

## Appendix 18: EMP Process Measures

### Emergency Care Process Time-Point Definitions

#### National ED Process Dataset

	<b>Time point</b>	<b>Definition:</b>
1	Ambulance Arrival Time*	The time the paramedic staff record they arrived at the hospital.
2	ED Arrival Time	The first documentation of a patient's presence in the department is taken as the arrival time.
3	Triage Time	The time that triage is started.
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.
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.
7	Time of Completion of Admitting/Consulting Team Assessment	The time that admitting/consulting teams have completed their assessment of a referred patient.
8	PAS Admission Time	The time that an inpatient bed is requested on the hospital's computerised Patient Administration System.
9	ED Departure Time	The time that a patient physically leaves the ED.

\*Ambulance arrival time to be recorded manually and retrospectively pending National Ambulance Service ePCR development.

### **Additional EMP Measures:**

There are two additional ED process time points recommended by the EMP to be captured by EDIS to support local analysis of ED process efficiency and EMP quality measures and two CDU time points.

### **ED Process Time Points:**

These are (a) the Time of First Clinical Intervention (e.g. ECG performed) and (b) the Time of Emergency Medicine discharge. These data points are not necessary for national monitoring of ED process efficiency and are therefore not included in the national ED process dataset.

	<b>Time Point</b>	<b>Definition</b>
a	Time of First Clinical Intervention	The time diagnostic or therapeutic processes are commenced for a patient.
b	Time of Emergency Medicine Discharge	The time a patient is ready for departure; this indicates the end of the EM care process.

### **Clinical Decision Unit Measures:**

The EMP requires that the time of patient arrival in CDU to time of CDU discharge is recorded by the EDIS to support monitoring of the CDU Length of Stay Key Performance Indicator i.e. that patients will be admitted to CDUs for less than 24 hours after which time they will be discharged, if appropriate, or admitted for ongoing in-patient care to other hospital specialties.

	<b>Time Point</b>	<b>Definition</b>
c	Time of CDU Admission	The time a patient is recorded on the EDIS or PAS as being admitted to the CDU
d	Time of CDU Departure	The time a patient leaves the CDU for discharge home, in-hospital admission under the care of a non-EM specialist or for transfer to another healthcare setting.

### **Ambulance Arrival Time:**

Definition: The time the paramedic staff record they arrived at the hospital.

Data capture: Manual retrospective input to ED Information System (EDIS) by nurse or receptionist.

Rationale: Ambulance Patient Handover Time is an EMP Key Performance Indicator. It is to be measured from the time the ambulance arrives at the ED to the time patient handover occurs from the ambulance crew to nursing or medical staff in the ED. The time of handover is the time of triage for ambulance patients. The target is 95% of all patients to be handed over within <20 minutes of ambulance arrival at the ED.

Work-practice issues: The Ambulance Service will record the time of ambulance arrival. The time this occurs should be documented on the Pre-hospital Care Report by the nurse or doctor who first takes over care of the patient. A copy of the Pre-hospital Patient Care Record forms part of the patient's ED record. Patient transfer from an ambulance stretcher to an ED trolley must occur at the time of clinical handover. The time of patient handover (off trolley) will be manually recorded until such time that electronic means are developed to enable this. The time of ambulance arrival will need to be entered retrospectively in the EDIS.

### **ED Arrival Time:**

Definition: The first documentation of a patient's presence in the ED is taken as the arrival time.

Data capture: Real time at registration on EDIS (with retrospective recording possible for Resus patients).

Work-practice issues: The EMP recommends that registration (or mini-registration) should occur before triage. Patient treatment is likely to be commenced in resuscitation before the patient is formally registered on EDIS, so retrospective registration and entry of arrival time must be possible.

### **Triage Time:**

Definition: The time that triage is started.

Data capture: Real time on EDIS at start of nurse triage.

Rationale: This is a measure of access to nurse triage.

Work-practice issues: Registration or mini-registration should be measured before or at the same time as triage, except in resuscitation cases, where treatment takes precedence. Manchester Triage is the recommended system to be used for adult patients. A paediatric triage tool is in development. Patients attending local injury units will not be formally triaged.

### **Time Seen by the Treating Clinician:**

Definition: The time a patient is first examined by a doctor or an Advanced Nurse Practitioner.

Data capture: Recorded real-time on EDIS by treating clinician (retrospective recording needed for resus patients).

Rationale: The time from arrival to Time Seen by the Treating Clinician is a measure of patient access to an EM clinical decision maker.

