p>	<p>GPs manage patients in their own environment</p>

Challenges

- Early identification of avoidable admissions/patients suited to the care model
- Out-of-hours referrals.
- Building capacity in local HITH services.

Case for implementation	<p>To assess the need for implementation of this model, consider the following:</p> <ul style="list-style-type: none"> ■ Is there an existing HITH service available? ■ Which of these avoidable admission DRGs, that could be targeted for referral to HITH, are common in your ED? <p>E61B Pulmonary Embolism without Catastrophic CC E62C Respiratory Infections/Inflammations W/O CC E65B Chronic Obstructive Airways Disease W/O Catastrophic CC F63B Venous Thrombosis without Catastrophic or Severe CC I64B Osteomyelitis W/O Catastrophic or Severe CC J64B Cellulitis W/O Catastrophic or Severe CC L63B Kidney & Urinary Tract Infection without Catastrophic or Severe CC Q61B Red Blood Cell Disorders W/O Catastrophic or Severe CC</p> <p>Care delivery should not be limited to only these 8 DRGs. These are priority target groups.</p>
What you need to run the model	<p>Business processes</p> <ul style="list-style-type: none"> ■ Inclusion of HITH in whole-of-system patient flow and coordination ■ Clear referral pathways ■ Initial identification of a patient in the Emergency Department or inpatient area by HITH case negotiator or referral ■ Senior Medical Staff consulted regarding appropriateness of the patient for HITH. Medical responsibility determined. ■ Development of care plan with patient/family, hospital staff, GP, and community services ■ Short-term care and discharge undertaken in collaboration with the relevant medical officer/services ■ Discharge summaries initiated.
Monitoring and evaluation	<p>Time to admission to HITH service</p> <ul style="list-style-type: none"> ■ % of presentations to ED that result in an admission (for each agreed avoidable admission condition) ■ % of overnight separations in HITH Bed Type 25 ■ % of Avoidable Admission DRGs in HITH Bed Type 25

4.4 Psychiatric Emergency Care Centre Services

What is the model? Psychiatric Emergency Care Centre (PECC) services aim to provide timely access to specialised mental health care for people presenting to the hospital ED that have an acute mental health illness or disorder, or for people with co-morbid substance abuse.

The PECC also aims to provide:

- Safety for consumers, service providers, and the public
- Advice and education for general ED staff
- Appropriate support for other service providers (including Police and the Ambulance Service).

PECC services have been developed in response to the move from stand alone institutions to mainstream mental health services in general hospitals, making emergency departments a primary entry point to mental health care.

PECC services operate as an extension to the mental health ambulatory triage and assessment service offered by existing Consultation Liaison (CL) Psychiatry services, mental health CNC ED services and liaison mental health nurse practitioners. They extend these services by offering:

- A permanent presence in Emergency Departments
- Full clinical assessment at the point of intake, and treatment and active discharge planning from the outset
- Increased capacity to manage behavioural disturbances in ED
- Bed capacity for overnight and short stay (< 48 hrs) for consumers who do not require intensive or longer stay inpatient mental health care.

For further information, visit the NSW Ministry of Health Mental Health web links:

ED Mental Health:

http://internal.health.nsw.gov.au/pubs/2009/pdf/mh_emergency.pdf

Mental Health Assertive Patient Flow:

<http://www.archi.net.au/documents/resources/models/mhapf/patient-flow.pdf>

Caring for Mental Health Patients:

<http://www.archi.net.au/resources/chronic/care/mh-redesign>

Why use the model? The PECC model represents an alternative short stay or acute care environment and transition point for mental health services between community care and inpatient care.

PECC services provide two key functions:

- A 24/7 mental health staff presence in Emergency Departments
 - A small 4–6 bed inpatient unit located in close proximity to the Emergency Department to provide short-term observation and care.
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Mental Health Liaison Nurses	<p>Approximately 60 mental health Clinical Nurse Consultants (CNC) and mental health nurse practitioners are now operating in rural and metropolitan hospitals offering both ambulatory mental health assessments to Emergency Departments and consultation liaison support to general hospitals. These nurses also provide education and direct clinical care (triage, assessment, treatment).</p> <p>The balance of functions for Mental Health Liaison Nurses varies between hospital sites. In larger hospitals they may be part of a broader Consult Liaison Service. In most sites this service operates Monday to Friday between 8am and 5pm.</p> <p>The majority of hospitals at delineation level 3 and above are also funded to provide mental health staff 16 hours per day and on-call overnight to coordinate community emergency mental health responses. This includes assisting the Ambulance Service and Police to access appropriate care. Many of these funded positions are allocated to or also support the local PECC or Consult Liaison functions.</p>
Benefits of the model	<ul style="list-style-type: none"> ■ Staff with the appropriate skills are available to provide effective and timely outcomes for mental health consumers, and are more closely aligned to ED demand ■ Improved relationships with Mental Health Services and ED clinicians ■ Improved access to care for mental health consumers in the ED.
Case for implementation	<p>To assess the need to implement this model to support your ED, consider the following:</p> <ul style="list-style-type: none"> ■ Does your ED experience inefficient patient flow? ■ Do mental health patients experience delays in accessing appropriate care and an extended length of stay in ED? ■ What is the proportion of mental health admissions from your ED? ■ Is your Hospital meeting 4-hour national emergency access targets?
Monitoring and evaluation	<ul style="list-style-type: none"> ■ % of ED patients with an ED LOS < 4 hours ■ Number of mental health presentations to the ED ■ % of mental health patients with an ED LOS < 8 hours ■ Time to mental health assessment/consultation ■ LOS in PECC ■ % discharged to home from PECC ■ Readmission rate within 28 days of PECC discharge.

Other Community healthcare services

This section provides an overview of community models of care that provide access to unscheduled ambulatory care.

Other initiatives that assist the community to access unscheduled care include:

- The pilot program for Urgent Care Centres
- Advice lines
- Connecting care program
- After Hours GP Clinics.

These initiatives are detailed on the following pages.

Key principles for delineating who needs to go to an ED

- Only patients who need the specific services of the Emergency Department (ED) should be assessed and treated in the ED
- Other services must not use the ED as an alternate care provider to cover periods of closure, leave or unavailability
- Patients who need other speciality services should be referred directly to that service – the ED adds no value to that patient’s journey and in many cases, simply adds unnecessary delays.
- There are specific groups of patients who would not require emergency care if they were better managed with appropriate resources in the community setting by primary health carers such as general practitioners, APAC teams or chronic disease case managers. Programs to identify these patients and to better manage them will improve access to emergency care for patients who actually need it.

5.1 Urgent Care Centre

The Urgent Care Centre model of care is currently being piloted in five NSW hospitals. This model is considered to still be in draft as an evaluation is about to commence to assess the model for effectiveness and wider implementation. The model has been used in other countries as an alternative to ED and there is currently no evidence from Australia to support widespread implementation. Nonetheless, the model has been included and is based on international experience.

What is the model?	<p>The UCC is a MOC that delivers ambulatory medical care outside of a hospital ED without a scheduled appointment (UCAOA, 2008).</p> <p>The UCC specialises in treating patients that require minor procedures such as suturing, fracture management and plastering. This can be achieved by offering easy access to diagnostic services such as radiology and pathology to assist timely diagnosis and treatment</p> <p>The UCC gives the ED an alternative model, distinct from the After-Hour GP clinic MOC, for non-emergency patients who may otherwise present to ED. This model has been developed in the UK and the USA due to reduced availability in those countries of alternatives to ED care. Reductions in ED patient numbers have been seen when UCCs are closely located to the ED (Chalder et al, 2003). Both British and American studies put the numbers of attendances that might be treated in a primary care setting typically at 40% of ED attendances (Department of Health UK & NHS Gloucestershire, 2007).</p>
Why use the model?	<p>UCCs provide an alternative option and additional resources to treat patients with a minor injury or illness in an efficient, convenient and timely manner. The intent is to see and treat patients in a 60-minute time frame.</p>
Key principles	<p>Expedite the patient journey for patients with minor injury or illness that are urgent but not life threatening</p> <ul style="list-style-type: none">■ Use a quarantined space outside of the ED■ Treatment must commence early■ Patients are treated in a dedicated area by dedicated staff■ Strict inclusion and exclusion criteria■ Clinical protocols that promote early initiation of nursing care■ Rapid access to appropriate imaging and pathology■ Easy access to specialty outpatient, GP and community care referral.
Benefits of the model	<p>Advantages of UCC include (Salisbury, 2003):</p> <ul style="list-style-type: none">■ Short waiting times for treatment■ Leveraging existing services such as radiology and pathology■ Reduced wait times for care and reduced length of stay in ED.
Challenges	<ul style="list-style-type: none">■ Locating a physical space for the UCC■ The UCC may be used as an overflow area when the ED is busy■ Staffing the UCC■ Establishing accountability with diagnostic services (radiology and pathology) for timely access to services.

