

Benchmarking variation in coding across hospitals in Canada: A data surveillance approach

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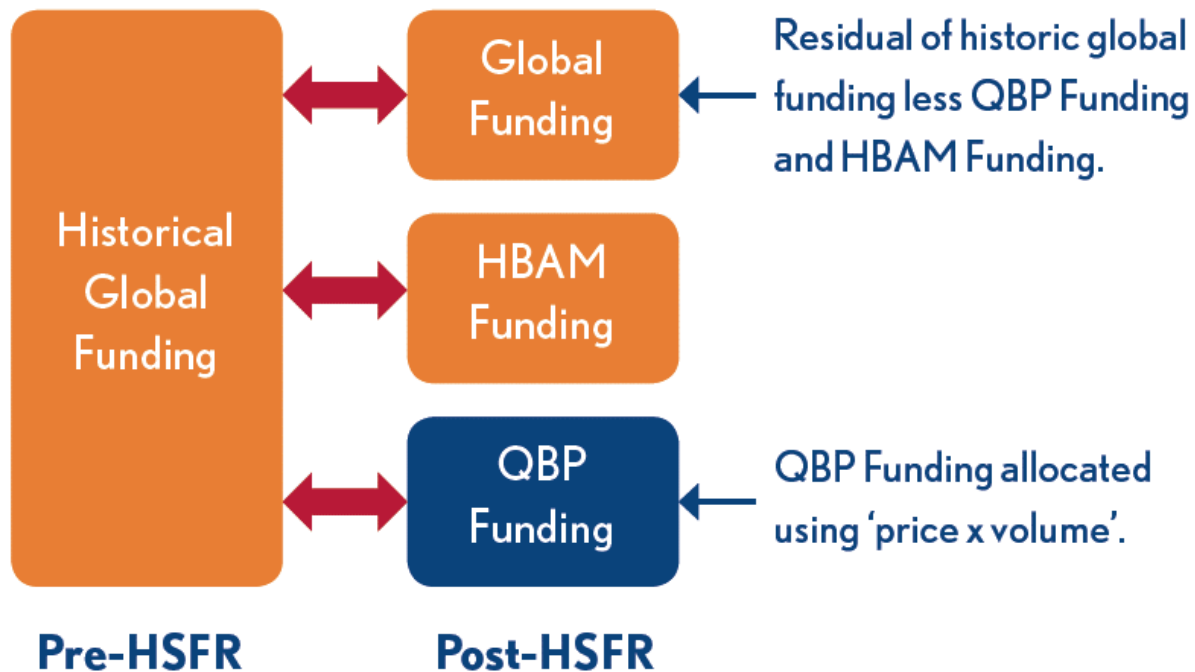
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Outline

- **Background**
 - Ontario's Health System Reform
 - What is Data Surveillance?
- **Ontario's Data Surveillance Program**
- **Comparisons across the country**
- **Conclusions/next steps**

Background

Ontario's Health System Funding Reform



Source: [Ontario Hospital Association](#)

Increased focus on data quality

- **Activity Based Funding requires:**
 - Processes to ensure that data quality and integrity are maintained
 - Practical reporting tools that enable facilities to identify potential data quality issues and take action if necessary
 - A data quality culture where quality is a shared responsibility
- **Impacts on data quality can be both positive and negative**



Positive: People pay more attention to the data and its quality; more complete and timely submissions