Note: The clinician referred to here must be someone who can make the discharge or admission decision for the patient, therefore an EM doctor or an ANP.

### **Time of Disposition Decision:**

Definition: 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.

Data capture: Recorded on EDIS by treating clinician.

Rationale: The time from Disposition Decision to ED Departure Time for patients admitted is a measure of in-patient bed access.

Notes: (1) Disposition Decision signals the end of the EM assessment process, but EM clinical management may continue beyond this point. (2) A request for an in-patient bed should be made at this time. (3) The disposition options may include: admission; plan to discharge from ED; transfer for care at another hospital or healthcare site; a request for on-call specialty or regional specialty team consultation to agree as to the patient's appropriateness for a specialty-specific out-patient pathway of care; plan for deferred care (i.e. a patient is advised to attend at a designated future time).(4) It is accepted that not all referred patients will be admitted, but the numbers not subsequently admitted are likely to be small. The number of patients referred for admission but not subsequently admitted should be monitored at departmental level. The number of patients referred for consultation should be monitored as rates may reflect access to out-patient care pathways such as rapid access clinics, home care, chronic disease management teams etc. The number of patients referred for consultation only who are subsequently admitted should also be monitored at departmental level. This is a quality of care issue.

### **Time Seen by Admitting or Consulting team:**

Definition: 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.

Data capture: Admitting/consulting teams should record this time on the EDIS.

Rationale: Disposition Decision Time to Time Seen by Admitting or Consulting Team indicates the responsiveness of non-EM specialty teams to requests for admission or consultation.

Notes: In cases where patients are admitted directly from ED to wards, to be seen by admitting teams there, the ED departure time will be considered equivalent to this time-point.

### **Time of Completion of Admitting/Consulting Team Assessment**

Definition: The time that admitting/consulting teams have completed their assessment of a referred patient.

Data capture: Admitting/consulting teams should enter the data on the EDIS.

Rationale: The interval between the start and completion of assessment by admitting/consulting teams will measure delays in the admitting/consulting team process of care that could contribute to admission delays for patients.

Noted: (1) This time-point will not be measured for patients who are admitted directly from ED to wards, to be seen by admitting teams there. (2) If inter-specialty referral or consultation occurs this time will be taken at the completion of the last patient assessment.

### **PAS Admission Time:**

Definition: The time that an inpatient bed is requested on the hospital's Patient Administration System (PAS).

Data entry: An administrative staff member may make this request directly onto PAS or via EDIS that links to the hospital PAS.

Rationale: This enables the time of bed request to be related to the time of patient admission to a ward bed.

### **ED Departure Time:**

Definition: The time that a patient physically leaves the ED.

Data capture: Real time data entry by ED nurses as soon as the patient leaves for ward or is discharged.

Rationale: It is the end point for the 6-hour Total ED Time Target.

### **Additional EMP Measures:**

The additional ED process time points recommended by the EMP to be captured by EDIS to support local analysis of ED process efficiency and EMP quality measures, but excluded from the

National ED Process Dataset, are described below. These are (a) the Time of First Clinical Intervention (e.g. ECG performed) and (b) the Time of Emergency Medicine discharge. These data points are not necessary for national monitoring of ED process efficiency and are therefore not included in the national ED process dataset.

### **Time of First Clinical Intervention:**

Definition: The time diagnostic or therapeutic processes are commenced for a patient. It does not include recording of vital signs. It may be the same as arrival time for resuscitation patients.

Data capture: Real time data entry by ED clinicians.

Rationale: After triage, clinical intervention begins with any treatment, diagnostic test, procedure or review by an EM clinician that contributes to the patient's diagnosis and clinical management i.e. it improves the quality of care and reduces delay to disposition decision. International literature supports the benefit of this type of early intervention in reducing waiting times for patients. This time point is particularly important for condition-specific patient cohorts e.g. patients with suspected ACS who require ECG.

Notes: Doctors, ANPs or nurses with appropriate skill sets (eg X-ray requesting) may contribute to this early assessment step. This time-point may also record the time of Advanced Triage by EM doctors.

### **Time of EM Discharge:**

Definition: The time a patient is ready for departure; this indicates the end of the EM care process.

Data capture: Real time data entry by ED nurses or doctors as soon as the patient is ready to leave for a ward or is discharged.

