EMERGENCY MEDICINE

Emergency Medicine Programme Implementation

The First Steps

Introduction

The Emergency Medicine Programme (EMP) has drawn on national and international experience to outline a wide-reaching strategic vision for emergency care in Ireland. At its core is an implementable plan to improve the quality, patient accessibility and cost-effectiveness of care in our Emergency Departments (EDs). The purpose of this *First Steps* document is to outline the initial actions ED teams should take to implement the Programme and to provide a guide and facilitative tool to assist ED and hospital management teams. The ED team will need to work collaboratively with hospital management teams, with specialties that interface with Emergency Medicine (EM) and with implementation teams from other Programmes to make the EMP plan a reality for their patients. People working in EDs are best placed to decide how changes can be successfully implemented in their own departments and whereas some elements of the EMP demand a standardised approach (e.g. the introduction of national datasets, Key Performance Indicators (KPIs) and standards), other parts of the plan require teams to adapt EMP 'design principles' to their EDs. The Programme aims to encourage and share innovation at ED and hospital level to continuously improve patient outcomes in emergency care.

First steps presents the priority recommendations (from over 200 recommendations contained in the EMP Report 2011) for immediate and early implementation by ED teams. These have been selected for their importance to patient care, their relevance to co-implementation with other DCSP programmes and for their suitability for immediate implementation at ED and hospital level. Programme recommendations that require national or regional-level implementation are not included at this stage, nor are a number of recommendations that require further enabling work to be completed prior to dissemination for implementation.

Implementation overview

A *Structure, Process, Outcome* approach can be adapted to progress EMP implementation. We advise ED teams to adapt existing ED governance structures to the EMP model. Hospital Operational Managers/General Managers need to ensure that hospital-wide measures are put in place to support improvements in ED efficiency and quality of care. They should also establish an unscheduled care governance group to oversee the interface of the EM, Acute Medicine, Diagnostic Imaging, Critical Care, Acute Surgery, Medicine for the Elderly, Paediatrics and other specialties and services involved in unscheduled care. The ED team can then start a process of ongoing programme implementation and systems improvement, looking first at internal ED processes of care and speciality interfaces to address areas where the quality of care and patient access can be improved. International experience tells us that making serial small improvement steps is the most effective way to achieve sustainable improvement in EM patient outcomes.

Each ED should have an EMP implementation team. EDs with adequate ICT systems can use process measures to drive and support their quality improvement work. EMP Clinical Guidelines should be implemented as they come on line and existing ED audit activity should be adapted to include audit of guideline outcomes. Gradually, as hospital-wide initiatives remove ED overcrowding, we should see the emergence of higher quality, more accessible, better value and sustainable systems of patient care in EDs.

The First Steps

The sections in this document that cover the steps towards implementation are listed below:

1. Governance;
2. Programme Implementation:
    a. ED level Implementation Team;
    b. Preparing for Implementation at hospital level.
3. The Pathway of Care within the ED and Process Improvement;
4. The Emergency Medicine & Acute Medicine Interface;
5. Indicators, measures and reports;
6. Clinical Guidelines;
7. Work in Progress;
8. 'High level' Implementation check list.

Implementation Resources

The following resources will be made available to assist with EMP implementation:

- Emergency Medicine Report 2011, which will be available for reference shortly;
- Emergency Medicine Programme website (in development), hosting EMP National Clinical Guidelines, Implementation Guides, Triage & Assessment tools, etc;
- Email address for queries to the EMP working group: emp@rcsi.ie
- Peer Support for Emergency Nursing available through the Emergency Nursing Interest Group;
- Peer support for Consultants in Emergency Medicine available through the EMP Regional Leads.

1. Governance

1.1 Emergency Department Clinical Operational Group

An Emergency Department Clinical Operational Group (COG) should be set up to direct ED activity and drive performance improvement. Most EDs have some form of senior management team meetings and these should be developed to include COG activity. Linked Minor/Local Injury Units should be included in COG activity at the lead ED. Meetings should be scheduled weekly with short daily updates if major issues are arising such as extensive trolley waits. The ED COG will represent EM on the hospital Unscheduled Care Governance Group. The ED COG will also review ED data quality and link with the Acute Medicine team to ensure consistent data reporting across the ED/AMU/AMAU interface.

Group Membership: Lead Consultant in EM, Divisional/ED Nurse Manager, ED Business Manager. Supported by Hospital Operations Manager and Director of Nursing

Further information: EMP Implementation Guide # 1: Setting up ED Clinical Operational Group and EMP Implementation Teams (Appendix 1)

2. Programme Implementation

2.1 EMP Implementation at ED level

EMP Implementation Team

A named team should be dedicated to coordinating implementation of the EMP and ongoing quality improvement initiatives in the ED. It is understood that ED teams will not be able to allocate people full time to implementation and improvement projects, but nominating an EMP Implementation Team (EMPIT) to act as a point of contact and to lead and coordinate EMP-related activity in the ED is critical to successful programme implementation. The EMP implementation team will link with the hospital programme implementation coordinator and implementation teams for other programmes, especially Acute Medicine, Critical Care, Medicine for the Elderly, Acute Surgery and Diagnostics.

Core members: A small team will be led by an implementation coordinator who may be a senior nurse, doctor or other clinical team member. (Further information: EMP Implementation Guide # 1; Appendix 1).

Action: Lead Consultant in EM and Divisional/ED Nurse Manager

2.2 EMP Implementation at hospital level

A number of the recommendations made by the EMP require changes in processes and activities that are under the governance of departments outside of the ED but nonetheless have large impacts on the functioning of the ED itself. The hospital CEO/General Manager and management team will lead initiatives to implement EMP recommendations at hospital level. The EMP Implementation Team (EMPIT) in the ED should ensure close collaboration between the ED team and the Hospital CEO/General Manager, the Director of Nursing and the Clinical Director in regard to EMP implementation.

The Hospital CEO/ General Manager has a key role in positively influencing and overseeing the interface between EM and other hospital specialties and departments.

The Clinical Director has a responsibility both to support Consultants in EM in successfully executing their roles, and to oversee the interspecialty interface so that the ED is allowed to function optimally and the EMP's goal of consistent excellence in patient care is achieved.

The Director of Nursing is responsible for managing nursing resources efficiently and effectively, ensuring the effective delivery of optimal patient services in the ED and throughout the whole organisation.