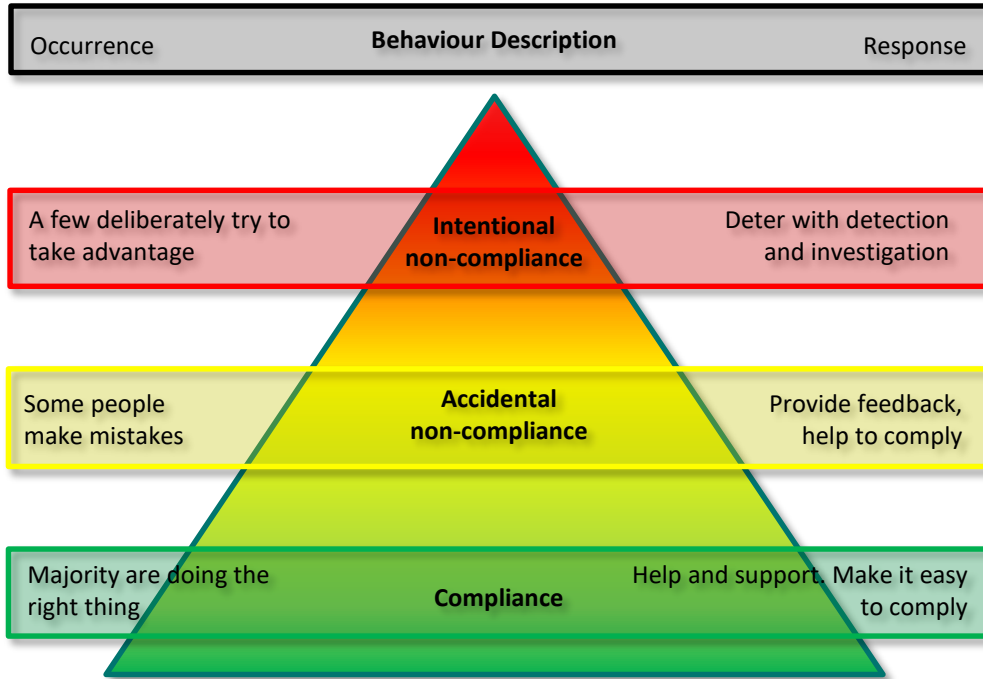


Negative: Manipulation of data/coding/clinical practice to maximize funding (i.e. gaming)

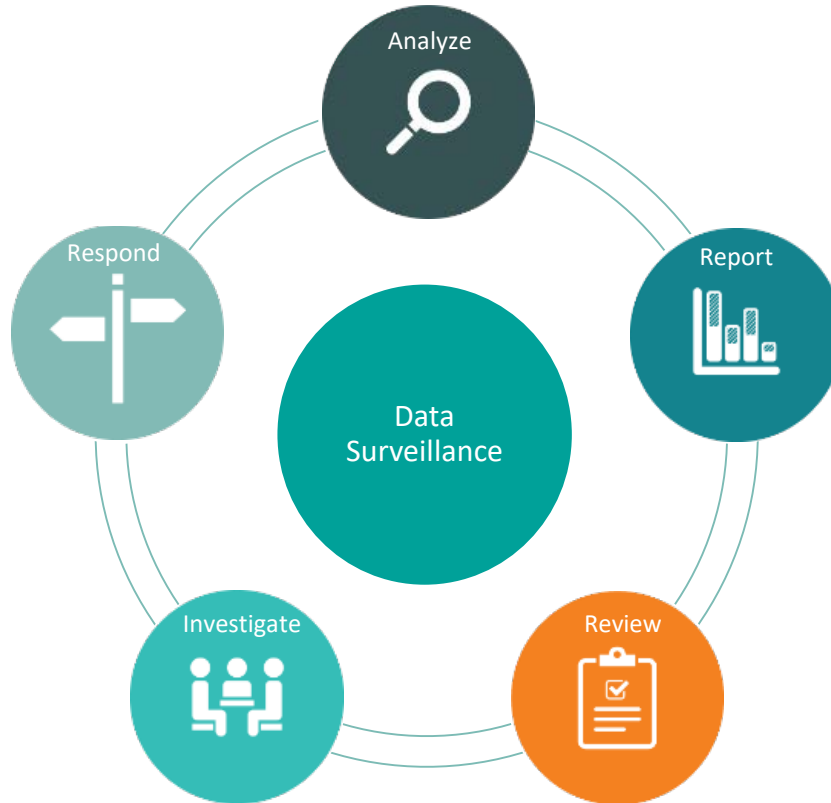
What is Data Surveillance?



Activity Based Funding Data Quality Activities



The Data Surveillance Process



Ontario's Data Surveillance Program

Data Surveillance Program (DSP) Overview

Purpose:

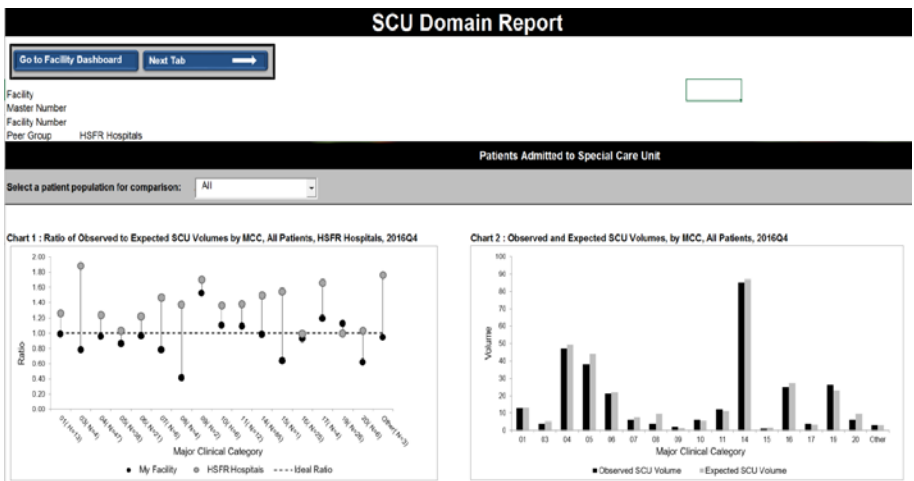
To identify and address system-level changes in clinical data reported by facilities.



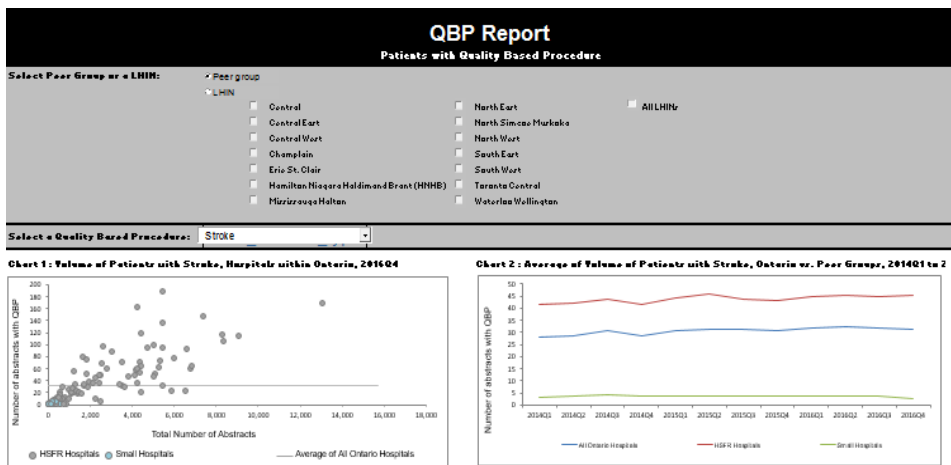
- Ensure accuracy in facility-level data that is used to determine health system funding and create an equitable funding system in the province
- Create a mechanism for the ministry of health to detect and monitor system-level trends/variances and ensure accountability for improving on data reporting practice
- Enable potential evidence-based policy adjustments to address system-level reporting variances

