Patient Safety Incident Reporting Data Trends of a Regional Neonatal Transfer Service

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Background

- Adverse events occur frequently during inter-hospital transfers of children (Barry and Ralston, 1994)
- At least one adverse event occurs in 36% of neonatal transfers even when undertaken by a dedicated team (Lim et al, 2008)
- A previous London Neonatal Transfer Service (NTS) audit showed that in 2009-2010, 47% of our transfers had at least one adverse event.
- Work is on-going to improve the reporting and management of our service’s risk including engagement of the whole team significant changes to the patient safety incident form.
- London NTS have a constantly drive to analyse risk and strive for improvement.

Objectives

- To evaluate the risks associated with all our transfers.
- To assess if we could identify risks identification that could lead to changes locally that could be incorporated into our local and outreach teaching sessions.

Methods

- Patient Safety Incident (PSI) forms completed by the team at the end of each transfer, reviewed during the daily debriefing and updated as required.
- Completed forms uploaded into PSI database.
- This study reviewed Patient safety Incident (PSI) forms for each transfer from 2011 to 2013
- Data was analysed using SPSS software.
- Approval was gained from the Bart’s Health Clinical Effectiveness Team.

Results

- Figure 1 and 2 showing the change in the PSI form moving from free text to specific information.

- Figure 3 showing the increase in completion rate for the form.

<table>
<thead>
<tr>
<th>Year</th>
<th>2012</th>
<th>2013</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filled Forms/Total Transfers</td>
<td>1023/1359</td>
<td>1324/1745</td>
<td>p=0.01</td>
</tr>
<tr>
<td>Time Delays Dispatch &gt;40 mins Time Critical Transfers</td>
<td>53(5.2)</td>
<td>3(0.2)</td>
<td>0.01</td>
</tr>
<tr>
<td>Time Delays</td>
<td>163(4.6)</td>
<td>90(3.1)</td>
<td>p=0.001</td>
</tr>
<tr>
<td>巳</td>
<td>37(6)</td>
<td>91(9)</td>
<td>p=0.19</td>
</tr>
<tr>
<td>Hypocarbia (PaCO₂ ≤ 4kPa)</td>
<td>67(4.2)</td>
<td>122(26)</td>
<td>p=0.017</td>
</tr>
<tr>
<td>ETT moulding (T1 or &gt;T2)</td>
<td>50(10.6)</td>
<td>118(25.4)</td>
<td>p=0.001</td>
</tr>
<tr>
<td>Vascular access related issues</td>
<td>42(8.9)</td>
<td>91(9)</td>
<td>p=0.001</td>
</tr>
<tr>
<td>Loss of ETT fixation</td>
<td>7(0.9)</td>
<td>15(3.2)</td>
<td>1.1</td>
</tr>
<tr>
<td>Hypothermia (Core&lt;35°)</td>
<td>121(25.7)</td>
<td>70(15.0)</td>
<td>p=0.001</td>
</tr>
<tr>
<td>Communication issues</td>
<td>32(6.8)</td>
<td>52(12.2)</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Due to the significant improvement in form completion rate, only the 2012 to 2013 data is presented.

Our Interventions

- The whole team embracing transparency with a constant drive for improvement.
- Changes to the collection of data
- Local and outreach teaching programmes
- Endotracheal tube length guides
- Monitoring hypocarbia
- Feedback to referring units

Conclusions

- There were significant improvements in the completion rate of PSI forms, dispatch time to locally agreed time critical transfers, time delays, equipment problems, loss of lines and unintended hypothermia.
- Despite interventions we did see a significant increase in hypocarbia and the endotracheal tube requiring adjustments.
- We were pleased to see that we did not see a rise in medication errors and loss of lines.
- This work although based during transfer can be translated onto the neonatal unit.
- The whole team embracing the challenge of quality improvement brings rewards but there are further improvements are possible.

Acknowledgement: The Authors would like to thank the whole team for their help in data collection and embracing the changes.

References

2. Lim M & Ratnavel N. A prospective review of adverse events during interhospital transfer of neonates by a dedicated neonatal transfer service. Paediatric Critical Care, 2008;9(3):289-293