

RECOMMENDATIONS REPORT: NOVEMBER 2019

A Sustainable Indicator Reduction and Management Strategy for the Ontario Hospital Sector

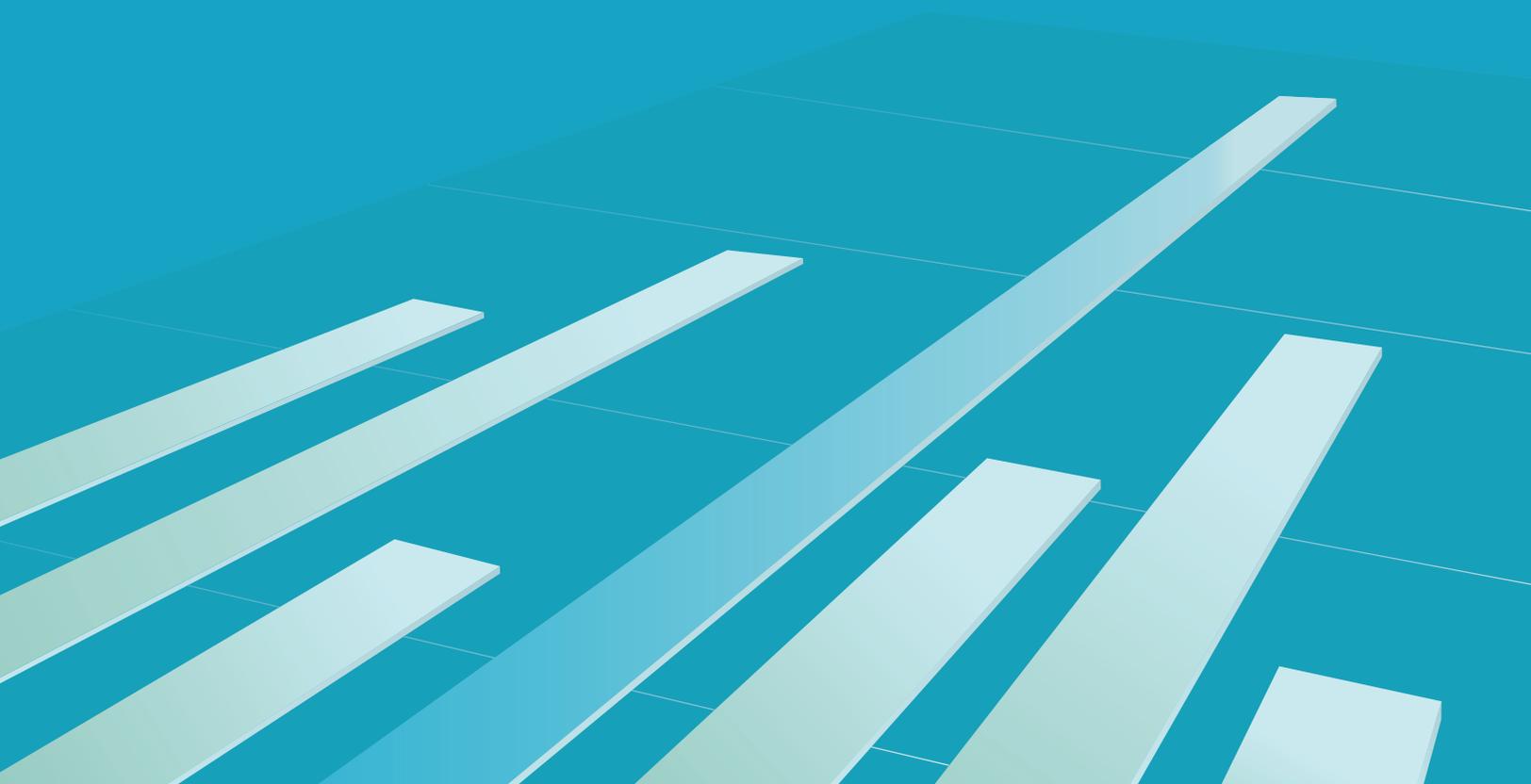


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Introduction

Every health care system needs to measure how it is doing so it can improve, and inform citizens whether the system is moving in the right direction and providing high value for their money. What we measure helps us identify and focus our efforts on the most burning issues and concerns. It is critical not to overwhelm health care professionals with the burden of measuring. As Dr. Donald Berwick, President Emeritus and Senior Fellow, Institute for Healthcare Improvement has noted about the problem of excessive and mandatory measurement: “Intemperate measurement is as unwise and irresponsible as is intemperate health care ... The aim should be to measure only what matters.”¹

The Ontario Hospital Association (OHA) and Health Quality Ontario (HQQ) (soon to be a part of Ontario Health) began working together in November 2017 on an initiative to stop excessive measurement and prioritize what matters. The objective of this collaboration is to ensure that efforts to measure and report performance indicators in hospitals support better patient outcomes and mitigate the burden of collecting and reporting. The timing of this initiative aligns with broader system changes taking place to end hallway healthcare, reduce red tape and address the fiscal and capacity pressures on Ontario hospitals.

Although the initiative initially focused on hospital indicators, the recommendations in this report can be applied more broadly to performance measurement for the entire health system. Across all sectors, there is renewed discussion about indicator alignment and rationalized measurement and reporting that reduces the burden. The creation of the consolidated Ontario Health agency presents an opportunity to reduce indicator chaos and duplication across previously separate organizations. This work also aligns with Ontario’s health system strategy and system-wide initiatives to improve quality of care, including the emergence of Ontario Health Teams, Quality Improvement (QI) plans, Bundled Care and Quality-Based Procedures (QBPs) clinical adoption.

Depending on the size and type of institution, senior leaders in Ontario hospitals have identified between 500 and 1,000 indicators that cross their desks. These indicators come from different organizations and vary in format, time cycle, and sometimes use different definitions. These indicators are in addition to what a hospital may choose to collect on its own to manage and improve care and operations. Some indicators are duplicative or not aligned with one another. Additionally, hospitals are asked to individually calculate and submit indicators even though they might be more efficiently monitored centrally or via a network. The proliferation of hospital performance indicators has not led to consistent improvement and in fact may be drawing important resources away from patient care and outcomes.