Case for implementation	<p>To assess the need to implement this model to support your ED, consider the following:</p> <ul style="list-style-type: none"> ■ Does your ED experience inefficient patient flow? ■ Do patients experience a long length of stay (especially in category 3–5)? ■ Are there delays to commencing treatment times (especially in category 3–5)? ■ What is the proportion of did-not-waits in your ED? ■ Is your ED meeting the 4-hour National Emergency Access Target? ■ Are ambulance transfer of care times delayed?
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An Urgent Care Centre (UCC) Model of Care and Implementation Toolkit have been developed to assist EDs to implement this model. More detail about the UCC and implementation toolkit can be accessed from ARCHI at www.archi.net.au and ECI at www.ecinsw.com.au.

5.2 Healthdirect Australia advice line

What is the model?	<p>Healthdirect Australia is a free 24-hour telephone health triage, information and advice service for NSW and other states. The service is staffed by Registered Nurses who have access to sophisticated computerised decision support systems which help them address consumer health concerns in a safe and consistent way, and provide appropriate advice based on the latest clinical evidence.</p> <p>The services available through Healthdirect include:</p> <ul style="list-style-type: none"> ■ The telephone triage, health advice and information line ■ The Pregnancy, Birth & Baby Helpline. ■ HealthInsite, Australia's Internet gateway to reliable health information online ■ The After-Hours GP Helpline.
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Why use the model?	<p>This telephone advice service enables people to make decisions about their own or their family's health by providing expert advice and up-to-the-minute information. The service can also act as a 24-hour referral service, directing people to the most appropriate care option. The aim of the service is to:</p> <ul style="list-style-type: none"> ■ Improve links between the public and health care services so they can be advised to attend the most appropriate health services (for example, visiting a GP rather than the hospital emergency department) ■ Provide easier access to health information and advice without increasing pressure on other health services ■ Provide more consistent evidence-based reliable health care advice using a computerised decision support system and proven clinical protocols ■ Improve community health in the long-term because of better access to health promotion, prevention and early intervention ■ Allow after-hours health advice for the community, particularly for minor ailments ■ Improve health information and advice for disadvantaged groups, such as Aboriginal and Torres Strait Islander people, people in rural and remote Australia, people with disabilities and elderly people. <p>More information about Healthdirect can be found here: http://www.healthdirect.org.au/about-us/about-healthdirect-australia</p>
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5.3 Connecting Care

What is the model? Connecting Care is a program aimed at delivering more effective health management for people aged 16 years and over with a chronic disease. The program is focused on a number of predetermined diseases that are targeted as being of high or very high risk of unplanned hospital or ED presentation.

Connecting Care links health services to improve how a patient manages their chronic condition by better 'Care Coordination and Health Coaching' to develop a 'Shared Care Plan' for the patient and their Local Medical Officer and health service providers. (NSW MoH, Connecting Care Program Severe Chronic Disease Management, 2006)

Why use the model? The program is aimed at delivering an integrated, patient-focused, whole person service for a patient's clinical and non-clinical functional deficits. By managing a patient's chronic disease appropriately, Connecting Care aims to reduce the amount of patients presenting to the ED by helping patients:

- understand their health condition(s) better
 - understand more about their medicines and how to take them
 - improve their health at home and in the community
 - access the services they need, and
 - better connect patients with their specialist(s), doctor and other health service providers. (NSW MoH, Connecting Care Program Severe Chronic Disease Management, 2006)
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- Key Features**
- Priority of five diseases: Diabetes, Congestive Heart Failure, Coronary Artery Diseases, Chronic Obstructive Pulmonary Disease and Hypertension
 - A proactive, coordinated approach to chronic disease management.
 - Proactive identification, assessment, enrolment and monitoring
 - Strong support for multidisciplinary care, care planning and care coordination.
 - Recognition of General Practitioners as main medical care provider
 - Strong support for patient self-management
 - New regional Chronic Disease Management Services
 - New information and communication technology systems.
 - New statewide Health Contact Centre capacity
 - New funding, organisational and governance structure.
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5.4 After-hours GP clinic

What is the service model? The after-hours GP clinic is co-located to the Emergency Department and gives the community access to a GP outside normal working hours in a safe hospital environment – these clinics may be fully bulk-billed.

The service is aimed at providing an alternative for patients seeking after-hours healthcare and treatment. This service is suited to people who work full time and cannot get to a GP within usual business hours. (NSW MoH, After hours GP clinics 2011)

Why use this service? The after-hours GP clinic can be useful for patients as well as EDs. For patients with minor illnesses seeking treatment at the hospital, it will improve their access to healthcare as the GP clinic will have a shorter wait time than the ED — as it does not deal with serious illness and major trauma.