Action: CEO/GM, Operations Manager, Clinical Director, Director of Nursing

(1) Establish an Unscheduled Care Governance Group (UCGG) that is accountable for the delivery of emergency and acute care across the hospital and for managing the interface of the hospital with pre-hospital, Primary Care, and community services involved in the entire patient pathway for unscheduled care. This group should be led by the hospital CEO/GM or Operations Manager and should include the Clinical Director, Director of Nursing, Clinical Services Manager and representatives from EM, Acute Medicine, Diagnostic Imaging, Critical Care, Anaesthesia, Medicine for the Elderly, Acute Surgery, Paediatrics, Laboratory Services, Psychiatry, Obstetrics and Gynaecology, Anaesthesia and Primary Care, with ad hoc representation from Community Care liaison and other multidisciplinary teams involved in unscheduled care. (Action Hospital CEO/GM)

(2) Daily Hospital Access Review: The Consultant on call for the ED and the CNM in charge should communicate first thing each morning with the hospital Operations Manager/General Manager to review the risk of access block and plan to optimise ED throughput for the day ahead.

(3) Monitoring of ED Process Data Returns to the SDU: The hospital Operations Manager/ General Manager should arrange to meet regularly with the ED COG to review progress on improving ED process efficiency.

(4) The UCGG will work to increase awareness that achieving unscheduled care time targets will require a hospital-wide response and a coordinated effort across a range of specialties and services.

(5) Review and optimise ED access to Diagnostics to support ED throughput.

(6) The UCGG will establish multidisciplinary groups within the hospital to develop referral protocols

(a) to enable transfer of patients who are considered to need admission to a ward bed if available for assessment by admitting teams in a ward setting;

(b) for conditions for which clear referral pathways have not been established.

3. The Pathway of Patient Care within the ED

3.1 Overview:

The following diagram illustrates the key steps in the patient's journey though an ED. Patient transfer and referral pathways to Acute Medicine are illustrated in section 4 of this document. The EMP has developed key recommendations for each step in the ED process of care.

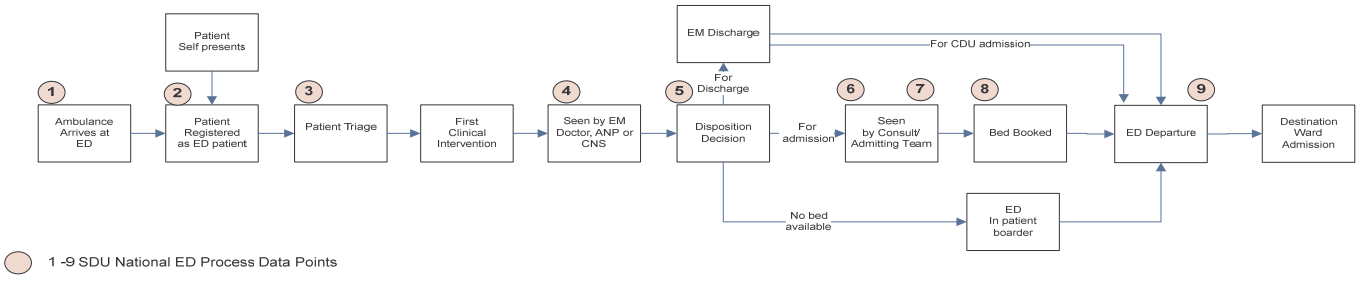


Figure 1: The Patient Pathway of Care in the ED.

Outcome improvement strategies for EM patients require that key process steps should be standarised to improve process efficiency. The EMP aims not to be overly proscriptive, but nonetheless some elements of care need to be standardised to ensure equity of care across our emergency care system. EMP recommendations are evidenced based, wherever possible.

3.2 EMP Recommendations for the Pathway of Care:

The following table outlines recommendations for process and guidelines at each step in the patient journey. The recommendations may need to be implemented by the Emergency Department team, or in the case of recommendations that fall outside the remit of ED, monitoring of progress by the external team should be conducted by the ED COG.

Process Step	Recommendation
Patient Arrival	
3.2.1	EMP and NAS jointly recommend that in the case of major trauma the receiving ED should be pre-alerted early and not less than 15 minutes before arrival.
3.2.2 Immediate Action	Patients who need to remain recumbent should be transferred without delay to ED patient trolleys. Clinical handover and patient transfer should occur concurrently. The EMP Ambulance Patient Handover Key Performance Indicator requires that patients should be transferred to an ED trolley within 20 minutes of ambulance arrival at the ED.
	Patient Registration
3.3.1	Patient registration should take place before or at the same time as triage depending on the patient's clinical status, with the proviso that delays to triage must be minimised.
3.3.2	Patients should be able to access treatment cubicles on arrival and bedside triage and registration or mini registration should be provided.

Process Step	Recommendation
3.3.3	Registration processes should be reviewed to include the provision of mini-registration, an evidenced-based initiative that reduces ED waiting times. A mini-registration guide is available in Appendix 2.
3.3.4	Mini-registration should be made available for all GP referred AMU/AMAU patients.
3.3.5	The EMP standardised minimum data set should be used for mini-registration. A full national registration dataset will be disseminated when developed.
Triage and Rapid Assessment & Treatment	
3.4.1 	The Manchester Triage System is the recommended triage system. ED Nursing Teams should begin implementation of MTS in EDs where it is not routinely used. The EMP Emergency Nursing Interest Group will provide support for this implementation.
3.4.2	All patients will undergo Infection Prevention and Control Assessment at Triage. This applies to ED patients and to GP referred AMU/AMAU patients. The EMP screening tool should be used. (This will be available on the EMP website when developed.)
3.4.3	Functions that are not part of core MTS should be 'bundled' and delivered at a Rapid Assessment and Treatment (RAT) step. RAT should be provided after MTS so as to minimise delays for initial triage. RAT protocols should be implemented in EDs to improve the timeliness and quality of care. (Further information will be available on the EMP website.)
3.4.5	Patients who have been referred by their GPs to AMU/AMAU will be transferred there immediately after MTS triage. See section 4 of this document.
3.4.6	ED COGs should ensure that patients with suspected ST Elevation Myocardial Infarction (STEMI) and Acute Coronary Syndrome are managed according to the National Acute Coronary Syndrome Programme Model of Care (when available) and potential delays to initial ECG must be minimised.
3.4.7	A National Mental Health Assessment Protocol will be included in Rapid Assessment and Treatment, once evaluated and disseminated for implementation. (This is currently in development).
3.4.8	ED COGs should evaluate ED demand to determine whether doctor provided Rapid Assessment and Treatment (in addition to nurse provided RAT) is necessary at peak times in the ED.
3.4.9	EMP Clinical Guidelines for Pain Management in the ED will direct pain assessment at triage. (Currently in development)
3.4.10	Protocols should be implemented to enable nursing staff to fast-track patients for multidisciplinary therapy and Medical Social Worker review without patients needing to be assessed first by a doctor.
Diagnostics	
3.5.1	Access to all emergency diagnostic investigations must be optimised and patient delays minimised.
3.5.2	Access to Diagnostic Imaging is critical to providing high quality, efficient emergency care services and avoiding unnecessary hospital admissions. Recommendations for access to Diagnostic Imaging services for Emergency Medicine (in consultation) will be implemented in conjunction with Acute Medicine requirements (see AMP report). Turn around times and access to key Diagnostic Imaging for emergency care must be monitored by ED COG and the UCGG.
3.5.3	Protocols should be developed within each hospital to ensure the judicious use of laboratory tests. (Action Consultants in EM, Laboratory Services Leads and the UCGG)