In response to these concerns, the OHA and HQQ collaborated to articulate a thoughtful method for a streamlined, sustainable approach to performance measurement for the hospital sector that is better aligned to provincial priorities. This report discusses the research and consultation used to develop the proposed strategy and describes a series of recommendations to assist Ontario’s health system leaders with the implementation and maintenance of a sustainable hospital performance measurement strategy with applicability for the entire health system.

¹ Berwick DM. Era 3 for Medicine and Health Care. *JAMA*. 2016;315(13):1329–1330

Roundtable Recommendations

The following recommendations were endorsed by the Roundtable Advisory (See Appendix A: Roundtable and Task Group Participants). The advisory was comprised of hospital administrators, Ministry of Health and Long-Term Care representatives, and OHA and HQO leaders brought together to advise on reducing and managing Ontario's hospital indicators:

Recommendation 1: Ontario Health becomes the secretariat for implementing the Hospital Sector Indicator Reduction and Management Strategy and will manage the overall performance measurement system for the strategy, including establishment of the Indicator Strategic Committee (ISC) and Technical Indicator Screening Committee (TISC).

A sustainable indicator management system requires dedicated resources and staffing for coordination and project management duties to ensure committees and performance measurement guidelines are established and adopted. This secretariat function is important as the Ministry of Health and the new Ontario Health formalize their working relationships on performance measurement/management strategy and establishes alignment to strategic priorities. As discussed, the secretariat duties may evolve beyond the hospital sector as the health system transforms.

Associated tasks:

- Ontario Health takes on the secretariat roles and responsibilities for the Hospital Sector Indicator Reduction and Management Strategy.
- Appropriate resources are made available to establish and maintain a performance measurement system for the strategy.
- Complete within 6 months.

Recommendation 2: Implement an ongoing process to ensure indicator alignment to system priorities, and actively support retirement of low-value indicators and refinement and/or maintenance of high-value indicators aligned to strategic priorities based on guiding principles (see page 8).

To ensure the scientific rigour, value, alignment and volume of indicators, a two-committee system should be implemented.

Associated tasks:

- Recruit and establish the Indicator Strategic Committee (ISC) co-chaired by the Ministry of Health and Ontario Health to provide strategic alignment, value and input to the processes of selecting indicators for hospital (and potentially, broader system delivery) monitoring and reporting in Ontario.
- Recruit and establish the Technical Indicator Screening Committee (TISC) to provide expert scientific input and policy perspectives on new indicators proposed for hospital sector monitoring and reporting.
- Ensure that the indicators categorized as (i) Public Accountability, (ii) System Monitoring, (iii) Local Monitoring, and (iv) Retirement are reflective of the current health system-level priorities and emerging issues (see Figure 1a below).
- Consult with system leaders and experts to ensure the indicators in the Indicator Framework clearly reflect system-level priorities.
- Complete within 1 year.

Recommendation 3: Implement a centralized or networked monitoring system to track indicators and generate alerts based on thresholds and benchmarks.

Based on the purpose and principles, continue design and resource planning for a centralized or networked monitoring system that will track all system monitoring indicators and generate automated alerts when an institution’s indicator results cross an established threshold or benchmark. This system would ease the burden on administrators by reducing the number of indicators that they themselves need to monitor. Key elements of the monitoring system include the use of automation, and clear roles and accountability associated with alert mechanisms to relevant stakeholders when a performance issue is detected.

Associated tasks:

- Explore the requirements of a central or networked monitoring system: human capital, financial investment, and sector buy-in.
- Create an inventory of current data repositories (excluding research databases), the types of data they hold, timing of the data and data flow/pathways.
- Ensure thresholds and benchmarks for indicators used in the monitoring system are established, including an equity lens.
- Explore automation options to enable efficient and accurate monitoring, and ensure data access is available to appropriate stakeholders.
- Begin immediately, with a phased implementation. Complete within 2 years.

Recommendation 4: Develop a process to embed partnering with patients, families, caregivers, and the public into ongoing indicator selection and management.

Indicators must be meaningful to patients, families, caregivers, and the public. Hospitals are not siloed institutions – they are a part of the community and need to reflect the standards and values of individuals in that community. What we measure must reflect what matters to the people we serve.

Associated tasks:

- Embed partnering with patients, families, caregivers and the public into this work by developing and implementing a common patient partnering strategy.
- Integrate this work with the patient and family partnering function being developed within Ontario Health, and with other efforts underway across the health system to avoid duplication.
- As a first step in a patient partnering strategy, include patients, families, caregivers, and members of the public on the ISC.
- Immediate and ongoing.

Approach to Developing Strategy and Recommendations

The OHA and HQO developed a workplan for this initiative that was presented to the Boards of Directors and/or Senior Leadership of both organizations for endorsement. A two-phased approach was used to develop the strategy and recommendations for the hospital sector, which was complementary to the system-wide indicator management work already in progress.

Methodology

Phase 1 of the Initiative was a qualitative study that involved interviews with 17 senior leaders from 15 Ontario hospitals. Interviewees included CEOs, Chiefs of Staff, Chief Medical Officers and Vice Presidents representing a range of small, community, and academic hospitals across Ontario. The objective of the interviews was to understand each hospital's experience related to indicator chaos, learn of any mitigating strategies used, and principles that might guide a solution to indicator chaos.

Phase 2 involved a series of four Roundtable discussions with hospital CEOs and other senior leaders who participated in the interviews, representatives from the Ontario Ministry of Health and Long-Term Care (MOHLTC), and senior representatives of the OHA and HQO (see Appendix A: Roundtable and Task Group Participants). Dr. Adalsteinn Brown, Institute for Health Policy, Management and Evaluation, University of Toronto, chaired the Roundtable with secretariat support from OHA and HQO. The objective of the Roundtable discussion was to gain feedback and guidance on the development of the strategy, and the following four deliverables for a comprehensive solution:

- A framework to map existing indicators to system priorities
- Identification of a reduced and meaningful set of indicators (“cleaning house”)
- A standardized, ongoing process to refine and retire indicators, as appropriate
- An ongoing process for system monitoring

Findings

Phase 1 – Interviews

All interviewees reinforced the importance of measuring performance to support improvement in the quality of care and patient outcomes. All applauded the progress in data access and use over past 10 years. However, all interviewees agreed that the number of indicators, confusion over their purpose and value, and the absence of a structure responsible for regulating the introduction and retirement of indicators has created fragmentation and unnecessary burden for the hospital sector.

