



## Clinical Key Performance Indicators (KPIs)

## Mission Statement

*“The Pre-Hospital Emergency Care Council protects the public by independently specifying, reviewing, maintaining and monitoring standards of excellence for the safe provision of quality pre-hospital emergency care”*

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### Version History

(Please visit the [PHECC website](#) to confirm current version.)

STN026 PHECC Key Performance Indicators (KPIs)		
Version	Date	Details
1	11 May 2017	Approved by Council

## PHECC Clinical Key Performance Indicators (KPIs)

*'Key Performance Indicators (KPIs) are measures of performance that are used by organisations to measure how well they are performing against targets or expectations. KPIs measure performance by showing trends to demonstrate that improvements are being made over time. KPIs also measure performance by comparing results against standards or other similar organisations. This helps organisations to improve the service they provide by identifying where performance is at the desired level and also to identify where improvements are required' (HIQA).*

PHECC commissioned an academic process to identify KPIs for the Irish pre-hospital emergency care environment through UCC led by Prof Ronan O'Sullivan. This process identified 101 KPIs. It was recognised that the introduction of all 101 KPIs for licensed CPG providers would be both problematic and counterproductive. PHECC, under the direction of Dr Eamonn Murphy (UL), constituted a KPI selection group to identify KPIs for initial introduction.

### KPI standard

1. Key Performance Indicators (KPIs) must be;
  - 1.1 Transparent
  - 1.2 Not too onerous
  - 1.3 Not too punishing on the service to achieve
  - 1.4 Specific
  - 1.5 Measurable
  - 1.6 Achievable
  - 1.7 Reproducible
  - 1.8 Time phased
2. The KPI cycle is a three-year timeframe. KPIs shall be agreed for each cycle. Current KPIs may be extended into or removed from the next KPI cycle.
3. KPI are categorised into KPI groups. Eleven KPI groups are identified. *See table 1.*

Table 1. KPI Groups

Group Ref	KPI Group
A	Pain Management
B	Cardiac arrest
C	ACS
D	Asthma
E	Hypoglycaemia
F	Seizure
G	Trauma
H	Stroke
I	Operations
J	Sepsis
K	STEMI

4. While it is acknowledged that Operations are a legitimate KPI group the primary focus for the KPIs would initially be on clinical issues.

5. Trauma and sepsis KPI are not included in the initial round of KPIs as the Trauma Network is currently being developed nationally and sepsis is going through an international review of care bundles.
6. To give a broad perspective to the initial KPIs one KPI from each KPI group has been selected. Two KPIs were selected in Group F as this was the only area that included paediatric patients. (See Table 2).

Table 2. PHECC clinical KPIs

Group	No.	Code	Agreed KPI
A	24	2.9.5	Rate of clinically significant reduction in pain
B	6	2.1.12	In cardiac arrest, EMS return of spontaneous circulation (ROSC) rate on ED arrival
C	9	2.2.2 a	In patients with acute coronary syndrome (ACS), rate of Aspirin administration
D	16	2.4.1	In patients with acute asthma exacerbations, rate of administration of $\beta$ 2-agonist
E	20	2.8.2	<i>In patients suffering from clinically suspected hypoglycaemia, recording of blood glucose after treatment</i>
F	18	2.7.1	In patients with seizures, rate of blood glucose measurement
F	25	2.10.4	In children with seizures, proportion of patients in whom temperature is recorded
H	10	2.2.2 b	Proportion of FAST-positive acute stroke / TIA patients transported directly to a hospital capable of performing stroke thrombolysis
K	1	2.1.1	In patients with STEMI, rate of direct patient transport to primary percutaneous coronary intervention (PCI) capable facility with ECG to PCI time < 90 minutes