Process Step	Recommendation
3.5.4	The EMP recommends a maximum turn around time of two hours for all urgent EM laboratory tests. Quicker response times are needed for critical tests. (Action Laboratory Services, Hospital Operations Manager/General Manager)
3.5.5	The use of Point-of-Care testing is a component of clinical laboratory support services for ECNs and must comply with national best practice guidelines. (Action ED COG, Laboratory Services, Hospital Operations/General Manager)
EM Assessment	
3.6.1	The EM team will implement strategies to maximise the quality and efficiency of EM assessment. (Action ED COG, EMPIT)
3.6.2	EM clinicians will implement EMP National Clinical Guidelines as they become available. (Action Consultants in EM and Nursing Leads)
3.6.3	EMP implementation teams will collaborate with the EMP working group to implement clinical guidelines developed by other DCSP programmes. (Action Consultants in EM and Nursing Leads)
3.6.4	Formal board rounds or patient rounds, incorporating handover of care should be undertaken at a minimum, at the end of night shifts and day shifts. There should be clear procedures for patient handover at the interface of staggered ED shifts. (Action Consultants in EM and Nursing Leads)
3.6.5	There should be standard ED protocols in regard to patient handover between members of the ED team and all patient handovers should be documented. (Action Consultants in EM and Nursing Leads)
Referral to In-patient teams	
3.7.1	All referred patients should be examined by a senior decision maker from an on-call team within one hour of referral if not sooner, depending on clinical acuity. This is consistent with the standard set by the Acute Medicine Programme. Patients referred to Acute Medicine and those referred for admission to other medical specialties (e.g. Medicine for the Elderly) should be transferred to the AMU/AMAU without delay, unless they require resuscitation-level care.
3.7.2	Protocols should be developed in all hospitals to allow patients who are referred for admission to be transferred directly to an in-patient bed for review by the admitting team, whenever a bed is available. (Action ED COG and UCGG)
3.7.3	The ED COG in conjunction with their specialty colleagues should develop policies and protocols and implement appropriate training to minimise the clinical risks associated with patient hand-over and referral.
3.7.4	There should be clear protocols in each hospital governing referral practices from the ED including means of contacting on-call teams; issues related to referral to more than one on-call team; policies for the onward referral of patients should the first team deem necessary, without patient referral back to Emergency Medicine. (Action ED COG and UCGG)
3.7.5	There should be clarity on referral pathways for patients with conditions that fall within the clinical remit of more than one speciality. (Action ED COG and UCGG)
3.7.6	Duplication of clinical documentation around the referral process should be avoided. A general protocol should be developed to govern inter-specialty documentation. (Action UCGG)
3.7.7	Condition-specific or inter-specialty care pathways should be developed to support the direct referral of patients to rapid access clinics from ED/AMU/AMAU without the direct involvement of other specialty teams. (Action UCGG)
3.7.8	In-patient teams should record the time they start and complete the assessment of referred patients on the ED ICT system. (Action Hospital Operations Manager, Hospital ICT support, Clinical Director, ED COG, UCGG)

Process step	Recommendation
3.7.9	Inter-hospital transfer protocols should be created to ensure equity of access for patients transferring from other hospitals. (Action: Hospital Operations Manager, Clinical Director, UCGG, all relevant specialties)
3.7.10	The interfaces between Emergency Medicine and all unscheduled care specialties, particularly Acute Medicine, should be audited and continuously improved.
Discharge	
3.8.1	All patients should have their care completed within 6 hours of ED arrival. Patients requiring ICU care should be transferred to an ICU bed within 6 hours also. (Action UCGG)
3.8.2	All patients should have an appropriate brief discharge summary sent to their GP. (ICT development will enable GP letters to be generated and possibly transmitted electronically. Recommendations for standardised GP communication are in development.)
3.8.3	The time of EM discharge (the time of completion of EM care), and the time of ED Departure (the time the patient leaves the ED), should be recorded for all patients. (Action EDCOG, EMPIT)
3.8.4	Follow up care arrangements for all patients should be recorded in the patient's ED records/EDIS. (Action EDCOG, EMPIT)
3.8.5	Patients should be provided with self-care information as part of the discharge process. (Action EDCOG, EMPIT)
Clinical Decision Unit	
3.9.1	CDU care is recognised as a core element of ED work. CDU care should be audited and CDU effectiveness should be monitored through ED COG meetings.
3.9.2	Patients should be admitted to CDU for less than 24 hours care. Patients should be fit for discharge or should be accepted by in-patient specialty teams if they require more than 24 hours care. (Action EDCOG, UCGG)
Review Clinics	
3.10.1	Review clinic work should be recorded, monitored and audited. (Action EDCOG)
3.10.2	Alternative pathways of care should be developed to minimise the requirement for EM review clinics. (Action EDCOG, EMPIT)
3.10.3	Multi-disciplinary teams can effectively contribute to EM review activity. The scope for Physiotherapists and Occupational Therapists to contribute to review activity in the ED should be considered. (Action EDCOG, EMPIT)
Paediatric Emergency Medicine	
3.11.1	Definition of a child: The Programme recognises the legal definition of a child as being someone younger than 18 years but proposes that children younger than 16 years are considered to be Paediatric EM attendances, for operational reasons. This age cut-off should be applied to all EM data reports. (Action EDCOG, UCGG)

Process step	Recommendation
3.11.2	Children should be audio-visually separated from other patients during their time in an ED. Hospitals should maximise the degree of AV separation possible with existing infrastructure as an initial step.
3.11.3	All EDs should have a named Paediatrician from within the hospital or network with designated responsibility for ED liaison. (Action Clinical Director, Lead Consultant for Paediatrics, UCGG)
3.11.4	There should be robust and transparent processes in place across ECNs to provide adequate child protection. (Action EDCOG, UCGG)
3.11.5	A child's attendance at any emergency care setting should be notified in a timely way to their Primary Care team/provider. (Action EDCOG, UCGG)
3.11.6	EDs that care for children should implement the Irish Children's Triage System (currently undergoing evaluation). (Action EDCOG)
Older Patients	
3.12.1	EM and Medicine for the Elderly teams should establish clinical collaboration to implement the recommendations of the EMP Report 2011 and aspects of the Medicine for the Elderly report relevant to emergency care, when published. (Action EDCOG, UCGG)
3.12.2	A rapid response pathway should be established for frail elderly patients attending the ED/AMU/AMAU and appropriate elderly patients with complex medical presentations should be streamed through the AMU/AMAU.
Patients with Particular Care Needs	
3.13.1	Hospital management teams and ED teams should implement the measures outlined in the EMP Report 2011 (when published) in regard to patients with particular care needs. (Action EDCOG, UCGG)
3.13.2	All patients who require Emergency Medical Social Work care should have immediate access to a Medical Social Worker. (Action: Hospital Operations Manager, Lead Medical Social Work Team, UCGG)
Patients with Mental Health Needs	
3.14.1	Patients with mental ill-health who have no need of emergency or acute medical care should not be referred to the ED/AMU/AMAU/MAU and alternative pathways of access to acute mental health care should be available to Primary Care 24/7. (Action: Clinical Director; Hospital and Regional Psychiatry Leads)
3.14.2	Patients who present to ED due to mental health conditions should undergo Mental Health Assessment after Triage according to the National Triage Tool (in development).
3.14.3	Patients with mental health problems should be managed in the safest and most appropriate clinical area depending on their care needs.
3.14.4	All patients who present with self-harm should have a bio-psycho-social assessment by a suitably trained mental health professional prior to their discharge.
3.14.5	ED staff should receive training to deal with patients with mental ill-health including self-harm.

3.15 Pathway of Care Recommendations for Local Injury Units / Minor Injury Units

Local Injury Units (LIU)/current Minor Injury Units should be linked to larger EDs. In hospitals with an on-site Medical Assessment Unit (MAU), patients referred by their GP to the MAU will go directly to that unit. Only patients self presenting or referred by their GP to the LIU will be registered at the LIU.

ED Area	Recommendation
Governance	LIU teams should link with ED teams in regard to Clinical Operational Group activity.
Arrival	Protocols must be implemented to redirect or transfer any patient with a clinical need that cannot be met in the LIU to ED-based care. LIU patients will not undergo MTS triage. (Action Lead Consultant for the LIU and Nurse Manager).
	There must be local protocols in place for patients who attend the hospital when the LIU is closed.
Paediatric EM	All staff in LIUs at which children attend must have appropriate training in Paediatric Resuscitation and in the recognition of Non-accidental Injury. (Action Lead Consultant for the LIU and Nurse Manager)
Staff Training	All LIU staff must be provided with training and Continuing Professional Development through the network lead ED.

3.16 Process Improvement for the ED Pathway of Care

The recommendations for process improvement on the patient pathway are made at a high level only. It has not been considered appropriate to try to define and enforce a detailed standardised process for Emergency Medicine practice in each ED, within the overarching design and reporting systems set by the EMP. Patient throughput, case-mix and the size and scope of EDs vary too much across the country to make it beneficial or prudent to specify in detail exactly how each ED should work.

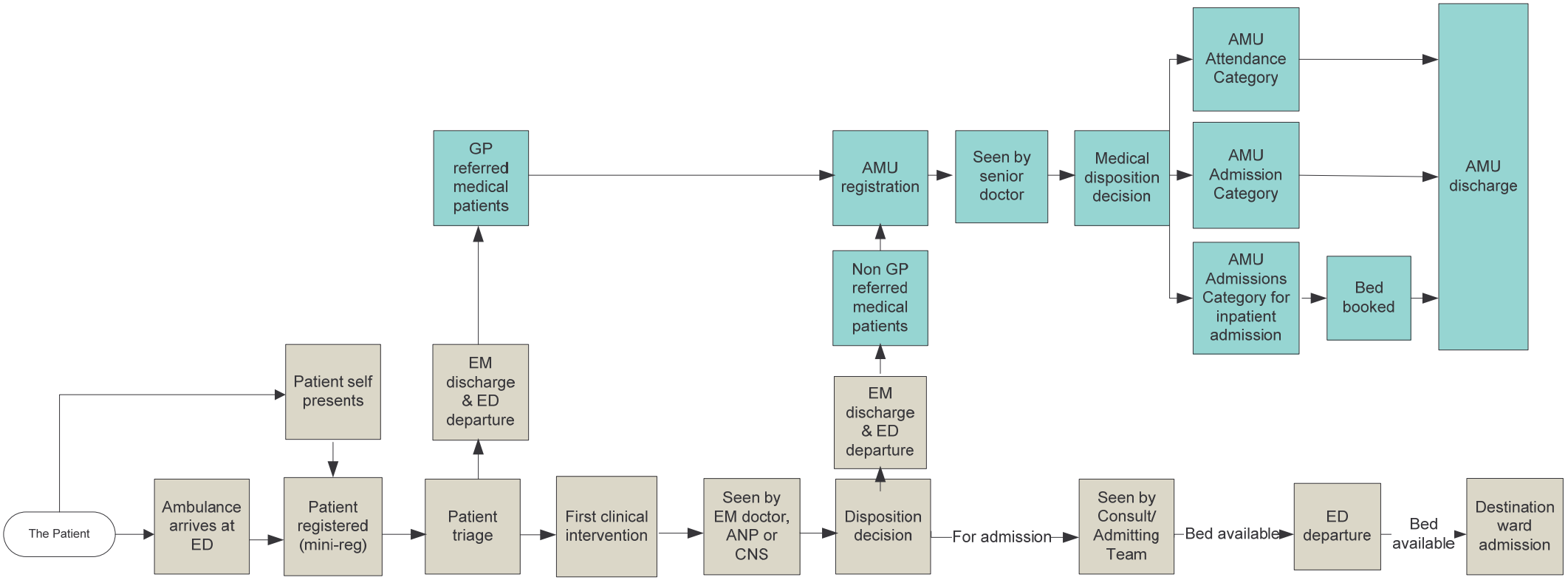
What is strongly recommended, however, is that each ED explores various system improvement approaches that can be used as tools to support quality improvement in each ED. The EMP will facilitate this though the sharing of outputs from Best Practise Workshops and the provision of guides to support service improvement (Implementation Guide number 4 – in development) and other resources. The EMP will develop Process Improvement initiatives in a number of key sites, to enhance emergency care provider competency in change management. It is also hoped that these sites will serve as beacons for the development of a culture of continuous quality improvement in emergency care at national level.