Senior leadership in Ontario hospitals reported managing between 500 and 1,000 measures on a regular and ongoing basis. This includes indicators that require action (e.g., Hospital Service Accountability Agreements (HSAA)), indicators that may require action (e.g., patient safety, wait times), voluntary indicators (e.g., for local QI initiatives), funding related indicators (e.g., those related to Quality Based Procedures (QBPs), that are department- or unit-specific), and unique versus indicators reported in multiple locations (e.g., workplace violence vs. hospital readmission).

The interviews validated four themes related to indicator chaos:

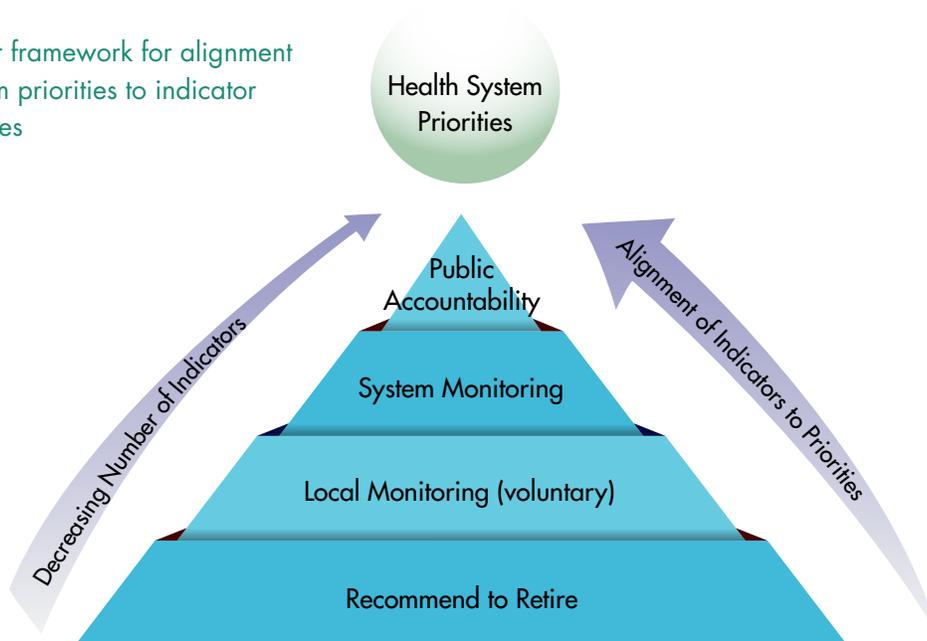
1. **Too many indicators have led to difficulty in focusing quality improvement efforts:** Administrative and clinical leaders are overwhelmed by the available performance data and are unsure how to move forward with confidence. Some indicators appear to be measuring the same concept, and some data and reporting requirements by stakeholders result in hospitals having to send the same information to multiple organizations.
2. **Orphaned indicators:** There are many orphaned indicators meaning they do not have an associated quality improvement process nor align well to other indicators.

3. **Insufficient infrastructure:** The current data-capture system is burdensome on administrators and clinicians, and is expensive to develop and maintain.
4. **Poor alignment of cascading indicators:** Indicators are often misaligned between micro and macro goals, and may not align with Ontario’s health system priorities, data strategy, the hospital’s own strategy, or current best practices.

Interviewees identified principles to guide a solution to indicator chaos in Ontario hospitals, including:

- A coordinated system-level strategy for performance measurement that is prescriptive on a short set of indicators aligned to clearly articulated system priorities (e.g., integration)
- Allowance for hospitals to select hospital-level quality improvement indicators
- Increased automation for data collection and validation
- Reflective of the diversity of Ontario hospitals (i.e., community vs. academic centres, diverse catchment areas and rural vs. urban)
- Stakeholder engagement at all levels, including front-line clinicians, patients and family members
- Quality improvement tools and resources aligned with priority measurement topics and indicators so hospitals will have evidence-based change ideas to improve their performance

Figure 1a: Indicator framework for alignment of system priorities to indicator categories



Phase 2 – Roundtable Deliverables

A Framework to Align Indicators to Provincial Priorities

To make sense of the current inventory of existing indicators in the Ontario hospital system, indicators were mapped to a framework based on their purpose and value to the system. The framework included the following four categories:

- **Public Accountability** – A small set of indicators reflecting the highest-priority issues facing the health system. These indicators are candidates for public reporting.
- **System Monitoring** – A larger set of measures that should be tracked and used to identify emerging quality issues. These indicators would not typically be publicly reported.
- **Local-Level Monitoring** – Voluntary indicators selected by a health care organization collected and monitored using their own data management system.
- **Retire (Yes/No)** – Low- to no-value indicators (e.g., indicators measuring the same concept as other high-value indicators, indicators with poor data quality, unknown directionality, or that lack a strong evidence-base).

A Reduced and Meaningful Set of Indicators

An exercise to reduce the number of hospital measures indicators into a manageable and meaningful set was then initiated. Senior measurement specialists from seven Ontario hospitals reviewed and categorized a subset of 299 priority indicators into the Hospital Indicator Framework. Indicators selected for “retire” were those deemed to be duplicative, or that did not meet the following criteria:

Guiding Principles

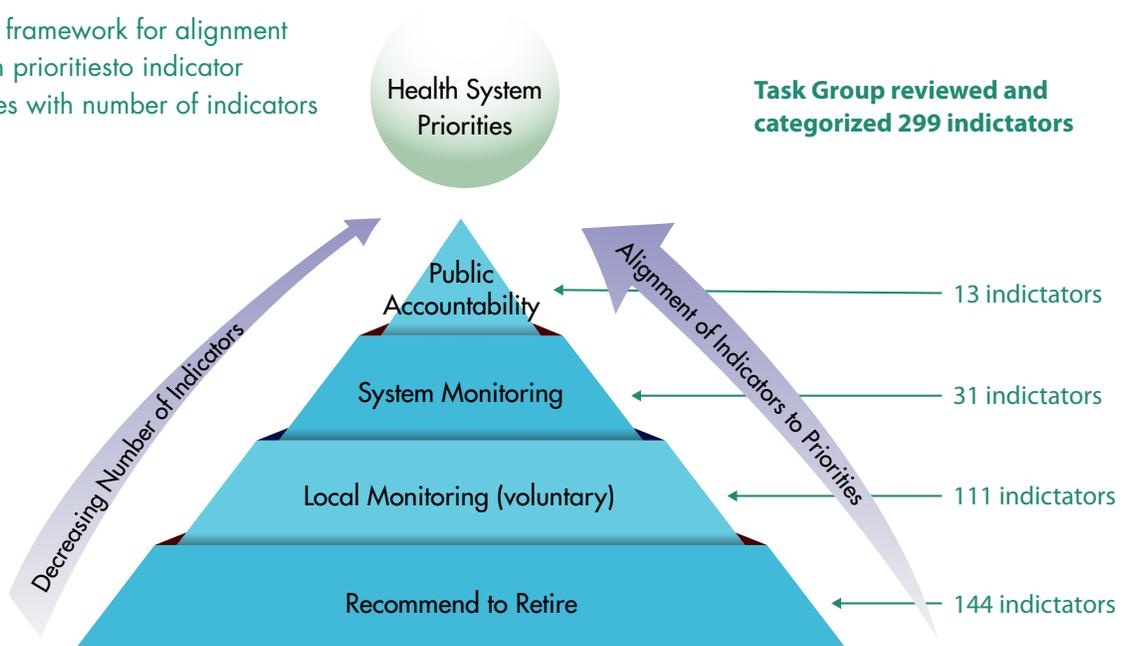
- Relevant and meaningful: the indicator reflects an issue that is important to patient care and outcomes
- Actionable: performance on the indicator can be influenced by the behaviour and actions of frontline professionals
- Evidence-based: there is robust evidence to support the indicator
- Interpretable: the indicator results are comparable and comprehensive including what constitutes improved performance (clear directionality)
- Based on quality data: data are valid, reliable, and timely

Based on individual review and group deliberation, existing measures were mapped as follows:

- 13 indicators for public accountability
- 31 indicators for system monitoring
- 111 indicators for local monitoring
- 144 indicators for retirement

Not surprisingly, the most challenging category was selecting indicators to retire. Easiest were those already deprioritized by others. Consistent with an effort to focus the sector, several indicators from the 2018/19 Quality Improvement Plan were removed in 2019/20, so these were retired from the Indicator Framework. Multiple indicators that measured the same or similar concept (e.g., readmissions) and indicators with poor data quality were also more easily recommended for retirement. Difficulties arose when an indicator was perceived as lower-value but complete removal might leave the hospital unaware of an emerging issue (e.g., select patient volumes indicators, select alternate level of care indicators), so some of these indicators were categorized as system or local monitoring.

Figure 1b: Indicator framework for alignment of system priorities to indicator categories with number of indicators



Count indicators were also a challenge. For example, a wait times indicator for a given procedure may consist of multiple sub-metrics that contribute to the overall count and sense of burden, such as 90th percentile, percentage within target, mean wait, and median wait. However, different versions of wait times indicators are appropriate for different audiences and purposes for measurement (e.g., quality improvement, public reporting, accountability). Maintaining these different versions may be appropriate.

After consultation with patients and providers, the measurement topics and number of hospital indicators suggested for the public accountability category in the Indicator Framework include:

- Alternate level of care (1 indicator)
- Wait times (emergency department length of stay, wait time for inpatient bed) (2 indicators)
- Hospital readmissions (1 indicator)
- Patient safety (infections) (1 indicator)
- Finance (2 indicators)
- Patient experience (3 indicators)
- Workplace violence/provider experience (1 indicator)
- Hallway healthcare (1 indicator)
- Repeat emergency visits for mental health (1 indicator)

(See Appendix B: Inventory of Ontario Indicators, for indicator details)

A Standardized, Sustainable Process to Introduce, Refine and Retire Indicators

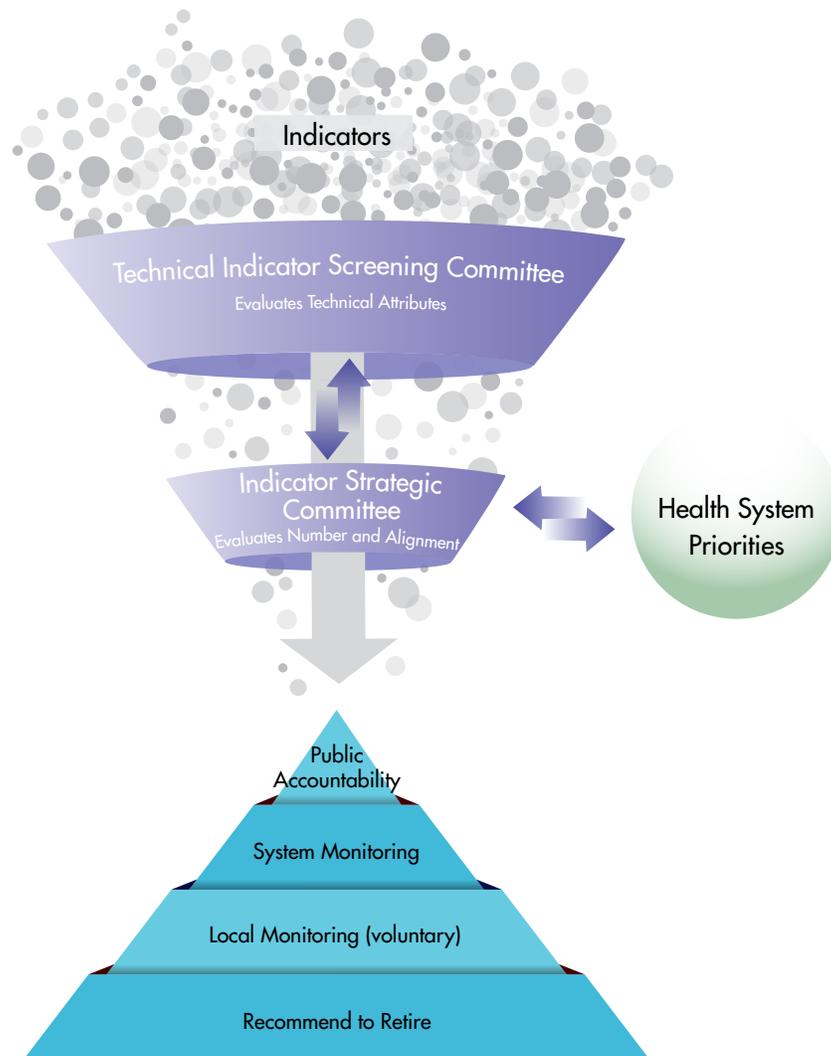
A process to support long-term sustainability of the reduced set of indicators with allowance for changing priorities, new indicator development, and indicator retirement over time was a priority for the Roundtable. Figure 2 illustrates the proposed process to achieve this, including a health system Indicator Strategic Committee (ISC) and a hospital-specific Technical Indicator Screening Committee (TISC):

