Management Pathways: Pathways for Observation, Endoscopic Injection Surgery, and Open Reimplantation were based around a patient case and included optional imaging.

Process Maps & Time Estimates: Interdisciplinary process maps were created for all care processes and time data was collected.

Cost Data: Capacity cost rates ($/min spent during resource use) for direct and indirect resources involved in care processes were calculated.

Background

- Vesicoureteral reflux (VUR), the retrograde flow of urine from the bladder into the upper urinary tract, occurs in approximately one percent of newborn children.
- Precise institutional costs of the different treatment options for VUR at our institution are not known.
- Time-Driven Activity-Based Costing (TDABC) is a novel micro-costing accounting methodology that aggregates costs over the full cycle of care for a patient’s medical condition. 2

Objective

- To conduct a TDABC study of management pathways for vesicoureteral reflux from the perspective of a Canadian tertiary-care pediatric hospital.

Methods

- Management Pathways: Pathways for Observation, Endoscopic Injection Surgery, and Open Reimplantation were based around a patient case and included optional imaging.
- Process Maps & Time Estimates: Interdisciplinary process maps were created for all care processes and time data was collected.
- Cost Data: Capacity cost rates ($/min spent during resource use) for direct and indirect resources involved in care processes were calculated.

Table: Individual Costs of Care Processes

<table>
<thead>
<tr>
<th>Visit Type</th>
<th>Process</th>
<th>Cost Estimate ($CAD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinic Visits</td>
<td>Clinic Visit w/ US</td>
<td>$104.45</td>
</tr>
<tr>
<td></td>
<td>Clinic Visit w/o US</td>
<td>$58.80</td>
</tr>
<tr>
<td>Diagnostic Imaging</td>
<td>VCUG</td>
<td>$249.52</td>
</tr>
<tr>
<td></td>
<td>DMSA Scan</td>
<td>$311.89</td>
</tr>
<tr>
<td>Surgical Processes</td>
<td>Endoscopic Injection (Outpatient)</td>
<td>$1954.05 $2993.05</td>
</tr>
<tr>
<td></td>
<td>Open Re-Implantation (Inpatient)</td>
<td>$2904.99</td>
</tr>
</tbody>
</table>

Conclusions

- TDABC proved to be an effective and straightforward method of outlining institutional costs.
- Cost drivers at our institution included optional imaging (e.g., DMSA scans) and high-value single-use consumables (e.g., vials of dextranomer/hyaluronic implant needed).
- The framework and data from our work may inform quality improvement processes or be used in full-economic evaluations that account for clinical outcomes.

References