4. The Emergency Medicine and Acute Medicine Interface

Emergency Medicine and Acute Medicine Pathway - Model 3 and 4 Hospitals:

	Recommendations:
4.1	The interface of EM and Acute Medicine will be managed through the hospital Unscheduled Care Governance Group. Coordinated implementation of the EMP and AMP is essential to providing high quality, efficient and cost-effective patient care. Patients should experience a seamless transition of care between the ED and AMU/AMAU. EM and AM teams should work collaboratively to continuously improve the quality, timeliness and patient experience of care across the ED/AMU/AMAU interface.
4.2	All patients (ambulance-transported, GP referred and self-presenting patients) should, where possible, enter through a common door and undergo immediate Manchester Triage and resuscitation if required. Patients transferred to AMAU/AMU from other hospitals will not require ED triage.
4.3	Patient arrival will be registered at ED reception and mini-registration (according to the EMP template) will be applied to patients referred by their GPs to AMAU/AMU, to prevent avoidable delays. Full registration will be completed later by AMAU/AMU administrative staff. The registration of patients transferred from other hospitals will take place in the AMAU/AMU.
4.4	Triage assessment will be rapid and will occur at the same time as or after patient registration. A maximum delay of 15 minutes from registration to Triage is advised and 95% of patients should be triaged within this timeframe. ED staff will need to work collaboratively with the Acute Medicine team to ensure that triage for AMAU/AMU-directed patients is applied in a rapid and consistent manner.
4.5	Infection Prevention and Control Assessment (IPCA) will be undertaken immediately after triage, according to the standard ED IPCA template.
4.6	STEMI patients should be managed according to National Protocols for Coronary Reperfusion. Patients with suspected Acute Coronary Syndrome should be managed according to local care pathways which may or may not include AMU/AMAU referral. Delays to initial ECGs must be avoided.
4.7	Patients who have been referred by their GPs for AMU/AMAU assessment and who do not require resuscitation should be transferred to AMU/AMAU directly after triage. Nursing staff in the AMU/AMAU should be informed prior to this transfer. Patient documentation should accompany the patient. These patients will have an Early Warning Score (EWS) documented on arrival in the AMAU/AMU. GP-referred AMU/AMAU patients will not routinely pass through Rapid Assessment & Treatment (RAT).
4.8	In addition to those patients accessing the Acute Medicine services directly through their GPs, it is recognised that certain patients with medical conditions will be diagnosed, treated and discharged from the ED by EM clinicians. A further cohort of patients with acute medical conditions will be streamed to AMU/AMAU after EM assessment. The EM and Acute Medicine services need to agree local pathways and protocols to ensure that the transition of patient care between the two services occurs in a safe, efficient and timely manner. There should be close collaboration between both services to minimise avoidable delays and to achieve the best outcomes for patients.
4.9	Patients referred to Acute Medicine after EM assessment will have an Early Warning Score assessment documented at the time of referral. Patients may be referred to the AMAU/AMU before the completion of all clinical investigations, once the need for AMAU/AMU admission is determined. The assessment by the acute medicine team should in general occur in the AMU/AMAU rather than the ED unless the AMU is closed or the clinical status of the patient requires care in a resuscitation area.
4.10	If an AMAU is closed patients referred to AMAU by their GP will be accommodated in the ED. Nursing staff will inform the Medical Registrar/SpR on-call of the patient's arrival immediately after triage. These patients will have an EWS documented at the time of notification of the on-call medical team, consistent with AMAU/AMU procedure. These patients will be under the clinical governance of the Acute Medicine Service.
4.11	AMU/AMAU referred patients who are redirected to the ED resuscitation area will remain the primary responsibility of the acute medicine team on-call, but emergency medicine, critical care and other specialty teams will provide support as required. Ambulance personnel may re-direct an AMU/AMAU/MAU-referred patient to an ED should the patient's clinical status deteriorate during transport. The ED should be placed on stand-by to receive all such patients.

Diagram of the Emergency Medicine and Acute Medicine Interface



This diagram must be reviewed in the context of the guidance outlined in Section 4 – the Emergency Medicine Acute Medicine Interface.

5. Indicators, Measures and Reports

5.1 Introduction

The EMP contends that analysis of ED activity and process data is the cornerstone of process improvement in that 'you can manage what you can measure'. Of the activity and process measures recommended by EMP there are four principle key access performance indicators with targets recommended:

- Ambulance Patient Handover Time: 95% < 20 minutes
- Total ED Time: 95% < 6 hours (and no patient waits > 9 hours)
- Number of Patients who leave before completion of treatment: < 5% of new patient attendances
- Clinical Decision Unit length of stay: 95% < 24 hours.

The Total ED Time Target is the primary access KPI for emergency care. It is a measure of not just ED performance, but the effectiveness of the entire unscheduled care system of the hospital. The Ambulance Patient Handover Time Target is crucially important to the ambulance service and also serves as a 'balancing metric', ensuring that the 'clock starts' as soon as the patient arrives at the hospital.

The first two, Ambulance Handover Time and Total ED time are constituents of the 9 Time Points monitored by the Special Delivery Unit. These 9 data points will be monitored by the SDU through a web-based system to which EDs with adequate ICT capability will upload data on a daily basis.

The EMP recommends that clinical teams adopt a 3:2:1 approach when attempting to meet the Total ED Time for patients who need admission, aiming to complete EM assessment within three hours, leaving a maximum of two hours for assessment by admitting teams and one hour for transfer the patient to a hospital bed, unless the bed was available for direct admission in which case the patient should be transferred to the ward according to protocol and assessed there by the admitting team.

The EMP recommends that EDs that can configure their Information Systems should capture additional process steps that are not required for SDU reporting but which provide important data to further understand ED throughout: These are the Time of First Clinical Intervention (e.g. time of ECG) and the Time of EM discharge. The time of First Clinical Intervention will be significant in audit of the ED assessment of patients with suspected STEMI. Capture of the time of EM discharge will identify delays between completion of the EM episode of care and patient departure from the ED (e.g. if waiting for transport).

Admitting teams should record the time they start and complete patient assessment on the ED ICT system (points 6 and 7). (Action: EDCOG, UCGG, Clinical Director.)

5.2 The National ED Process Dataset: The 9 Data Points

Process measures recommended by EMP include the 9 time points required by the Special Delivery Unit shown below:

	Time Point	Definition	Summary Explanation
1	Ambulance Arrival Time	The time the paramedic staff record they arrived at the hospital.	Time of patient arrival as recorded by ambulance personnel on the handover sheet. The purpose of this time point is to measure total handover time of ambulance and length of time patient is left on Ambulance Trolley. The 'end time' of Ambulance Handover should therefore be Triage – when clinical handover takes place - the patient should be moved to Hospital trolley or cubicle. There should be no exceptions to this.
2	ED Arrival Time	The first documentation of a patient's presence in the department is taken as the arrival time.	This is normally the time that the patient is registered and their data is inputted on the ICT system. The time that defaults on the system is therefore normally the time captured as ED arrival time.
3	Triage Time	The time that triage is started.	Where electronic systems are used the triage time defaults on the system once the Triage screen is entered therefore it is good practise to initiate triage electronically to have this automatic time stamp.
4	Time Seen by Treating Clinician	The time a patient is first examined by a doctor or an Advanced Nurse Practitioner.	
5	Time of Disposition Decision	The time the treating clinician decides on a patient's further management. It is the same time as Decision to Admit for patients who are subsequently admitted.	This can be the time that the Emergency Department clinician makes a decision to refer the patient to another specialty as it has been decided that the patient requires admission or the point where it has been decided to discharge the patient. In the case of decision to admit, it is the point where on call teams have been requested to attend ED. In many hospitals this is also the point where a bed is booked for a patient.
6	Time Seen by Admitting/Consulting team	The time a patient is seen by a doctor on behalf of the admitting Consultant or by a doctor providing a non-EM specialist opinion.	This is the time that the on-call team has responded to the request to review and has seen the referred patient in the ED. Unless otherwise agreed, it is the responsibility of the on-call team to update this time stamp in the ED ICT system.
7	Time of Completion of Admitting/Consulting Team Assessment	The time that admitting/consulting teams have completed their assessment of a referred patient.	This is the time the on-call team has seen the patient and completed their assessment. Unless otherwise agreed, it is the responsibility of the admitting/consulting team to update the time stamp in the ED ICT system.
8	Time bed requested on PAS	The time that an inpatient bed is requested on the hospital's computerised Patient Administration System.	This time may be the same time as the Disposition Decision Time (time point 5), depending on the process in existence in the hospital. *(ICT issues may need to be resolved)*
9	ED Departure Time	The time that a patient physically leaves the ED.	This should be the time the patient is leaving ED to go straight to a bed (the assumption is that the bed is ready). It should not be when they are moved to an corridor or alternative location in the hospital while they are still on a trolley.

5.3 Standardisation of ED Data

It is essential that all stakeholders understand which patient cohorts contribute to the SDU measures so that consistent data are reported from all EDs. The data cohorts behind all SDU data points are listed in Appendix 3: Implementation Guide No. 3: Standardisation of Emergency Medicine Data.

6. Emergency Medicine Programme Clinical Guidelines

6.1 Introduction

ED implementation teams will be required to implement clinical guidelines developed by the EMP and guidelines relevant to EM that will be developed by other DCSP programmes. The EMP guidelines were developed by the Academic Committee of IAEM, with the support of a subgroup of the Emergency Nursing Interest Group and EMP working group members. Clinical KPIs will be derived from the EMP clinical guidelines and KPIs from other national programmes will be co-implemented by the EMP as they become available. ICT development will be required to support the collection of clinical data to support these KPIs.

6.2 Guidelines and Protocols in Development

A number of EMP Clinical Guidelines and Protocols are in an advanced stage of development at present and will be circulated to EDs in the coming months:

- Irish Children's Triage System (in evaluation);
- A National Protocol for Mental Health Triage, in collaboration with the Liaison Psychiatry;
- A National Protocol for Infection Control and Prevention Assessment in the ED;
- Anaphylaxis in children;
- Asthma in children;

A number of Pre-hospital Care Protocols have been and will be implemented:

- The National Trauma Access Protocol, in collaboration with the National Ambulance Service (implemented);
- Paediatric Bypass Protocol, in collaboration with the NAS and Paediatric Programme (in development).

All EMP guidelines and protocols will be available on the EMP website (in development).

7. Emergency Medicine Programme Work in Progress

7.1 Future EMP development and implementation support:

EMP implementation teams can anticipate further communication as the following work-streams are progressed:

- Guidance for co-implementation of the EMP, AMP and National Acute Coronary Syndrome Programme
- EMP Implementation Guide: Understanding and responding to ED demand;
- Proposal to Improve ED ICT Systems;
- A National EM Diagnostic Coding Dataset;
- A National EM Full Registration Dataset;
- NQAIS – Web-based Process and Quality Data Analysis and Display (see below);
- Standardisation of categories and nomenclature of Emergency Departments and existing Minor Injury Units;
- A National Template for Hospital Responses to Major Emergencies;
- Workforce planning for emergency nursing and medical staff;
- Further measures covering acuity and clinical KPIs;
- Development of National Trauma Audit.

7.2 Emergency Medicine National Quality Audit Information System (NQAIS)

The EMP is working with Health Intelligence Ireland and the SDU to develop an automated web-based reporting and display system for ED process measures. This system will only be available to EDs with relatively high-level ICT systems at first, but will be rolled out to include all EDs and other Emergency Care Units as ICT system implementation progresses. It will compliment the SDU reports and provide EDs with trending data and demand analysis reports. If successful, it will be expanded to provide reporting of clinical as well as process KPIs.

EDs are advised not to expend unnecessary resources on the development of local reporting systems if NQAIS implementation is imminent. However EDs may wish to adapt existing reporting systems to include parameters listed in appendix 3. EMP implementation teams in hospitals that have poorer ICT capability may find that analysis of some of SDU data points, even on data obtained through paper-based sampling exercises will provide baseline data to support service improvement.

8. EMP '*First Steps*' Implementation Check-list

	Implementation Step	Descriptor	In progress
1	ED-level Implementation	Emergency Department activity is directed by an ED Clinical Operational Group (ED COG).	
2		An EMP Implementation Team commences programme implementation at ED level, under the governance of the ED COG	
3	Clinical Quality	The ED team implements National Clinical Guidelines and related Clinical KPIs, as developed.	
4	EM Pathway of Care	Recommendations for the EM pathway of care are implemented in the ED.	
5	Acute Medicine/EM Interface	The interface between AMU/AMAU and the ED is established according to the agreed Acute Medicine and Emergency Medicine Programme models of care.	
6	Hospital-level Implementation	An Unscheduled Care Governance Group is established to oversee the provision of emergency and acute care in the hospital and manage relevant interfaces.	
7		The hospital CEO/GM, Director of Nursing, Clinical Director and management team undertake EMP implementation at hospital level, with emphasis on hospital-wide initiatives to achieve the 6-hour Total ED Time target.	
8		ED and AMU/AMAU patient access to Diagnostic Imaging and laboratory turn around times are optimised.	
9		Admitting teams record the start and completion of assessment times on ED ICT system, if available.	