- 1. Indicator Strategic Committee (ISC):** Evaluates the alignment of the indicators to the stated provincial priorities. The ISC will vet and provide feedback on the indicators proposed by the TISC and ensure alignment to provincial priorities, value, and volume of indicators. The committee is proposed to be chaired by the Ministry of Health and Ontario Health. Committee membership includes senior representatives from the Ministry, Ontario Health, sector clinicians, patients, and caregivers. Ontario Health is the secretariat.
- 2. Technical Indicator Screening Committee (TISC):** Evaluates the technical attributes of the proposed indicators according to validated criteria and recommends indicators to the Indicator Strategic Committee. This committee will review indicators' technical specifications, thresholds, benchmarks and risk-adjustment methodologies from all indicator developers. The committee chair is Ontario Health. Committee membership includes Ministry, Ontario Health, OHA, sector clinicians, provincial and pan-Canadian indicator developers, data specialists, academics/researchers. Ontario Health is the secretariat.

Based on the process, the two committees will review proposed new indicators for classification as public accountability or system monitoring indicators before use.

The process establishes standardized, transparent processes for managing the quality and quantity of indicators in the system.

Figure 2: System for ensuring indicator alignment



A Sustainable System Monitoring Process for Indicators Not in the Public Domain

In Ontario, there are a multitude of rich administrative data sources used to create performance indicators. Through the indicator mapping process, the task group highlighted that the broad range of procedures and services and the overall complexity of the hospital environment have contributed to the large number of hospital indicators. Administrators of the system were concerned that an indicator not mapped to the **public accountability** domain could result in their overlooking an important issue unfolding in the hospital system.

To address this, the Roundtable committee recommended a province-wide, trustworthy, central or networked monitoring system to track the set of **system monitoring** indicators in the proposed Indicator Framework. Key elements of the centralized monitoring system include the use of automation, and clear roles and accountability relationships associated with alert mechanisms that would be provided to relevant stakeholders when performance issues are detected. Such systems have been successfully implemented in the U.K. and other jurisdictions, and have proven effective in reducing incidences of mortality and hospital measurement burden.

A monitoring system should:

- Include a central or network maintained repository for data
- Have clear roles and accountability for communicating and addressing performance issues
- Not be public-facing
- Leverage existing infrastructure, wherever possible

Over time, functionality of the system should include:

- Artificial intelligence and associated infrastructure for analysis
- An automated alert system that triggers when an indicator goes outside a determined acceptable threshold limit

The proposed monitoring system will reduce the burden on administrators/hospitals by decreasing the number of indicators they need to monitor. Platforms such as Cancer Care Ontario's (CCO) iPort could be leveraged to meet the requirements of a centralized monitoring system. However, much like an airport control tower, the monitoring system will need to escalate performance issues using established guidelines with clear protocols for communication to relevant stakeholders when performance issues arise. Many Ontario data repositories exist in Ontario, but their role is often undefined as it relates to analysis and alerting stakeholders to emerging issues. Trust and confidence will be vital to reduce duplication of indicator calculation and reporting in the system.

Additional Consultations – International, Canadian and Provincial Experts

Consultations with three groups and various academic literature were used to inform and validate the Roundtable deliverables. Three predominant themes arose from consultations with provincial and national indicator developers and/or reporters; local, national and international experts on performance measurement; and patients. (See Appendix C: Consultations, for list of experts consulted and Appendix D: Reference Materials, for the relevant literature that was consulted.)

Theme 1: The issues and approach to a solution identified by the initiative resonated with all groups

- Most provincial organizations, national and international jurisdictions were aware of the indicator burden issue, and were considering, actively developing, or had implemented strategies to reduce the number of indicators within their purview, or develop more meaningful performance management systems.
- Some experts in different jurisdictions described major overhauls of their system, catalyzed by a significant event exposing a performance gap (e.g. Mid Staffordshire NHS Hospital Trust, U.K.), and other reporting organizations described introducing changes based on end-users' concerns about indicators or reports (e.g., CCO, CorHealth).
- Consultations identified a system-wide solution as the most efficient way to address the indicator reduction and alignment issue.

Theme 2: The challenges and implications of the current Ontario performance measurement system are complex

- No comprehensive indicator management approach for the hospital system exists in Ontario.
- No inventory of indicators and their associated purpose exist. This project has sought to create such an inventory for the hospital system (see Appendix B: Inventory of Ontario Indicators). (However, additional indicators are still being identified), and indicator definitions are not always consistent.
- There are multiple provincial and national partners collecting and/or holding Ontario data. Data flow between provider organizations, data repositories, analyzers, and reporters is complicated and indicator-dependent.
- Ontario is lacking an inventory of reports generated from the various sources of data, and where and how these reports are distributed.

- Hospitals are impacted to varying degrees by the impact of indicator chaos and lack of a provincial performance monitoring system (e.g., capacity for performance measurement varies in large urban versus small community hospitals).

Theme 3: Implementing some recommendations may be challenging

- Multilevel buy-in will be required for successful implementation of the recommendations.
- Learning from the experience of other jurisdictions, there may be resistance from some stakeholders to elements of the proposed strategy.
- There is limited literature on how to build a centralized or networked monitoring system that addresses the identified principles. Leveraging existing Ontario and pan-Canadian infrastructure will be essential.
- Good performance measurement needs to be meaningful, but what is meaningful may differ across audiences. Funders, administrators, care providers, decision support, and patients may have different motivations and interests in defining what indicators are meaningful or offer value. Understanding and managing these differences will need to be considered in the implementation of the recommendations using change management strategies.

Final Thoughts

These recommendations were born out of frustration over the burden of hospital indicator measurement and reporting, and the inefficiencies of “indicator chaos.” Although the discussion focused on the hospital system, the recommendations, proposed structure and approach can be translated to the broader Ontario health system. The Indicator Strategic Committee (ISC) will focus on the entire health system in the longer term while the Technical Indicator Screening Committee (TISC) could remain sector specific. As the health system transformation underway in Ontario matures, having one ISC will minimize the duplication of performance measurement efforts.

Across both phases of the project, Roundtable members and consultations described conditions key to the successful implementation of the suggested recommendations in the report. Trust, transparency, equity, and consistency in governance are important principles for successful implementation of an indicator reduction and management system for Ontario. These principles should be followed at all stages of implementation.

Conclusion

The OHA and HQO, soon to be Ontario Health followed a process to engage patients, senior hospital administrators, health system policymakers, and local, national and international experts to propose recommendations for a sustainable performance measurement system for Ontario. The recommendations are not meant to be carried out in isolation. They will be most effectively implemented in partnership with a broad array of system stakeholders

including patients and caregivers. Once implemented, these recommendations will reduce the burden of over-measurement, and refocus important resources back to patient care and improved outcomes. This model may also be expanded to the broader health system to enhance system integration and reduce the indicator chaos impacting other sectors.

Appendices

APPENDIX A: Roundtable and Task Group Participants

Roundtable Advisory Group Meetings:

| | |
|-----------------------|-------------------|
| Roundtable Meeting #1 | October 31, 2018 |
| Roundtable Meeting #2 | February 25, 2019 |
| Roundtable Meeting #3 | July 25, 2019 |

Members of the Roundtable Advisory Group:

| Roundtable Member | Role |
|-------------------|---|
| Ross Baker | Professor, Institute of Health Policy, Management and Evaluation at the University of Toronto |
| Adalsteinn Brown | Dean, Dalla Lana School of Public Health |
| Pat Campbell | Former President and CEO, Orillia Soldier's Memorial Hospital |
| Elizabeth Carlton | VP, Policy and Public Affairs, OHA |
| Charlie Chan | Former Interim President and CEO, University Health Network |
| Allison Costello | Director, Policy and Innovation, Ministry of Health and Long-Term Care Director, Health Quality Ontario Liaison and Program Development, Ministry of Health and Long-Term Care |
| Lee Fairclough | VP, Quality Improvement, Health Quality Ontario |
| Melissa Farrell | Assistant Deputy Minister, Hospitals and Emergency Services, Ministry of Health and Long-Term Care |
| Alan Forster | Vice President, Innovation and Quality, Ottawa Hospital |
| Anna Greenberg | Interim CEO, Health Quality Ontario |
| Nicole Haley | CEO, Espanola Regional Hospital and Health Centre |
| Michael Hillmer | Executive Director, Information Management, Data and Analytics, Ministry of Health and Long-Term Care |
| Jackie Houston | Manager, Policy Development & Implementation, Health System Quality and Funding Division, Ministry of Health and Long-Term Care |
| Steven Jackson | Chief of staff, Mackenzie Health |
| Gillian Kernaghan | President and Chief Executive Officer, St. Joseph's Health Care London |
| Melanie Kohn | Director, Hospitals Branch, Ministry of Health and Long-Term Care |
| Bert Lauwers | Former President and CEO, Ross Memorial Hospital |
| Shaun McGuire | Chief of Staff, Bruyère |
| Neil McMullin | Manager, Ministry of Health and Long-Term Care |
| Richard McLean | Vice-President, Medical Affairs, Hamilton Health Sciences |
| Dante Morra | Chief of Medical Staff, Trillium Health Partners |

| Roundtable Member | Role |
|--------------------|---|
| Wade Petranik | CEO, Dryden Regional Health Centre |
| Fredrika Scarth | Director, Premier's Council Secretariat, Ministry of Health and Long-Term Care |
| Karen Sequeira | Senior Lead, Policy, OHA |
| Douglas Sinclair | Chief Medical Officer and Executive Vice President, St. Michael's Hospital |
| Andy Smith | President and CEO of Sunnybrook Health Sciences Centre |
| Altat Stationwala | President and CEO of Mackenzie Health |
| Mary Wilson Trider | President & CEO at Almonte General Hospital & Carleton Place District Memorial Hospital |
| Ru Taggar | Executive VP, Chief Nursing and Health Professions Executive at Sunnybrook Health Sciences Centre |
| Eleni Tsoutsias | Manager, Project Implementation, Ministry of Health and Long-Term Care |
| Carole Wiebe | VP, Medical Affairs, Bruyère |

| HQO / OHA Secretariat | Role |
|------------------------|---|
| Edward Chau (OHA) | Funding and Performance, Consultant, OHA |
| Shirley Chen (HQO) | Sr. Methodologist, Health System Performance, HQO |
| Jethro Cheng (HQO) | Research Analyst, Health System Performance, HQO |
| Imtiaz Daniel (OHA) | Director, System Performance and Financial Analytics, OHA |
| Gail Dobell (HQO) | Interim VP, Health System Performance, HQO |
| Stephanie Hylmar (HQO) | Lead, Health System Performance, HQO |
| Michal Kapral (HQO) | Team Lead, Health System Performance, HQO |
| Wendy Medved (HQO) | Manager, Health System Performance, HQO |
| Kristen Pitzul (OHA) | Advisor, Funding and Performance, OHA |

Task Group Meetings:

| | |
|-----------------------|-------------------|
| Task Group Meeting #1 | November 26, 2018 |
| Task Group Meeting #2 | December 12, 2018 |

Members of the Task Group:

| OHA Invited Guests | HQO / OHA Secretariat |
|------------------------------|------------------------|
| Riyaz Abdulrasul (Mackenzie) | Edward Chau (OHA) |
| Michael Caesar (UHN) | Jethro Cheng (HQO) |
| Darren Gerson (Sunnybrook) | Shirley Chen (HQO) |
| Katherine Henning (UHN) | Imtiaz Daniel (OHA) |
| Brent Maranzan (NWHHA) | Gail Dobell (HQO) |
| Michael Nader (UHN) | Enza Ferro (OHA) |
| Danielle Jane Paton (SMH) | Stephanie Hylmar (HQO) |
| Deepak Sharma (NYGH) | Michal Kapral (HQO) |
| Sherra Solway (SMH) | Wendy Medved (HQO) |
| Gary Spencer (Trillium) | Gary Mitchell (OHA) |

