Redesigning Hospital Care Program
Emergency department redesign measures for improvement guide
The important role of the emergency department

Emergency departments provide care both for large numbers of patients treated solely within them (60 per cent or more of the total attendances in many hospitals) and for those patients who require admission to the hospital. The journey of the patient entering and exiting the emergency department must, therefore, be viewed both in the context of wider community services and for the remainder of the hospital. This document concentrates on the hospital elements in that journey. The specific inter-relationship between the services within a hospital that care for patients who require emergency care need to be well understood before improvement activities commence. The performance of those services will impact on the capacity of the emergency department to manage patient flow and meet performance targets.

Measuring emergency department performance

Emergency department measures can be grouped into four categories:

1. **Key performance measures (KPIs)**
   These are measures of overall performance and relate to the goal that you are trying to achieve or problem that you are trying to address. These include the five KPIs that are reportable to the Department of Health.

2. **Demand and capacity measures**
   These measures set the scene by defining demand, capacity and activity, and assisting in writing a problem statement for a process redesign program of work.

3. **Process measures**
   These measures capture, validate and track the impact of improvement initiatives on process performance, using times taken to perform process elements within the ED.

4. **Check measures**
   These measures capture the quality and safety improvements, as well as unintended effects elsewhere in the patient journey or hospital system. The choice of measures to monitor and evaluate quality and safety will relate to the focus of the program of redesign.

The feasibility of the measures described in this guide, detailed on page 5, will depend on the availability of reliable data, and the capacity of health services to collect the data.
Inter-relationships between emergency departments and hospital and community services

All staff have a stake in a well-functioning emergency department as this is where a large proportion of inpatients first arrive and this impacts on the whole hospital. The following figure lays out the basic relationships between the emergency department and other hospital services. In practice, there are as many different ways of organising the flow of patients through the hospital.

High level emergency department process map

Generic representation of processes within an emergency department

High and detailed level emergency department process map
To define demand, capacity and process measures, it is important to capture, validate and track the impact of improvement initiatives on process performance. Key performance measures, process measures, check measures and other measures can be used to assess the success of the redesign work. Demand and capacity measures focus on resources available to provide a service to the patient, and includes staff and equipment. Process measures focus on activity, and assist in writing a problem statement. Key performance measures focus on the goal that you are trying to achieve or problem that you are trying to address. Check measures are used to monitor the performance and achievement of the overall goal.

### Measures of emergency department processes and outcomes

#### Important information:
- The particular focus of the redesign work will determine which measures should be chosen and they will differ from situation to situation.
- Measures that capture the “system view” of the redesign work should also be included, for example, ward measures.
- Consider the units that will be used to capture measures, for example, time, dollars, number of patients.

#### Key tips to remember when collecting and presenting data
- All measures should be collected prior to the implementation of improvement initiatives to establish baseline performance. Measures should then be collected post implementation of improvement initiatives (PDSA cycles) to determine the impact on process performance and achievement of the overall goal.
- It is important that measures collected after an improvement is implemented are comparable to the baseline data, for example, the same questions are repeated in a follow-up staff survey, or staff tracking is repeated at approximately the same time of day or day of week.
- Processes will vary depending on time of day, day of the week, and time of year. During the diagnose stage, it is necessary to collect a representative sample of data (in other words, different time of day, day of week) in order to analyse and understand existing variations.
- Due to the variations in emergency departments, it is recommended that a minimum of two years’ worth of historical data (for example, patient presentations) is used as a point of comparison.
- Measures should be described by their range, median, and percentage within the goal or target.

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