Rationale: EM Discharge Time is the time that EM care is complete (i.e. including documentation, prescriptions, nursing care) and patients are ready to leave the ED. Patients who are discharged from EM may be delayed if they have to wait for transport for transfer to another healthcare setting or to go home. This delay is likely to be outwith the control of the EM team.

Note: EM Discharge Time and ED Departure Time should be considered the same for admitted patients because EM has an ongoing duty of care to in-patients should they require further emergency care before they leave for a ward.

### **Clinical Decision Unit Measures:**

The EMP requires that the time of patient arrival in CDU to time of CDU discharge is recorded by the EDIS to support monitoring of the CDU Length of Stay Key Performance Indicator i.e. that patients will be admitted to CDUs for less than 24 hours after which time they will be discharged, if appropriate, or admitted for ongoing in-patient care to other hospital specialties.

**Time of CDU Admission:**

Definition: The time a patient arrives in the CDU.

Data capture: Real time data entry by CDU nursing staff on the EDIS or PAS.

Rationale: This time-point indicates the start of the CDU episode of care. It allows measurement of the length of stay for CDU patients and monitors compliance with the CDU length of stay KPI. CDU length of stay must be monitored to optimise CDU patient access through avoidance of delayed patient transfer out of the unit or discharge. 95% of CDU patients should be discharged or transferred within 24 hours of CDU admission.

**Time of CDU Departure:**

Definition: The time a patient leaves the CDU for discharge home, in-hospital admission under the care of a non-EM specialist or for transfer to another healthcare setting.

Data capture: Real time data entry by CDU nursing staff on the EDIS or PAS

Rationale: This time-point marks the end of the CDU episode of care.

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**Table 1 Emergency Care Process Interval Measures:**

	<b>Name of measure</b>	<b>Denominator</b>	<b>Reporting criteria</b>	<b>Rationale</b>	<b>Source Data</b>
<b>1.1</b>	Ambulance Patient Handover Time	All patients arriving by ambulance to ED	Measure % of total < 20 minutes, median and 95 <sup>th</sup> centile if target unmet.  <b>Target: 95% &lt; 20 mins</b>	<ul style="list-style-type: none"> <li>• Access to ED for ambulance patients</li> <li>• Compliance enhances access to ambulance service for community.</li> </ul>	Ambulance Service / Manual record in EDIS
<b>1.2</b>	Total ED Time – Arrival to ED Departure Time	(a) all new ED patients (b) all new ED patients who are subsequently admitted (c) all new ED patients who are discharged by an EM clinician. (d) all new ED patients who are discharged by a non-EM clinician (d) all scheduled returns	Primary measure: % of total > 6 hours  <b>Target 95% &lt; 6 hours</b>  Secondary measure: Median, mean, 75 <sup>th</sup> and 95th centile	<ul style="list-style-type: none"> <li>• Measures the timeliness of care for all patients</li> <li>• Indicates access to in-patient beds for admitted patients</li> <li>• Secondary measures demonstrate progress towards target and indicates duration of delay for most delayed 10% of patients.</li> </ul>	EDIS (ED information system)
<b>1.3</b>	Arrival to Time Seen by Treating Clinician	all new ED patients	Median, mean, 75 <sup>th</sup> and 95th centile	<ul style="list-style-type: none"> <li>• Indicates access to EM clinicians</li> </ul>	EDIS
<b>1.4</b>	Arrival Time to Disposition Decision Time	all new ED patients	Median, mean, 75 <sup>th</sup> and 95th centile	<ul style="list-style-type: none"> <li>• Indicates duration of EM assessment phase as a component of Total ED time</li> </ul>	EDIS



<b>1.5</b>	Time of Disposition Decision to ED Departure Time for Admitted Patients	all new ED patients who are subsequently admitted	Median, mean, 75 <sup>th</sup> and 95 <sup>th</sup> centile	<ul style="list-style-type: none"> <li>Indicates delays after EM assessment which may reflect access to on-call team assessment or access to in-patient beds.</li> </ul>	EDIS
<b>1.6</b>	CDU Length of Stay	Time of arrival in CDU to time of CDU departure	Median, mean time % of total > 24 hours <b>Target 95% &lt; 24 hours</b>	<ul style="list-style-type: none"> <li>Duration of CDU care</li> </ul>	EDIS

*This level of analysis is only anticipated to be undertaken where there is sufficient ED ICT functionality to support it.*

#### Notes on EC Process Time Interval Definitions:

##### Total ED Time:

- Total ED Time is Arrival to ED Departure time. It should be measured for:
  - (a) all new ED patients ( including unscheduled return)
  - (b) all new ED patients who are subsequently admitted
  - (c) all new ED patients who are discharged by an EM clinician.
  - (d) all new ED patients who are discharged by a non-EM clinician
  - (d) all scheduled returns (not included in new patient data)

##### Arrival to EM Discharge Time and ED Total Time:

- Arrival to EM Discharge time measures the duration of EM care, whereas ED total time measures Arrival to EM Discharge Time plus EM Discharge Time to ED Departure Time.
- EM Discharge to ED Departure time should be measured for discharged patients only.