* Members from Sunnybrook were consulted separately for data flow

APPENDIX B: Inventory of 299 Priority Ontario Indicators

Public Accountability

| Indicator Source | Indicator Name |
|--|--|
| HSAA | ALC (indicator TBD) |
| HSAA, Quality Improvement Plans (QIP, 2017/18) | ED Length of stay (%within target) |
| Quality Improvement Plans (QIPs, 2019/20) | Time to inpatient bed |
| HSAA/Canadian Institute for Health Information | Readmissions (30 day) (this might be more of a system indicator) |
| HSAA | Hospital acquired infection (CDI) |
| HSAA | Financial (current ratio) |
| HSAA | Financial (Total margin) |
| Linking Quality to Funding (LQ2F) | Patient experience (e.g. receive enough information when you left hospital) |
| Linking Quality to Funding (LQ2F) | Patient experience (e.g. having a clear understanding about all their prescribed medication before they left the hospital) |
| Linking Quality to Funding (LQ2F) | Patient experience (e.g. there was good communication about their care between doctors, nurses and other hospital staff) |
| Quality Improvement Plans (QIPs, 2019/20) | Provider experience (workplace violence) |
| Quality Improvement Plans (QIPs) | Hallway healthcare bed use (Indicator TBD) |
| CIHI | Repeat emergency visits for mental health |

System Monitoring

| Indicator Source | Indicator Name |
|---------------------------------------|--|
| CIHI | All patients readmitted to hospital (Overall 30-day all-cause readmission rate) |
| HSAA | Rate of Hospital Acquired Cases of Methicillin Resistant Staphylococcus Aureus |
| HSAA | Percent of Priority 2, 3 and 4 Cases Completed within Access Targets for Cancer Surgery |
| HSAA | Percent of Priority 2, 3 and 4 Cases Completed within Access Targets for Cardiac By-Pass Surgery |
| HSAA | Percent of Priority 2, 3 and 4 Cases Completed within Access Targets for Cataract Surgery |
| HSAA | Percentage of ALC Days |
| HSAA | Hospital Standardized Mortality Ratio |
| Quality Improvement Plans (QIPs) 2019 | Number of patients receiving care in unconventional spaces |
| Quality Improvement Plans (QIPs) 2020 | Early identification: Documented assessment of needs for palliative care patients |

| Indicator Source | Indicator Name |
|--|--|
| ER provincial summary report - access to care (CCO) | ambulance offload time 90th percentile (in minutes), by lhin |
| ER provincial summary report - access to care (CCO) | ambulance offload time rank, by lhin |
| ER provincial summary report - access to care (CCO) | average ER length of stay, previous fiscal year in hours by LHIN (both time to PIA and time from PIA to disposition) |
| ER provincial summary report - access to care (CCO) | average ER length of stay by hospital group (teaching hospital, very high volume community hospital; high volume community hospital; medium volume community hospital; low volume community hospital; very low volume community hospital; paediatric hospital; urgent care centre), previous fiscal year |
| ER provincial summary report - access to care (CCO) | change in volume and ER length of stay, by hospital (only outliers identified on graph) |
| ER provincial summary report - access to care (CCO) | daily average number of patients in ER waiting for inpatient bed at 8AM, by month, past 10 years |
| ER provincial summary report - access to care (CCO) | daily average number of patients waiting for inpatient bed at 8AM, ED length of stay (admitted), time to inpatient bed , by LHIN |
| ER provincial summary report - access to care (CCO) | Admission rate by LHIN: one month snapshot for current year and previous year, as well as April 2008: % change current year vs. previous year, and current year vs. April 08 |
| ER provincial summary report - access to care (CCO) | admission rate by hospital group, current year by hospital group (teaching hospital, very high volume community hospital; high volume community hospital; medium volume community hospital; low volume community hospital; very low volume community hospital; paediatric hospital; urgent care centre) |
| ALC provincial summary report - access to care (CCO) | provincial trend in open patients designated ALC, monthly for previous 2 fiscals |
| CCO Regional Performance Scorecard Indicators | Percentage of Ontario breast screening program clients diagnosed within 7 weeks of an abnormal screen for cases with a tissue biopsy |
| CCO Regional Performance Scorecard Indicators | CT biopsy wait time |
| CCO Regional Performance Scorecard Indicators | Referral to a lunch diagnostic assessment program to diagnosis or rule out: percentage of patients diagnosed or ruled out within 28 days |
| CCO Regional Performance Scorecard Indicators | Percentage of new ambulatory cancer cases that were screened for tobacco use in the past 6 months (regional cancer centres only) |
| CCO Regional Performance Scorecard Indicators | Percentage of tobacco users that accepted a referral for tobacco use cessation counselling |
| CCO Regional Performance Scorecard Indicators | Referral to consult: percentage of patients seen within target for all priority categories (all reporting facilities) |
| CCO Regional Performance Scorecard Indicators | Decision to treat to treatment - P2: percentage of patients treated within target for "Priority 2" cases (all reporting facilities) |
| CCO Regional Performance Scorecard Indicators | Pathology post-surgical turn-around time for all disease sites: percentage of reports received within 14 days (all reporting facilities) |
| CCO Regional Performance Scorecard Indicators | Percentage of palliative courses peer reviewed (all radiation facilities) |

| Indicator Source | Indicator Name |
|---|--|
| CCO Regional Performance Scorecard Indicators | Referral to consult: percentage of patients receiving systemic treatment seen within 14 days (RSTP level 1, 2, and 3 facilities) |
| CCO Regional Performance Scorecard Indicators | Consult to treatment: percentage of patients receiving systemic treatment treated within 28 days (RSTP level 1, 2, and 3 facilities; excluding palliative) |
| CCO Regional Performance Scorecard Indicators | Percentage of cancer patients in the regional cancer centre who were screened at least once per month for symptom severity using ESAS/EPIC |

