

Leveraging VQI Data to Improve Hospital LOS for EVAR Patients

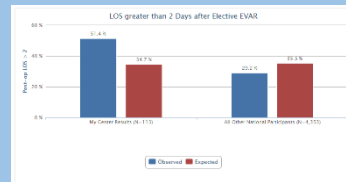
Naomi Eisenberg, Graham Roche-Nagle, Thomas Lindsay, George Oreopoulos: Divisions of Vascular Surgery and Interventional Radiology, Toronto General Hospital, Toronto, ON, Canada

Background

- Health care spending represents ~ 11.5% of Canada's GDP (\$6604/person or \$242B/year CAD)
- Reducing LOS has been cited as a quality metric to reduce cost and iatrogenic morbidity

The Problem:

LOS: identified as being an above expected by VQI (LOS = 3.83)



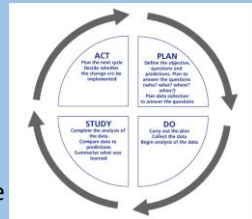
PDSA Cycle (Plan-Do-Study-Act)

4. Act

Revise the intervention and revisit

3. Study

What happened after we made the changes? Did the intervention make a difference?



1. The Plan:

Review 2 years' worth of data to identify what was happening and analyze where we impact.

2: Do: Implement changes and review

Data from 2 discrete periods reviewed (2011 – 2012), (2013 – 2014)

	Old Dataset (2011 – 2012) N = 113	New Dataset (2013 – 2014) N = 124	P-value
Elderly (>80 years)	27.4%	39.5%	NS
Living Alone	81.7%	80.7%	NS
Smokers	22.3	16.9	NS
Gender			
Male	86.7%	84.7%	NS
Female	13.3%	15.3%	
Obese	39.3%	26.8%	NS
GTA	81.9%	83.9%	NS
Post-op CTA done	23.4	18.5%	NS
MI	45.1%	31.5%	.033
PCI	22.5%	12.1%	.038
CRF	13.3%	16.13%	
ASA Class IV	63.4%	90.2%	0.00
	N=31	N=111	

Table 1

- 59% of charts in the earlier cohort did not have a documented reason for eLOS!

Targeted Interventions:

- Surgical:
 - Change to percutaneous access (consistent with technological advances)
 - Eliminate use of urinary catheters,
 - Non-opioid pain control
 - Early mobilization
- Preoperative patient counselling of patient, family, nurses and trainees to manage expectations.

Results: Table 2

	2011 – 12 (N = 113)	2013 – 14 (N = 124)
Intra-operative complications	5.3%	10%
Discharge issues predicted on pre-admit	14.2%	14.4%
POD 1		
Wound Factors	6.5%	3.2% (4)
CV Factors	11.1%	8.1% (13)
Respiratory Factors	4.7%	1.6%(2)
Renal Factors	2.8%	6.5%
Neurological Factors	.9%	1.6% (2)
Urological Factors	4.4%	5.6% (7)
POD 2		
Wound Factors	13%	5.9%(3)
CV Factors	20.2%	26%(13)
Respiratory Factors	5.1%	2% (1)
Renal Factors	5.1%	13.7% (7)
Urological Factors	11.1%	13% (5)

Variable	Beta (SE)	OR (CI)	P
POD 1 Cardiovascular	2.65 (6.5)	14.24 (2.8 – 71.4)	.001

Table 3. Logistic Regression Results predicting LOS >2 Days

Few statistical differences were noted between groups, hypothesizing that patient expectations are a driver of eLOS.

Length of Stay (adjusted) decreased in 6 months, and maintained over time

Adjusted savings : \$1452.85CAD per case (decrease of 6.6%) between 2 cohorts.

Conclusion:

Simple interventions resulted in decreased length of stay, cost savings, and no harm to patients.