Data Surveillance Tools: Dynamic Excel Reports

Facility Report



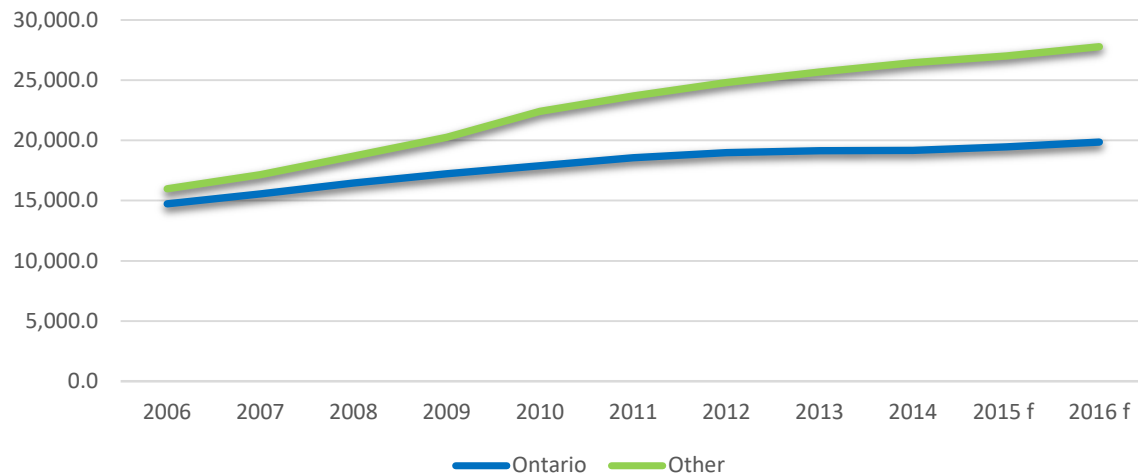
Provincial Report



Comparison across the country

Hospital Expenditures in Ontario growing slowly

Provincial Hospital Expenditure, 2006-2016



Year	% Change Ontario	% Change Other
2006	5.7	7.5
2007	5.7	7.3
2008	5.8	9.0
2009	4.6	8.5
2010	3.9	10.6
2011	3.7	5.6
2012	2.3	4.8
2013	0.9	3.5
2014	0.0	3.0
2015 f	1.5	2.1
2016 f	2.2	2.8

Source: National Health Expenditure Database, 1975 to 2016, Canadian Institute for Health Information.

Comparisons across the country



- The new DSP Tool looks at variations *within* Ontario
- As CIHI has access to pan-Canadian data we can compare Ontario data with other provinces/territories
 - Allows us to analyze if patterns in data and coding in Ontario could be result of the introduction of the funding formula, natural variation and changes occurring across the country or potential data quality issues
- Preliminary analysis: Ontario's Quality Based Procedures (QBP) populations
 - QBPs do not play a role in funding in other jurisdictions
 - Length of stay ratio: data quality indicator included in DSP tool

A closer look at Quality Based Procedures

- **What is a QBP?**

- Specific groups of patient services
- Opportunities to share best practices to achieve better quality of care and system efficiencies
- Clinical handbook for care pathways and best practices
- Price is structured to provide an incentive and adequately reimburse providers for delivering high-quality care

- **Current QBP populations**

- Stroke
- Neonatal Jaundice
- Tonsillectomy
- Cataract surgery
- Chronic Kidney Disease
- Systemic Treatment (cancer related)
- COPD
- Pneumonia
- Knee Arthroscopy
- Congestive Heart Failure
- Hip/Knee Replacement Surgery
- Cancer Surgery
- Hip Fracture
- Non Cardiac Vascular (AA and LEOD)
- GI Endoscopy



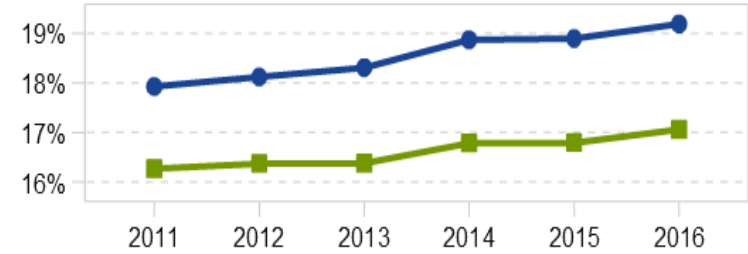
Methodology

- **Data from CIHI's Discharge Abstract Database (DAD) 2011-2012 to 2016-2017**
 - All acute hospitals across Canada, except Quebec
- **Applied QBP definitions**
- **Used CIHI's CMG+ case mix methodology (pan-Canadian) rather than the Ontario-specific HIG methodology used in their funding formula**
- **Differences in data collection**
 - Ontario submits non-acute stays (or components of stays) in acute hospitals to other specialized databases (e.g. National Rehabilitation Reporting System, Ontario Mental Health Reporting System)
 - For other jurisdictions most of this data is submitted to the DAD