## Table 2 Emergency Care process measures to be collected & reviewed at ED level.

*This level of analysis is only anticipated to be undertaken where there is sufficient ED ICT functionality to support it.*

	Name of measure	Denominator	Reporting criteria	Rationale	Source Data
3.1	Ambulance Handover Time	All patients arriving by ambulance to ED See notes on definition	Measure % of total < 20 minutes, median, mean, 75 <sup>th</sup> and 95 <sup>th</sup> centile if target unmet. <b>Target: 95% &lt; 20 mins</b>	Access to ED for ambulance patients	Ambulance Service
3.2	Total ED Time – Arrival to ED Departure Time	(a) all new ED patients (b) all new ED patients who are subsequently admitted (c) all new ED patients who are discharged by an EM clinician. (d) all new ED patients who are discharged by a non-EM clinician (e) all scheduled returns (f) all CDU admissions (g) all new patients aged < 16 years (h) all new patients aged < 1 year (i) all new patients aged 65 and older (j) all new patients aged 80 years and	Primary measure: % of total > 6 hours  Secondary measure: Median , mean, 75 <sup>th</sup> and 95th centile  Data per day of week for a quarter (run charts) and measure of variance TBC	<ul style="list-style-type: none"> <li>Measures the timeliness of care for all patients</li> <li>Target 95% &lt; 6 hours</li> <li>Indicates access to in-patient beds for admitted patients</li> <li>Secondary measures demonstrate progress towards target and indicates duration of delay for most delayed 10% of patients.</li> <li>Groups of interest</li> <li>Patients with mental health presentations accounted for most</li> </ul>	EDIS

		older (k) all new patients identified as presenting primarily due to mental health problems		breaches of UK target.	
<b>3.3</b>	Arrival to Triage Start Time <sup>1</sup>	All new patients	% < 15 mins target time	Indicates access to triage	EDIS
<b>3.4</b>	Arrival Time to First Clinical Intervention <sup>2</sup>	All new ED patients	Median, mean, 75 <sup>th</sup> and 95 <sup>th</sup> centile	Access to first diagnostic or treatment milestone on patient journey	EDIS
<b>3.5</b>	Arrival to Time Seen by Treating Clinician <sup>2</sup>	All new ED patients	Median, mean, 75 <sup>th</sup> and 95 <sup>th</sup> centile	Access to EM clinicians	EDIS
<b>3.6</b>	Arrival Time to Time of Disposition Decision <sup>2</sup>	all new ED patients	Median, mean, 75 <sup>th</sup> and 95 <sup>th</sup> centile	Duration of EM assessment phase	EDIS
<b>3.7</b>	Disposition time to start seen by consult/admitting team <sup>2</sup>	All new ED patients referred for admission or consultation	Median, mean, 75 <sup>th</sup> and 95 <sup>th</sup> centile Target 1 hour for Acute Medicine	Access to admitting teams	EDIS
<b>3.8</b>	Time of Disposition Decision to ED Departure Time for Admitted Patients <sup>2</sup>	all new ED patients who are subsequently admitted	Median, mean, 75 <sup>th</sup> and 95 <sup>th</sup> centile	Access to in-patient beds.	EDIS
<b>3.9</b>	EM Discharge Time <sup>2</sup> to ED Departure Time for Discharged patients	all new ED patients who are subsequently admitted	Median, mean, 75 <sup>th</sup> and 95 <sup>th</sup> centile	Access to transport	EDIS

3.10	EM Discharge Time to ED Departure time for patients transferred to other hospital	all new ED patients who are subsequently transferred	Median, mean, 75 <sup>th</sup> and 95th centile	Access to inter-hospital transport or retrieval	EDIS
3.11	CDU Length of Stay	Time of CDU admission to CDU departure time.	Median time, mean % of total > 24 hours <b>Target 95% &lt; 24 hours</b>	Duration of CDU care Access to other specialty care for patients requiring longer admission	EDIS

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