Monitoring measures

The aim of reviewing and introducing new models of care into Emergency Departments is to provide faster access to safe and quality emergency care, to assist hospitals to meet the National Emergency Access Targets and to improve the patient experience. As with the monitoring of all care delivery services, it is important for hospitals to monitor the level of performance of each emergency care model for effectiveness.

A number of monitoring measures are already in place as part of the Key Performance Indicators and Service Measures for the 2011/12 Service Agreements and these are included above in each description of a Model of Care. A number of additional measures have been identified, including from the Australasian College for Emergency Medicine Quality Framework for Emergency Departments (available at: http://www.acem.org.au/media/P28_v03_Quality_Framework_for_EDs.pdf), and these are also included above. These measures are, in some cases, specific to the principles of each model and, in other cases, include broader patient flow measures that facilitate an understanding of what effect the model has on the whole ED and the whole of hospital and how the model supports the ideal patient journey.

Where possible, data will be collected using existing systems such as FirstNet. Where data cannot be collected from this source, there may be a requirement for manual audits or data collection. Table 1 below provides a matrix of monitoring measures that are applicable to each model. This list of measures is not exhaustive, but gives an indication of the measures that can be collected and used across a number of models of care.

Table 2: Monitoring measures for model of care effectiveness

	Triage & Registration	Clinical Initiatives Nurse	Resuscitation & Trauma	Acute Care	Sub-acute	Early ED Senior Assessment Streaming	Early Treatment Zone	Fast Track	2 : 1 : 1	ESSU
National Emergency Access Targets	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ED presentations treated within benchmark times (%): Categories 1,2,4 & 5	✓	✓	✓	✓	✓	✓		✓	✓	✓
Transfer of Care time < 30 minutes (%)	✓	✓	✓	✓	✓	✓	✓	✓		
Presentations staying in ED > 24 hours				✓	✓	✓			✓	✓
ED Length of Stay		✓	✓	✓	✓	✓	✓	✓	✓	✓
Mental health presentations staying in ED > 24 hours	✓			✓	✓	✓			✓	
Did Not Wait	✓	✓				✓		✓		
Patient satisfaction	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Staff Satisfaction	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Self-Assessment Tools

Included as part of this 2012 Models of Emergency Care document is a self-assessment tool for each Model of Care. The purpose of the tool is to allow Local Health Districts to assess if a MOC is appropriate for their ED or if an implemented MOC is functioning at its full potential. It is intended to be used at an ED level, taking a consultative approach to allow for the robust evaluation of the model.

The Self-Assessment tool assesses four domains related to the model:

1. Implementation considerations
2. Staffing levels, training and competencies
3. Guidelines, policies and clinical pathways to support operation of the model
4. Monitoring measures to enable ongoing assessment and quality improvement.

Each of the four domains has specific questions based on the principles of the emergency care model, and the essential elements to facilitate and/or influence their effective operation and the delivery of timely and quality care for patients.

The Self-Assessment rates how well a Model Of Care is implemented and operating, and the appropriateness of a new MOC for implementation in an ED. Results of the assessment are linked to pre-populated responses based on the model principles, and these responses provide a set of potential actions for an ED to improve the functioning of the model of care. To get best value out of the tool and actions for improvement it is essential to answer the questions honestly and with the best available data to support these answers.

Completing the self-assessment and evaluating the effectiveness of the models in your ED, you will have a clearer picture of what works well, and you can identify priority areas for improvement to assist with improving patient flow.

When completing the Self-Assessment it is suggested that included in the consultation are the ED Director, Nursing Unit Manager, senior medical and nursing staff. Additional

stakeholders may be included depending on their role in the particular model being assessed. A number of key steps are central to completing the self assessment effectively to maximise the time taken and results. These steps are:

- Review the tool to understand the data/information required to enable you to answer the questions effectively.
- Host a meeting with the key staff in ED to identify sources of data for each question, and to agree a process of review of summarised responses and associated actions.
- Gather performance data, procedures, clinical pathways and any other information to support review of the model.

Once completed, the Self-Assessment generates a summary report outlining actions against each question. This report is designed to be used by your ED to formulate an action plan for improvement. The action plan should include all key tasks, assigned task owners, and defined timelines for completion. Referring back to the Models of Care document is essential to assist your ED to understand what it is to be achieved to maximise the full potential of the model.

The Self-Assessment tools for each model can be found at ARCHI at www.archi.net.au and ECI at www.ecinsw.com.au/self_assessment_checklist

SECTION 8

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