Appendix 1

EMP Implementation Guide No.1: Setting up an ED Clinical Operational Group and EMP Implementation Team

Aim: the ED Clinical Operational Group will oversee governance activity in the ED and linked units and will be responsible for implementation of the EMP recommendations at ED level.

ED COG core participants:

Lead Consultant in EM and Consultant colleagues as available, a Specialist Registrar (SpR) representative, the ED Clinical Nurse Manager/ Divisional Nurse Manager, Development/Business Manager (if such a function exists within a dept), the data manager and representatives from other disciplines contributing to the ED/EU multidisciplinary team.

Invitees to COG meetings:

Representatives from Pre-hospital care, other specialties, community groups and hospital groups as required. There should be regular review of inter-specialty issues in conjunction with the hospital Unscheduled Care Governance Group (UCGG) and directly when appropriate with the relevant teams. Service users should participate in COG activity as appropriate and in manner consistent with hospital policy.

COG meeting structure:

- suggest weekly meetings until COG activity is well established;
- scheduled for times that are less likely to be clinically busy;
- meetings should be minuted;
- actions and outcomes are reviewed to ensure that COG objectives are achieved.

Terms of Reference:

- ED COG representatives will contribute to the hospital Unscheduled Care Governance Group;
- Review progress in implementation of EMP recommendations;
- Review progress in achieving KPI targets and improving process measure data;
- Manage interface with other specialties;
- Review operational issues and outcomes of review clinics and CDU care;
- Monitor patient access to diagnostic tests and response times in conjunction with UCCG;
- Meet with hospital Acute Access Specialty leads;
- Address ED staffing issues;
- Ensure service users and stakeholders are engaged in service improvement activity;
- Address risk management issues;
- Review implementation of national clinical guidelines;
- Oversee local audit activity;
- Evaluate the effectiveness of Quality Improvement initiatives;
- Review the care of patient groups with particular emergency care needs;
- Report on research activity in the ED and linked units;
- Develop and oversee educational programmes for the ED/ Network.

EMP Implementation Team in the ED

A named team should be dedicated to coordinating EMP implementation and ED quality improvement activity. Whereas the ED COG will carry ultimate responsibility for EMP implementation, the EMP Implementation Team in the ED (EMPIT) will play a key role in planning, executing and monitoring improvement in the ED and in liaising with other programme implementation teams in the hospital. It is understood that it will not be possible to allocate staff full-time to improvement projects and indeed the improvement effort will require the contributions of all member of the ED team. The Lead Consultant in EM and Clinical Nurse Manager/Divisional Nurse Manager will be expected to direct and support the work of the EMPIT.

EMPIT core participants: This team will include an Implementation Coordinator (who may be a senior nurse, doctor or other clinical team member). The team should ideally include a staff member with ICT skills to support ICT system implementation (if necessary) in the ED and data manager/analysis experience. Project management experience within the team would be of benefit also. The size of the team will depend on the size and complexity of the ED, but small two to four person teams are envisaged.

Terms of Reference:

- Monitor and improve the efficiency of the EM Pathway of care as directed by the ED COG;
- Report to the ED COG on implementation progress;
- Maximise ED multi-disciplinary team involvement in EMP implementation activity;
- Link with hospital and regional Programme implementation teams;
- Provide ED liaison for hospital management teams implementing EMP recommendations;
- Act as a point of contact between the ED and the EMP Working Group;
- Provide local leadership for ED quality improvement initiatives sponsored by the EMP;
- Ensure that the ED team is kept up to date on future EMP developments and new recommendations.

Appendix 2:

EMP Implementation Guide No. 2: Mini-registration and Registration in ED

Definition: Mini-registration refers to the collection of patient information limited to that necessary for the commencement of care, the generation of an ED record and matching of the patient to existing hospital records. These data include presenting complaint and basic demographic information. (see Mini-registration dataset).

Rationale: Mini-registration aims to prevent delays to initial registration and the start of patient care. It should be followed by full formal patient registration at a later less time-critical stage in the patient's journey through the ED. Research evidence indicates that the appropriate use of ED mini-registration reduces the number of patients leaving before completion of treatment, improves patient satisfaction and decreases ED Length of Stay.

EMP Recommendations:

- Patient registration should take place before or at the same time as triage, depending on the patient's clinical status, with the proviso that delays to triage must be minimised.
- Bedside mini-registration (as is routinely undertaken in the resuscitation room in most EDs) is now recommended for all patients who need trolley-based care. All patients who require trolleys should be placed in treatment cubicles without delay.
- Walk-in patients find it easier to understand what to do if registration occurs before triage, according to research findings, but mini-registration should be employed if there is any delay to registration (i.e. a queue forming)
- Mini-registration must be provided for patients referred to AMU/AMAU by their GPs. These patients will undergo Triage in the ED and proceed rapidly to the AMU/AMAU. They will be recorded as ED departures at the time of transfer to the AMU/AMAU. It must be recorded in the ED Information System (EDIS) that these patients are GP referrals to AMU/AMAU and NOT new ED patient attendances (unless as may rarely occur they are re-directed to the ED because they require resuscitation)
- ED Registration time should be considered ED Arrival Time. It is vital therefore that delays to registration do not occur as unrecorded delays must be prevented.
- The Ambulance Patient Handover Time will be retrospectively recorded in the patient Mini-Registration record for all ambulance patients.

Work-Practice Changes to improve Patient Registration Processes:

The broader use of mini-registration will require reception and clinical staff to work in a flexible manner. Full registration should be completed at a later stage in the patient's pathway or when more convenient for administrative staff. Newly presenting patients who need initial mini-registration must always be prioritised over patients completing full registration. Ambulatory patients may, if considered clinically appropriate by the Triage Nurse, return to a registration desk to complete registration after triage or full registration could be undertaken in the ambulatory care area. Immediate trolley accommodation will not be possible, of course, if an ED is allowed to reach 100% capacity. EDIS should be configured, if possible, to allow mini-registration to occur and any new EDIS developments must include this step. The EMP will develop a standard National ED Patient Registration Dataset that will include the Mini-registration dataset. Local adaptation may add other data fields to the mini-registration data set, but these should be kept to a minimum to avoid registration delays.