7. Table 3 outlines the KPI narratives.

Table 3. KPI Narrative

Group	No.	Code	KPI Narrative
A	24	2.9.5	Percentage of patients presenting with severe pain that result in a reduction in $\geq 3$ points on the pain scale when measured following at least a 10-minute interval after pain management intervention(s).
B	6	2.1.12	Percentage of patients in cardiac arrest, where resuscitation is initiated in the pre-hospital environment and who meet the Utstein comparator group criteria (an arrest of a presumed cardiac cause that was bystander witnessed with an initial rhythm of VF/VT), that have return of spontaneous circulation (ROSC) on arrival at ED.
C	9	2.2.2 a	Percentage of patients presenting with acute coronary syndrome (ACS) that have Aspirin administered by EMS prior to ED attendance.
D	16	2.4.1	Percentage of patients presenting with bronchospasm that are administered a $\beta$ 2-agonist.
E	20	2.8.2	Percentage of patients presenting with hypoglycaemia that have a post blood glucose recorded following a hypoglycaemic reversing intervention.
F	18	2.7.1	Percentage of patients presenting with seizure that have a blood glucose recorded.
F	25	2.10.4	Percentage of paediatric patients presenting with seizure that have a temperature recorded.
H	10	2.2.2 b	Percentage of patients presenting with a FAST-positive acute stroke that are transported directly to a hospital capable of performing stroke thrombolysis.
K	1	2.1.1	Percentage of patients, following ECG STEMI identification, that arrive at a PPCI facility in < 90 minutes.

8. Table 4 outlines the KPI criteria, outcome and conditions associated with each KPI.

Table 4. KPIs expressed in terms of Criteria, Outcome and Condition

No	Code	Criteria	Outcome	Condition
24	2.9.5	Severe pain	Reduction of $\geq 3$ points on the pain scale	Measurement not less than 10 minutes after intervention(s) If handover is within the 10 minute timeframe document this and exclude from KPI measurement.
6	2.1.12	Cardiac arrest who meet the Utstein comparator group criteria	Return of Spontaneous Circulation (ROSC) on arrival at ED. ROSC = restoration of spontaneous circulation that provides evidence of more than an occasional gasp, occasional fleeting palpable pulse, or arterial waveform for > 30 sec	Resuscitation initiated in the pre-hospital environment
9	2.2.2a	Acute Coronary Syndrome	300 mg Aspirin administered	Prior to arrival at ED
16	2.4.1	Bronchospasm	$\beta$ agonist administered	Within 5 minutes of confirming bronchospasm
20	2.8.2	Initial blood glucose < 4.0 mmol/L	Obtain a post blood glucose measurement following a hypoglycaemic reversing intervention	Measurement not less than 10 minutes after intervention(s). If handover is within the 10 minute timeframe document this and exclude from KPI measurement.
18	2.7.1	Seizure	Blood glucose measurement	Prior to arrival at ED
25	2.10.4	Paediatric patient with seizure	Temperature measurement	Prior to arrival at ED
10	2.2.2 b	FAST positive stroke	Transport to a hospital that performs stroke thrombolysis	
1	2.1.1	STEMI identified on ECG	Arrive at a PPCI facility in < 90 minutes following ECG acquisition	Acceptance of patient by PPCI clinical staff

#### 9. PCR documentation

In the absence of a record of a medication or intervention on a PCR it shall be taken as not performed. However, there may be a contraindication for such medications or interventions which prohibits these being administered/performed. If a contraindication is not recorded on a PCR it will skew results on clinical performance. PCR completion therefore must include a narrative that indicate a contraindication for an intervention or medication that prohibits standard practice.

## 10. Documentation of medications on PCR

Patients being transported to ED by PHECC practitioners may have had emergency medications administered prior to the arrival of the practitioner through several processes;

- 10.1 Many patients with chronic diseases are prescribed emergency medication which may be administered by self or family/guardian.
- 10.2 SI 449 of 2015 specifies the tenth medication schedule which lists six POM medications which may be administered by non-medical persons in emergency situations.
- 10.3 SI 449 of 2015 also specifies the eighth medication schedule which permits pharmacists to administer the listed POM medications in emergency situations.
- 10.4 Ambulance control call-takers advise patients with cardiac chest pain to self-administer Aspirin.

The PHECC medication formulary cautions that practitioners should take into account the dose of medications administered prior to arrival of a practitioner.

**In the interest of patient safety and good clinical practice it now beholds PHECC practitioners to record on the PCR emergency medications administered by persons other than themselves. As a PHECC PIN is required against the medication on the PCR it is recommended that a specific PIN '0000' is allocated for non PHECC practitioner medication administration.** A doctor's MC PIN or a nurse's NMBI PIN should be recorded as appropriate in the narrative section of the PCR.

11. The acceptable percentage standard against each KPI to be agreed following at least one year of data collection. The initial percentage set to be identified through international standards/literature review and baseline measurements. Services will be encouraged to identify a baseline measurement when a KPI is initially introduced, without repercussion for below average results. This baseline shall be used to drive quality improvement performance.



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