

# Time-Driven Activity Based Costing of Management Options for Vesicoureteral Reflux

Lucshman Raveendran, Darius Bagli MD, Fardod O’Kelly MD, Robert DiCesare, Kornelia Twardowski, David During MEng., Myla Moretti MSc. PhD, Martin Koyle MD, MSc.

## 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<sup>2</sup>.

## 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

Detailed Methods  
(Scan QR)



## Results

Figure : Total Cost of Management Pathways for VUR

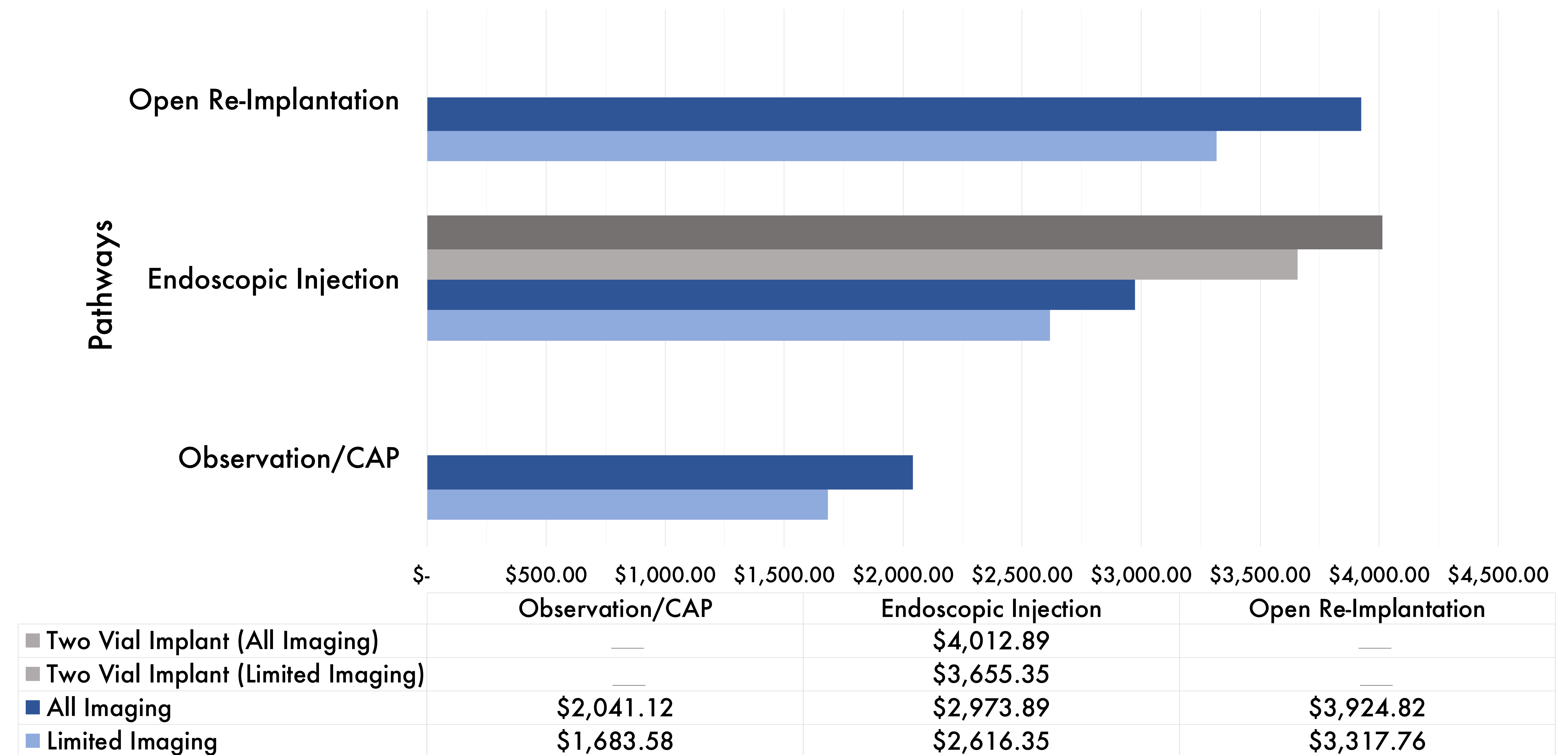


Table: Individual Costs of Care Processes

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

## 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

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