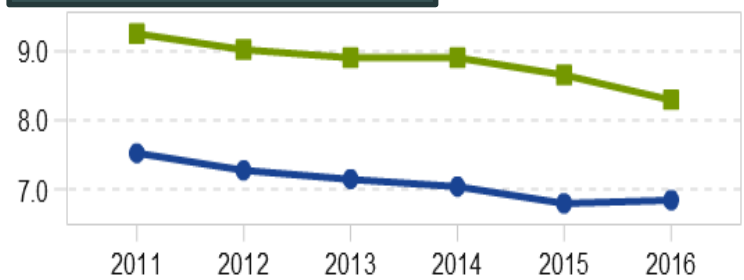


QBP populations: Ontario and the rest of Canada

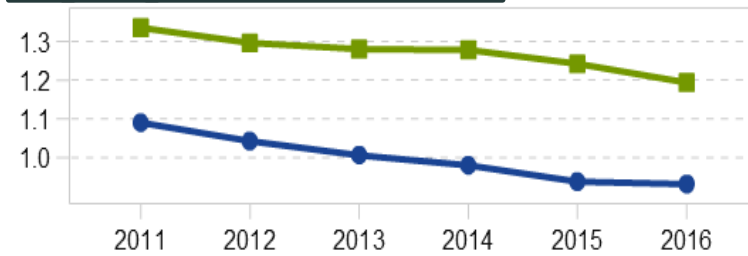
QBPs as a percent of all acute stays



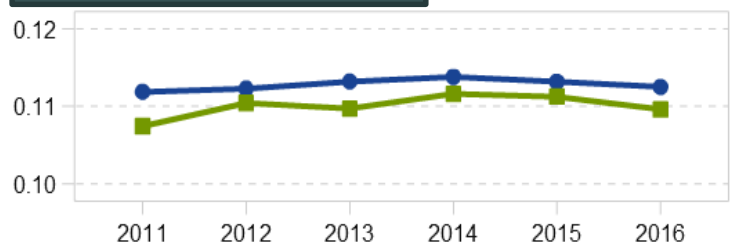
Average Acute LOS



Acute/Expected LOS Ratio



Average Re-admission Rates



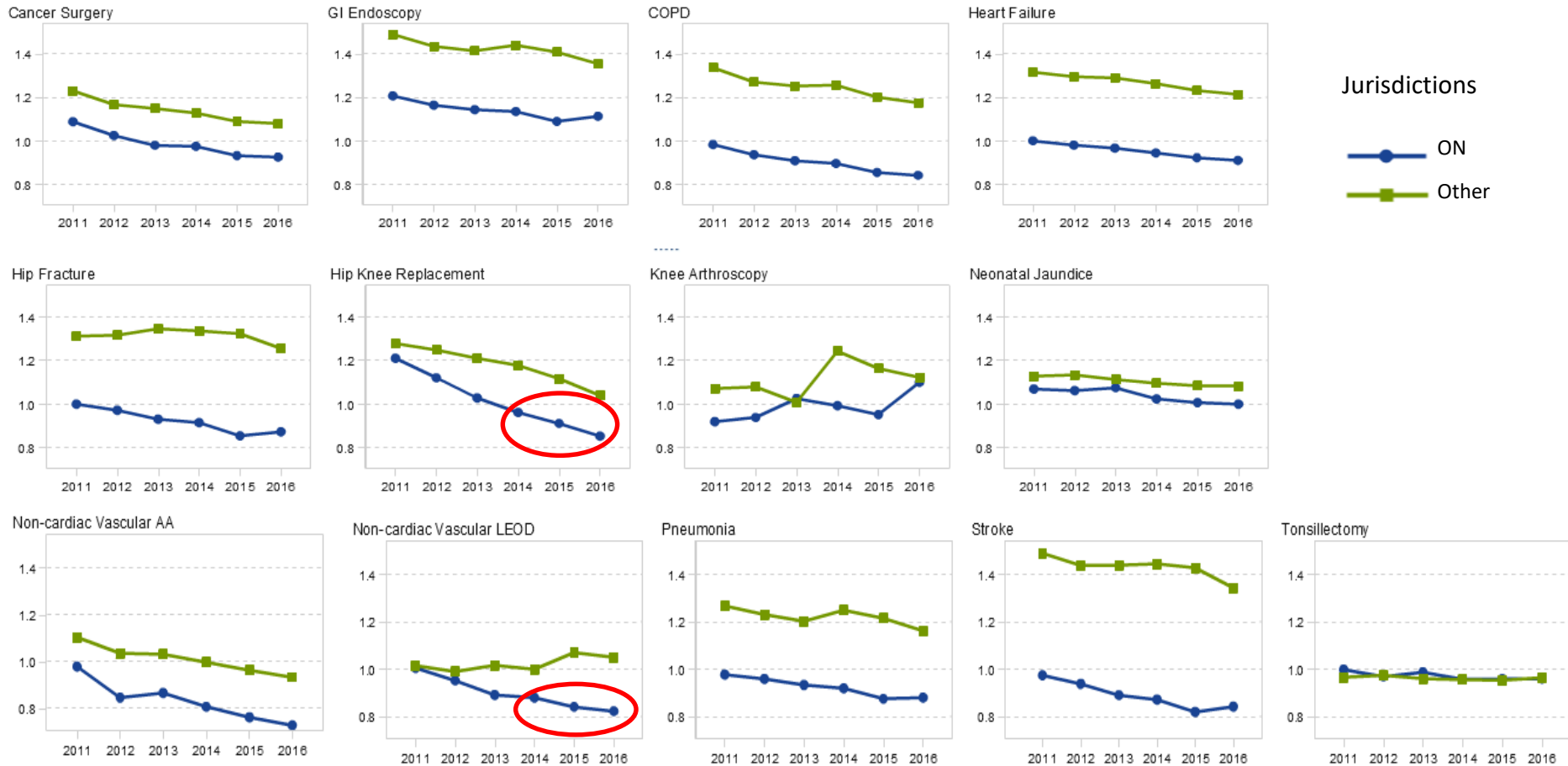
Jurisdictions
 ● ON ■ Other Jurisdictions

