Tackling the challenge of safe and efficient Hospital Handover: Every Minute Matters

In collaboration with:
Aintree University Hospital NHS Foundation Trust
Wrightington, Wigan and Leigh NHS Foundation Trust
Wirral University Teaching Hospital NHS Foundation Trust
Lancashire Teaching Hospitals NHS Foundation Trust
East Lancashire Hospitals NHS Trust
Blackpool Teaching Hospitals NHS Foundation Trust
NHS Blackpool Clinical Commissioning Group
NHS Improvement
NHS England

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#everyminutematters
90 days of improving
Using quality improvement (QI) methodology and supported by organisational and QI leaders, the six sites developed local project teams of key NWAS and hospital staff (consultants, nursing staff, HCAs, ambulance paramedics, ambulance consultants, senior leaders, improvement professionals etc) to create a firm understanding of the local hospital handover process, develop change ideas to improve the process and test re-test improved and new ways of working. These teams met together for four separate one-day events to share the work they had undertaken locally and to collaboratively develop ideas and tests of change driven by data. This was complemented by regular collaborative data packs and an executive site visit to each of the participating hospitals involving hospital and NWAS senior leaders.
Handover Safety Checklist

During times of poor hospital flow or excessive demand on the ED, queuing and delays remain evident. Utilising the checklist method, a set of criteria was developed with the support of senior clinicians to identify patients that could be suitable for waiting in the ED without continued support from ambulance crews. Seven questions were developed, classified into four ‘clinical’ and three ‘procedural’ questions. Clinical criteria was focused on key assessment scores (GCS/NEWS) and previous administration of medicines, whilst procedural elements were around access to equipment, adequate identification of the patient and transfer of the patient record. Failure on any of these would result in staff waiting with the patient, but where the criteria was met those patients would be left in the ED. A series of tests were undertaken between December 2018 and January 2019 across all six sites, with executive level communication and support as well as implementation assistance by NWAS senior clinicians. In total the checklist was applied 582 times and 66% of patients were or would have been consistently safely left and crews released with no patient safety incidents reported. The results have shown at times a 4 minute reduction in average handover turnaround times between the test and not-test periods.

Making hospital handover an organisational priority

While handover process improvements have resulted in fewer delays, it has been evident during the collaborative that the environment for change is key. Where sites have had leadership and operational support to make hospital handover a priority it has removed barriers and resulted in faster and more sustainable improvement.

Appropriate use of patient pathways

The majority of patients transferred to hospital by ambulance will go to the ED. However, for some patients, direct access to hospital departments specific to their attending clinical complaint results in them receiving the right care more quickly. Patient Pathways have been developed by hospital medical staff and with NWAS support for some key conditions e.g. low risk cardiac. Whilst test sites are reporting small numbers of daily transfers pathways can help contribute to reductions in demand on the ED. Patients are transferred either on ED arrival or by directly by ambulance crews depending on local arrangements.

Delays are more likely when one individual is responsible for undertaking handover from ambulance crews, particularly at busy times. A multi-disciplinary ‘triage’ team has helped improve consistency, achieve timely consultant review and care planning, and support patient flow. Most triage teams include an ED consultant, a senior ED nurse, a ‘triage’ nurse, and a Healthcare Assistant, although local variations also included a junior doctor (F1), a phlebotomist and other staff dependent on requirements. Forming a triage team is not about creating new job roles, but rather re-allocation of staff at the start of the patient attendance who have clearly defined responsibilities. It is key that triage is focused and allocated space and equipment is readily on hand. 5-6 minute handovers can be achieved as a result. A key challenge is maintaining reliability during evenings and weekends.

AIM: To reduce daily average hospital handover time and improve patient and staff satisfaction

An Emergency Triage Team

How information is transferred verbally, the methods used, and the detail included can be different from crew to crew. SBAR (Situation; Background; Assessment; Recommendation) is a standardised prompt tool that encourages consistent and concise transfer of information. It consistently reduced verbal handover times (to between 50 and 90 seconds) and the variation between different triage times – although it should be used as part of a combination of interventions. SBAR is a recognised tool in hospital settings, but ambulance staff required preparation and training, using prompt cards and poster reminders.