The data subset from EM dataset for Min-reg should include:

	Data Point	Comment
1.1	Patient forenames	PREFERRED NAME
1.2	Patient surname	
1.3	Patient gender	
1.4	Patient dob	
1.5	Patient age	
1.6	Patient Unique identifier	When developed
1.7	Patient hospital number	Number given by hospital when first treated
1.8	Patient ED Number	IF DIFFERENT TO 1.7
1.9	Patient ED Episode/Attendance Number	IF DIFFERENT TO 1.8
2.0	Patient address line 1	
2.1	Address line 2	
2.2	ED Arrival Time	
2. 3	ED Arrival date	
2.4	Mode of arrival	
2.5	Ambulance arrival time	
2.6	Mini-registration undertaken by	STAFF IDENTIFIER

Appendix 3:

EMP Implementation Guide No. 3: Standardisation of Emergency Medicine Data

The EMP is currently in consultation with the Business Intelligence Unit of the HSE, Health Intelligence Ireland and other stakeholders to standardise all EM data. The following tables outline DRAFT proposals for definitions which, when agreed, will be adopted by all EDs. Formal notification of agreed datasets will be circulated to all hospitals once consultation is complete.

1. ED SDU Process Datapoints

The following data aims to clarify which cohorts of patients provide data for each of the timepoints.

	Measure	Definition
a	ED Arrival to Triage Time	**Includes :** All new ED patients and GP referred AM patients transferred to AMU after triage **Excludes:** Patients who leave after registration but before triage
b	Arrival to Time Seen by Treating Clinician	**Includes :** All new ED patients **Excludes:** GP referred patients to AMAU/AMU transferred directly to AM after triage.
c	Arrival to Time seen by Treating Clinician	**Includes** :All new ED patients **Excludes**: Patients in other triage categories GP referred patients to AMAU/AMU transferred directly to AM after triage.
d	Time Seen by Treating Clinician to Disposition Decision	**Includes**: All new ED patients **Excludes**: GP referred patients to AMAU/AMU transferred directly to AM after triage.
e	Disposition Decision to Time seen by Admitting or Consulting Team	**Includes**: All new ED patients referred for admission/consultation **Excludes:** Patients with disposition decision of ED discharge or Transfer other hospital**;** GP referred patients to AMAU/AMU transferred directly to AM after triage.
f	Time Seen by Admitting or Consulting Team to Time of Completion of Assessment by Admitting/Consulting Team	**Includes:** All new ED patients referred for admission/consultation **Excludes:** Patients with disposition decision of ED discharge or Transfer other hospital GP referred patients to AMAU/AMU transferred directly to AM after triage.
g	Disposition Decision to Departure.	**Includes:** All new ED patients **Excludes:** GP referred patients to AMAU/AMU transferred directly to AM after triage.
h	CDU length of stay	**Includes:** All patients admitted to the CDU i.e. under the care of Consultants in EM.
i	Total ED Time	**Includes :** All new ED patients **Excludes:** GP referred patients to AMAU/AMU transferred directly to AM after triage.

2. Activity Measures of Emergency Departments (DRAFT)

The EMP recommends that standardised definitions are applied to cohorts of ED attendances to ensure reliable comparison of data across all hospitals. The following definitions are presented **in draft format**, while undergoing consultation prior to the implementation of an agreed suite of definitions to be used across all services, the HSE and the Department of Health in relation to emergency care data.

	Criterion	Definition	Inclusion	Exclusions
1	New ED Patient Attendance	A patient who attends ED requesting emergency care for the first time with a particular problem and any patient transferred to or admitted through an ED who requires EM clinical care or resources.	Any patient transferred through ED to the care of another clinical team, who is found to require ED care. Includes unscheduled return patients. Any AMU/AMAU referred patient who requires resuscitation. Includes ED patients who leave before completion of treatment.	Return patients. Patients who are registered for OPD clinics or other unscheduled care services at ED but who do not receive EM care. (e.g. early pregnancy clinics) GP patients referred AMU/AMAU who are sent directly to AMU after triage. Transfers-in (defined below) not requiring ED resources
2	Patients who arrive by ambulance	Self explanatory		Patient transfers direct to ward or other clinical teams.
3	Paediatric Patients Operational Definition Only	Patient aged < 16 years		
4	Older ED patients	Patient aged > 65 years		
5	Older ED patients aged 80 years and older	Patient aged 80 years and older		
6	Scheduled Returns	A patient for whom a subsequent ED visit is arranged, but who remains under the care of EM. This may include patients attending EM review clinics.		
7	Unscheduled ED Return Patient	A patient who returns with the same problem within 28 days of the initial ED visit.	Patients who re-attend frequently. Two subgroups – EM patients and patients who re-attend after discharge by other clinical teams.	

	Criterion	Definition	Inclusion	Exclusions
8	LBCT: left before completion of treatment	A patient who registers but leaves the ED before discharge by a clinician.	Patients who leave against medical advice, after registration but before triage and after triage but before seen by a treating clinician.	
9	AM GP referral – direct to AM from triage	Patients sent directly from ED Triage to AMAU/AMU. (Excluded from new ED patient total)		New ED patients
10	AMAU GP referral – in ED when AMAU closed	Acute Medicine patients seen by AM team in ED when AMAU closed in a model 3 hospital. (Included in new ED patients if use ED nursing resource – must be identifiable as a unique cohort)		
11	AM referral after EM assessment	EM patients referred after ED assessment to AMU.		
12	Total patient referrals for admission/consultation.	EM patients with Disposition Decision to referred for admission/consultation to a non EM team (includes AM referral after EM assessment).		
13	Number of admissions through ED	The total of New and Scheduled Return patients admitted to the same hospital.	Includes AMU/AMAU referrals and transfers	
14	Clinical Decision Unit Admission	A patient referred for admission under the care of a Consultant in Emergency Medicine to a dedicated EM CDU		
15	Patients referred but not admitted	% of new patients referred for admission at disposition decision who are discharged by admitting/consulting teams (i.e. not an EM clinician).		
16	Patient Transferred out to Other Hospital	An EM patient whose care needs cannot be met in the same hospital or whose care needs can be met in another healthcare facility within the hospital network.		Excludes nursing or residential homes
17	Transfers in	Patients transferred in to ED from other hospital or other part of same hospital or accommodated in ED while waiting admission under non-EM team. These are not considered to be new ED attendances unless they require ED resources. They should be identifiable as a separate patient group.		