Introduction of cannulation packs: improving efficiency

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PROBLEM

Cannulation is a core procedure for a Foundation Year 1 doctor and is one of the most frequent practical procedures performed on the wards. Preparation of required equipment for cannulation is time consuming. On the elderly care wards at University Hospital Southampton (UHS), it was noted that the collection of the equipment required for cannulation would often take longer than the procedure itself. This was a source of frustration amongst junior doctors and something that we believed could be significantly improved.

BACKGROUND

Time management skills are of utmost importance as a junior doctor and cannulation is one of the commonest procedures whilst on clinical duty. We believed ameliorating efficiency in this domain would ultimately benefit: junior doctors, our patients (for prompt access and timely treatment) and the stretched nursing staff (who would resort to disturbing to find the equipment). Local trust guidelines state that every cannula should have a documented cannulation/VIP form. However, these are poorly completed by those cannulating. The rationale of including a cannulation/VIP form in the cannulation pack we created is to facilitate the documentation aspect of this procedure.

OBJECTIVES

The main aims of this project were to:

- Measure the time taken to gather the essential cannulation equipment (along with a cannulation form).
- Identify the reasons for the time delay (using qualitative data).
- Selection, implementation and testing of changes for improvement of the process.

METHODOLOGY

- Introduction of cannulation packs (Figure 1) made by junior doctor volunteers and replaced when used (10 signposted in treatment rooms at one time).
- Hand out “Handy MOP numbers” sticker (Figure 2) to junior doctors working on elderly care.
- Evaluate impact (Graph 2).
- Identify reasons for delay. Themes identified:
  - Code unknown to access treatment room to gather equipment
  - Difficulty in finding equipment due to inconsistent treatment room arrangements (Table 1)
- Record time taken to collect equipment by each junior doctor (Graph 1) (Time from entering the ward, collecting cannulation equipment (Figure 1, including sharps bin, tray and cannula) and collecting VIP form).
- Same data collector for consistency.

RESULTS

<table>
<thead>
<tr>
<th>DELAY FACTORS</th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to treatment room</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Door code known</td>
<td>7%</td>
<td>100%</td>
</tr>
<tr>
<td>Nursing staff help needed</td>
<td>51%</td>
<td>0%</td>
</tr>
<tr>
<td>Difficulty in finding certain equipment</td>
<td>53%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Table 1

- There was considerable improvement noted in the identified themes
- On average, 209 seconds (82% reduction in time) were saved on collecting equipment when comparing pre and post changes (Graph 2)
- The access code to the treatment rooms was known in all cases (Table 1)
- Nursing staff were not disturbed to help find equipment (Table 1)

CONCLUSION

With an average of 46 seconds to gather the cannulation equipment and a net reduction of 82% in the time taken, this improvement in efficiency was well received by the junior doctors on care of the elderly. From the reported feedback, it did make a genuine difference to the quality of the junior doctors’ work on the elderly care wards. This project has encouraging results which we hope to replicate on busier wards where junior doctor cannulation demand is greater.

Lessons learnt

1. Simple pro-efficient changes can make a genuine difference in daily work life
2. Observation of daily practice and listening to colleagues can lead to improvement to help facilitate work, or improve patient safety.
3. Good teamwork and continual feedback are key in ensuring the success of a particular project

REFERENCES

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