EVALUATING THE IMPLEMENTATION OF A QUALITY IMPROVEMENT INITIATIVE: WEEKEND GASTROJEJUNOSTOMY TUBE MAINTENANCE SERVICE IN A TERTIARY PEDIATRIC CENTER

Diana Jaskolka BMSc, Nicole Brown CRA 1, Eyal Cohen MD, MSc, FRCP(C) 2, Bill Moonstephan MD 2, Bairbre Connolly MB, FRCP(C) 1

1. The Hospital for Sick Children, Toronto, Ontario; 2. SickKids, Toronto, Ontario

1. Medical Sciences, University of Western Ontario; 2. Division of Image Guided Therapy, Diagnostic Imaging, SickKids, University of Toronto

Division of Pediatric Medicine, SickKids, University of Toronto. 4.Division of Emergency Medicine, SickKids, University of Toronto.

INTRODUCTION

BACKGROUND:
- Children unable to feed safely and adequately by mouth may be fed via a gastrostomy tube (GJ)
- Many children fed via GJ tubes have multiple complex co-morbidities – medically fragile group of children
- GJ tubes require intermittent maintenance procedures (tube checks, changes, reinsertions)
- Most GJ maintenance procedures require fluoroscopy & a return visit to hospital (mean 1-2 months)
- GJ Tube maintenance procedures are usually not considered an emergency

CLINICAL SETTING:
A tertiary academic pediatric center. SickKids, Toronto, Canada
- 300% bed pediatric hospital
- 160 new G tubes placed annually by IR
- 30 new GJ tubes placed annually by IR
- 225 GJ maintenance procedures annually

PRIOR PROCESS FOR GJ MAINTENANCE
Monday – Friday 5pm – 8pm
- Patients/families call Enteroscopy Service or IR directly for problems relating to their GJ tube
- Medical Staff add the maintenance procedure to the existing IR list that day

RESULTS

Table 1: Patient demographics

<table>
<thead>
<tr>
<th>Period</th>
<th>n = 24</th>
<th>n = 14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>0-12</td>
<td>Median (Range)</td>
</tr>
<tr>
<td>Median Age (years)</td>
<td>2.2 (1.0-10.0)</td>
<td>2.5 (0.6-12.0)</td>
</tr>
<tr>
<td>Median Birth weight (kg)</td>
<td>2.9 (1.4-6.6)</td>
<td>3.2 (1.4-6.0)</td>
</tr>
<tr>
<td>Median Gestational age (weeks)</td>
<td>38.4</td>
<td>37.5</td>
</tr>
<tr>
<td>Neurological: n (%):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spinal Cord Injury</td>
<td>2 (8.3)</td>
<td>3 (21.4)</td>
</tr>
<tr>
<td>Cerebral Palsy</td>
<td>2 (8.3)</td>
<td>2 (14.3)</td>
</tr>
<tr>
<td>Other neurological co-morbidity</td>
<td>7 (29.2)</td>
<td>2 (14.3)</td>
</tr>
<tr>
<td>Median Total Cost for IGT ($):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22.84</td>
<td>30.8</td>
<td></td>
</tr>
<tr>
<td>Median Cost for Diagnostic Imaging ($):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>154.52</td>
<td>129.83</td>
<td></td>
</tr>
<tr>
<td>Median Procedure Fee (GJ tube insertion):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>280.26</td>
<td>290.00</td>
<td></td>
</tr>
<tr>
<td>Median Total Charges:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1,670.80</td>
<td>1,532.70</td>
<td></td>
</tr>
<tr>
<td>Median Total Costs ($):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3,208.60</td>
<td>2,050.55</td>
<td></td>
</tr>
</tbody>
</table>

DISCUSSION

INTERVENTIONAL RADIOLOGY LED QUALITY INITIATIVE
Resulted in improvement in the provision of care (shorter wait times, avoidance of admissions, shorter procedure times), and some associated cost savings
In line with increasing focus in health care on evaluation of initiatives for Quality, Cost, Safety, and Different measurement models / metrics
In line with Institute of Medicine's recognized 6 cornerstones of quality in health care: Safety, Effectiveness, Patient centeredness, Timeliness, Efficiency, Equity
Triage-to-procedure time in E.D. is pertinent to this study and showed a reduction, many other factors influence overall wait times in E.D., outside of this study
This did not result in any less quality in (no increase in complications).
Unnecessary increase in numbers of patients presenting to E.D. with GJ related problems in period 2. Cause is uncertain: parent networking? greater expectation

REFERENCE

5. Olson TS, et al.: Minto Assessing the impact of the Initiative after implementation in terms of patients, IR and costs
7. Emergency Department:
11. Olson TS, et al.: Minto Assessing the impact of the Initiative after implementation in terms of patients, IR and costs
15. Horton, R., Murray, C.: Emergency Department:
17. Emergency Department: