Developing a dedicated emergency department checklist to prevent recurrence of serious incidents during overcrowding

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<thead>
<tr>
<th>Trust name</th>
<th>University Hospitals Bristol</th>
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<tr>
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<tr>
<td>CQC rating (Overall)</td>
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The challenge

University Hospitals Bristol NHS Foundation Trust is one of the largest NHS trusts in the country. The trust has approximately 900 beds and employs nearly 8,000 full-time equivalent staff. It has three emergency departments (EDs) caring for people in central, south and north-west Bristol, which in 2015/16 saw nearly 130,000 patients, with an average of 2,453 attendances per week, or 350 each day (Care Quality Commission (CQC) report, March 2017).

Its emergency departments, like many others, have faced a relentless increase in demand over the past decade, in a context of constrained resources. This has resulted in frequent episodes of overcrowding, increasing the workload for already over-stretched staff. As they had limited control over patient flow, ED staff often blamed the overcrowding for being a barrier to improving the quality of care provided.

However, a series of serious untoward incidents in the emergency department between 2011 and 2014 prompted a thematic review of events. This highlighted deficiencies in basic care provision during periods of overcrowding, such as poor compliance with recording vital observations. This resulted in patients with sepsis deteriorating significantly before action was taken, and delays in repeating electrocardiograms (ECGs) for patients presenting with chest pain, a vital step in the monitoring of patients at risk of myocardial infarction.
At the same time, it became increasingly evident that during periods of high demand, the emergency department relied on staff who were not used to working in the department, such as band 5 nurses from wards, to fill up rotas.

The Emergency Department team felt that this had to be addressed as a matter of urgency with minimal disruption to staff, without increasing their workload, and still being resilient to the national challenges in recruiting ED staff.

The solution

One of the emergency medicine consultants, who was also associate medical director for safety, devised a simple checklist that would provide a basic framework of tasks that had to be completed for every patient who presented to the emergency department.

Its purpose was to ensure that no task, however basic, was missed during periods of overcrowding and to provide guidance to staff who were not used to working in the emergency department. It therefore incorporated the most important steps and key performance indicators (KPIs) in the management of patients in the emergency department:

- vital signs measured on admission to ED
- national early warning score (NEWS) recorded on admission to ED
- vital signs measured hourly
- NEWS recorded hourly
- intravenous access and care plan
- blood tests
- pain score at triage (within first hour)
- analgesia administered at triage (if appropriate)
- electrocardiogram (ECG) recorded within 10 minutes of arrival
- ECG reviewed by doctor within 30 minutes of recording
- pain score assessed hourly
- analgesia administered within time limits
- stroke – Computer Tomography within first hour
- stroke – pathway completed
- fracture neck of femur (NOF) – X-ray within 30 minutes
- fracture NOF – pathway completed
- sepsis – pathway completed.
Once a basic design for the checklist was ready, the team ran engagement and teaching sessions with nurses and doctors to explain the process, seek feedback and address their concerns. Experienced nursing staff objected to the checklist at first, stating they felt underappreciated as they already complied with all those steps. However, as soon as they saw the compliance data, which clearly showed deterioration during overcrowding, they agreed the checklist was necessary.

The team decided to test the checklist using the model for improvement. To allow for multiple rounds of data collection, with support from the trust board, they applied for a grant from Health Foundation, which they used to fund a research nurse who would compile the baseline data on the agreed KPIs and repeat the same exercise with each plan, do, study, act (PDSA) cycle.

During about six months of PDSA cycles, they create further iterations of the checklist. For example, after talking to patients and relatives, and reviewing common themes from complaints to the department, they decided to incorporate patient-specific KPIs:

- next of kin aware within two hours of admission
- refreshments offered within two hours of admission (if not nil by mouth).

Although ED staff initially adopted the checklist, once the initial enthusiasm associated with a new project had run out, and as the department became increasingly busy, compliance started to drop. The team addressed this promptly by working closely with the band 7 nurses in charge of each shift. They encouraged the nurses to review three to four sets of notes each day and feed back to their junior colleagues concerning checklist completion. Whenever the nurses spotted poor compliance, they were encouraged to find out why and offer any support necessary. This intervention was highly effective and, within a year, the checklist was standard practice in the department.

The trust continued to support this initiative even once the funding from Health Foundation had ran out. It was integrated in the patient safety improvement programme and supported by the trust leadership. They decided to discontinue handwritten nursing notes and simply incorporate the checklist into the standard nursing documentation booklet. This reduced the burden on staff as all they have to do initial the relevant section of the checklist, once they have completed it.

With support from the West of England Academic Health Science Network, the tool has been adopted by all seven EDs in the region, as well as the local ambulance service, to support better care during periods of crowding. In 2017, this initiative was awarded the Health Service Journal (HSJ) Patient Safety Award for ‘Best Patient Safety Initiative in A&E’.
Impact

By ensuring that the basic care remained good during periods of overcrowding, they were able to better recognise deterioration and ensure early intervention.

In fact, following adoption of the checklist, a 5% to 25% improvement was noted across all KPIs and results were statistically significant. For example:

- 5% increase in CT scanning within an hour for suspected strokes
- 11% increase in patients with stroke being treated within the appropriate pathway;
- 25% increase in compliance with hourly observations and EWS calculations in the department.

They were also able to demonstrate a reduction in hospital length of stay and staff who were less familiar with the emergency department felt that they were being better supported in their role.

Moreover, the emergency department hasn’t recorded a single serious untoward incident related to missed deterioration of care, since the checklist was introduced and for the first time in many years, the ED KPI department dashboard was all green in June 2017.

Most recent compliance data, from Q1 2017, suggests over 95% compliance with 15 of all 20 KPIs being measured, and compliance in the rest ranging from 83% to 94%.

Enablers and challenges

Several factors contributed to the success of this initiative.

- First, the senior leadership team was very supportive of the ED team throughout the project. This included support in applying for external funding, piloting the checklist and embedding it into standard patient documentation.

- Second, early engagement with departmental staff and close working with band 7 nurses ensured that concerns could be identified and addressed early and regular feedback was provided.

- Third, close collaboration with regional and national partners, such as the ambulance service and the West of England Patient Safety Collaborative, as well as the Health Foundation, helped to ensure that proven improvement methods were used in the process and the good practice developed locally was spread regionally and adopted across the entire urgent care pathway.
Next steps and sustainability

Although the KPIs remain the same, the checklist can be adapted to the particular set-up of each emergency department.

The team is now encouraging other emergency departments to adopt the checklist and six regional emergency departments are doing so.

They have supported workshops with Academic Health Science Networks across England that are considering introducing the checklist.

There is also a large-scale project where they are rolling out the ED checklist and NEWS scores across the entire urgent care pathway, including empowering patients to measure their own EWS scores.

Finally, within the trust, the paediatric department is working on a similar checklist for inpatient areas, in response to a series of serious untoward incidents involving missed patient deterioration.

Want to know more?

Have a look at the trust resources:

- SHINE Emergency Department Checklist Implementation toolkit (produced by West of England AHSN and with support from the Health Foundation).

For more detailed information contact:

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