Structured verbal handover – SBAR

On arrival at ED, patients are usually transferred using an ambulance trolley or chair and then to hospital equipment post-handover. A lack of timely access to hospital equipment can cause delays. Some teams tested working with hospital porters, who became responsible for monitoring trolley and chair availability within the ED, saving nearly 3 minutes in testing. Others focused on consistently equipping at least one triage bay with a trolley or chair, with an ED colleague responsible for re-stocking after handover. For ambulance crews, understanding the transfer needs of patients and application of Fit to Sit recommendations often reduces demand for hospital trolleys.

Timely access to equipment

Automatic clear of ambulance crews in 10 minutes

The time it takes for an ambulance crew to clear for the next emergency after handover often varies between crews. This can depend on the acuity of the patient and the interventions undertaken whilst transporting them to hospital. To reduce variation in the clear times from standard attendances, a method has been tested which automatically clears crews 10 minutes after handover. If crews meet any of the pre-defined exclusions they are not cleared – all others are made available. Early testing has been positive with all crews clear within less than 10 minutes. Senior review of individual staff data is also recommended to monitor increased times and provide support, education and training.
Collaborative run charts
Since the collaborative started (October 2018) the average weekly turnaround for the six teams involved has reduced by more than two minutes. In the same period the average for all the other sites across the North West has increased by more than a minute and a half. Collaborative teams appear to have been less affected by winter 2018/19 pressures than other sites.

Before and After Comparison

Average daily turnaround (time from ambulance arrival to crew clear)

<table>
<thead>
<tr>
<th></th>
<th>Sept 18</th>
<th>Feb 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>34:14</td>
<td>32:09</td>
</tr>
<tr>
<td>Best performing average</td>
<td>30:33</td>
<td>25:35</td>
</tr>
</tbody>
</table>

= 6% Improvement

Average daily lost hours (from handovers longer than 30 minutes)

<table>
<thead>
<tr>
<th></th>
<th>Sept 18</th>
<th>Feb 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>74</td>
<td>66</td>
</tr>
<tr>
<td>Best performing average</td>
<td>9</td>
<td>3</td>
</tr>
</tbody>
</table>

= 10% Improvement

Winter Comparison

Average weekly turnaround (time from ambulance arrival to crew clear)

<table>
<thead>
<tr>
<th></th>
<th>Dec 17</th>
<th>Dec 18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>44:31</td>
<td>32:41</td>
</tr>
<tr>
<td>Best performing average</td>
<td>42:48</td>
<td>24:52</td>
</tr>
</tbody>
</table>

= 27% Improvement

Average weekly lost hours (from handovers longer than 30 minutes)

<table>
<thead>
<tr>
<th></th>
<th>Dec 17</th>
<th>Dec 18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>937</td>
<td>462</td>
</tr>
<tr>
<td>Best performing average</td>
<td>151</td>
<td>22</td>
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</tbody>
</table>

= 50% Improvement

Learning from the collaborative:
- Organisations with a culture of zero tolerance, full ownership, and prioritisation of hospital handover achieve the biggest and most sustained gains.
- While the arrival to handover process is key to initial reductions in delays, there remains opportunity to achieve the lowest total handover times through improvements in the handover to clear process. While average site times for the Super Six are below the 15 minute standard, data shows wide variation among individual crews.
- Hospital handover delays are not always consistent across the day or week. Mondays and evening hours (8pm to midnight) have been a particular challenge for the six sites and remain areas for further improvement.
- When there are delays in hospital EDs, appropriate patients – around 70% - can be safely left to release ambulance crews to attend patients waiting in the community.

Total Lost Hours from Handovers >30mins

<table>
<thead>
<tr>
<th></th>
<th>Feb 2018</th>
<th>Feb 2019</th>
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<td></td>
<td>3,053</td>
<td>2,125</td>
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30% fewer lost hours, which is an estimated equivalent of 39 more ambulances available that month