Length of Stay Ratio

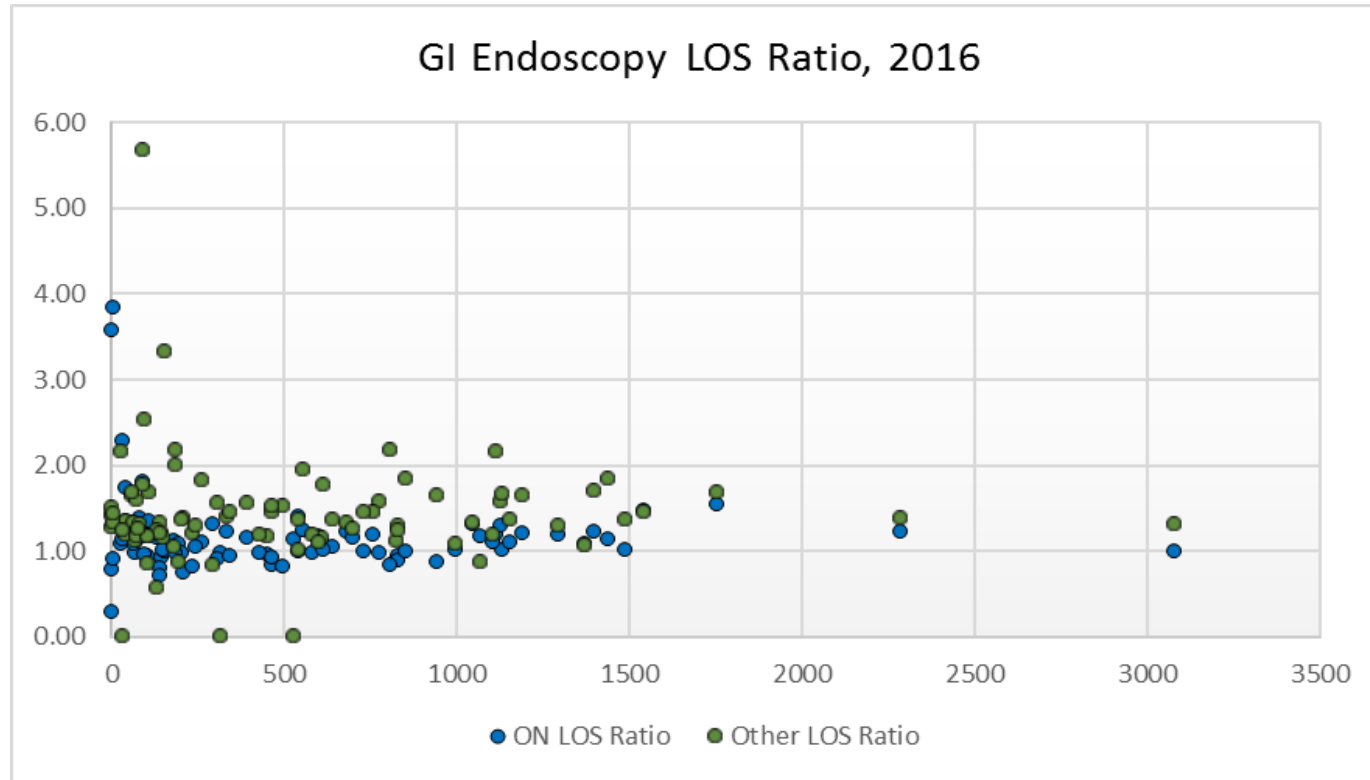
- **Acute Length of Stay/Expected Length of Stay (from case mix methodology)**
- **If ratio is greater than 1**
 - Actual acute length of stay is longer than expected
 - Longer lengths of stay than average or
 - Under-reporting conditions used to estimated expected length of stay
- **If ratio less than 1**
 - Actual acute length of stay shorter than expected
 - Shorter lengths of stay than average or
 - Over-reporting of conditions used to estimated expected length of stay



Length of Stay Ratio Trends by QBP

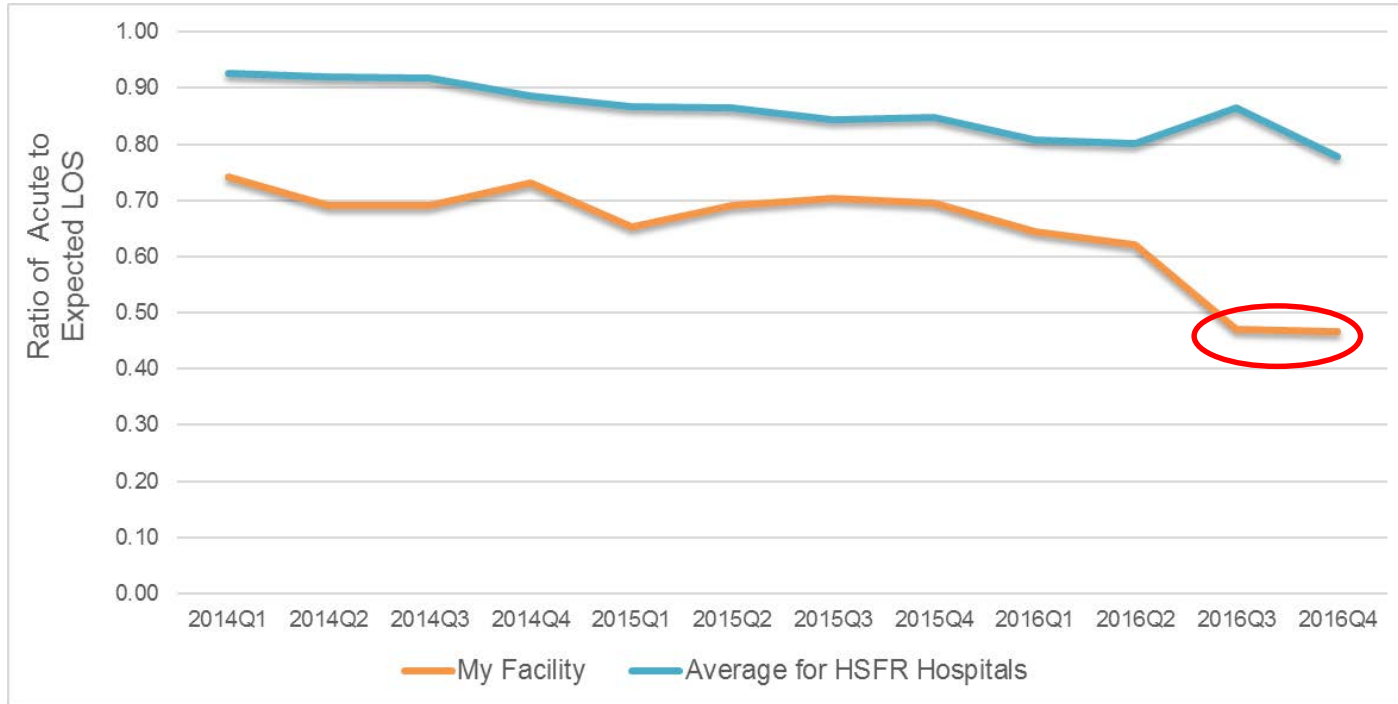


Also need to look at facility variation



...and facility-level trends

LOS Ratio, Hip and Knee Replacements, Ontario facility



Conclusions and next steps



- **Ontario's Data Surveillance Program is currently being implemented**
 - Hospitals received first reports and results will be updated quarterly
- **Need to analyze data at different levels**
 - Facility-level identify data quality issues
 - System-level trends and changes:
 - pan-Canadian comparisons can provide additional context
- **Analysis can identify where data is different but not why**
 - Need to understand reasons to be able to improve data quality
 - Follow-up process currently being developed for the Data Surveillance Program





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