Local Monitoring

| Indicator Source | Indicator Name |
|------------------------|---|
| CIHI Indicator Library | 30-day all-cause readmission rate after isolated coronary artery bypass graft (CABG) |
| CIHI Indicator Library | 30-day all-cause readmission rate after percutaneous coronary intervention (PCI) |
| CIHI Indicator Library | 30-day in-hospital mortality after coronary artery bypass graft (CABG) and aortic valve replacement (AVR) |
| CIHI Indicator Library | 30-day in-hospital mortality after isolated aortic valve replacement (AVR) |
| CIHI Indicator Library | 30-day in-hospital mortality after isolated coronary artery bypass graft (CABG) |
| CIHI Indicator Library | 30-day in-hospital mortality after percutaneous coronary intervention (PCI) |
| CIHI Indicator Library | Cost of a standard hospital stay |
| CIHI Indicator Library | Emergency department wait time for physician initial assessment (90% spent less, in hours) |
| CIHI Indicator Library | Hip fracture surgery within 48 hours |
| CIHI Indicator Library | Hospital harm |
| CIHI Indicator Library | in-hospital hip fracture in elderly (65+) patients |
| CIHI Indicator Library | in-hospital sepsis |
| CIHI Indicator Library | low-risk caesarean sections |
| CIHI Indicator Library | medical patients readmitted to hospital |
| CIHI Indicator Library | nursing-sensitive adverse events for medical patients |
| CIHI Indicator Library | nursing-sensitive adverse events for surgical patients |
| CIHI Indicator Library | obstetric patients readmitted to hospital |
| CIHI Indicator Library | obstetric trauma (with instrument) |
| CIHI Indicator Library | obstetric trauma (vaginal delivery without instrument) |
| CIHI Indicator Library | patients 19 and younger readmitted to hospital |
| CIHI Indicator Library | surgical patients readmitted to hospital |
| CIHI Indicator Library | time in emergency department until disposition decision (hours, percentile) |
| CIHI Indicator Library | total time spent in emergency department (hours, percentile) |
| CIHI Indicator Library | wait time for hip fracture surgery, age 65+ (proportion with surgery within 48 hours) |
| HSAA | 90th Percentile ED Length of Stay for Non-Admitted Low Acuity Patients [CTAS IV-V] |
| HSAA | Percent of Priority 2, 3 and 4 Cases Completed within Access Targets for Hip Replacements |
| HSAA | Percent of Priority 2, 3 and 4 Cases Completed within Access Targets for Knee Replacements |
| HSAA | Percent of Priority 2, 3 and 4 Cases Completed within Access Targets for MRI |

| Indicator Source | Indicator Name |
|---|--|
| HSAA | Percent of Priority 2, 3 and 4 Cases Completed within Access Targets for CT scans |
| HSAA | 90th Percentile Time to Disposition Decision (Admitted Patients) |
| HSAA | Percent of Stroke/TIA Patients Admitted to a Stroke Unit During Their Inpatient Stay |
| HSAA | Rate of Ventilator-Associated Pneumonia |
| HSAA | Rate of Central Line Infection |
| HSAA | Adjusted Working Funds / Total Revenue % |
| HSAA | Repeat Unscheduled Emergency Visits within 30 days for Mental Health Conditions |
| HSAA | Repeat Unscheduled Emergency Visits within 30 days for Substance Abuse Conditions |
| Critical Care Services Ontario Performance Indicator | Incident Rate - Unplanned Extubation (‰) |
| Critical Care Services Ontario Performance Indicator | Hand Hygiene Compliance (before patient contact) (%) |
| Critical Care Services Ontario Performance Indicator | % of Beds Not Available |
| Critical Care Services Ontario Performance Indicator | Night-Time Discharge Rate (%) |
| Critical Care Services Ontario Performance Indicator | ICU Average LOS (days) |
| Critical Care Services Ontario Performance Indicator | Avoidable Days Rate (%) |
| Critical Care Services Ontario Performance Indicator | # of Chronic Ventilated Patients (> 21 Days) |
| Critical Care Services Ontario Performance Indicator | Admission to Bed (within 90 minutes)(%) |
| Quality Improvement Plans (QIPs) 2017, 2018 | Patient experience: did you receive enough information when you left the hospital? |
| Quality Improvement Plans (QIPs) 2017, 2018 | Patient experience: would you recommend inpatient care? |
| Quality Improvement Plans (QIPs) 2017, 2018 | Patient experience: would you recommend emergency department? |
| Quality Improvement Plans (QIPs) 2017, 2019/20 | Medication reconciliation at discharge |
| Quality Improvement Plans (QIPs) 2017, 2019/20 | Percent discharge summaries sent from hospital to community care provider within 48 hours of discharge |
| Quality Improvement Plans (QIPs) 2017 | Percentage of complaints acknowledged to the individual who made a complain within 3 to 5 business days |
| Quality Improvement Plans (QIPs) 2017, 2019/20 | Readmission within 30 days for mental health and addiction |
| Common Quality Agenda 2017 (some are publicly reported) | first contact in the ED for Mental Health & Addictions |
| Common Quality Agenda 2017 (some are publicly reported) | % patients readmitted to hospital for mental illness and addiction within 30 days of discharge after hospitalization for mental illness or addiction |

| Indicator Source | Indicator Name |
|--|--|
| Common Quality Agenda 2017 (some are publicly reported) | % patients in mental health designated beds who were physically or mechanically restrained |
| Common Quality Agenda 2017 (some are publicly reported) | % patients who underwent a cardiac surgery or procedure within the provincial access target |
| Common Quality Agenda 2017 (some are publicly reported) | % of low-risk deliveries by delivery type |
| Common Quality Agenda 2017 (some are publicly reported) | % deliveries by delivery type |
| Common Quality Agenda 2017 (some are publicly reported) | visits to ED for conditions people thought could have been treated by their primary care provider |
| Common Quality Agenda 2017 (some are publicly reported) | hospital readmission rate within 30 days of leaving hospital for medical or surgical treatment |
| Common Quality Agenda 2017 (some are publicly reported) | hospitalization rate for conditions that can be managed outside hospital |
| Common Quality Agenda 2017 (some are publicly reported) | % of patients who had an unscheduled ED visit that potentially could have been treated in an alternative primary care setting |
| Common Quality Agenda 2017 (some are publicly reported) | % of home care patients who had unplanned ED visits within 30 days for referrals from hospital to CCAC after acute hospital discharge |
| Common Quality Agenda 2017 (some are publicly reported) | % of people, among those who died, who had at least one unplanned ED visit in their last 30 days of life |
| Common Quality Agenda 2017 (some are publicly reported) | % of people who died in hospital, in Ontario |
| Publicly-Reported Patient Safety | Surgical safety checklist completion |
| Publicly-Reported Patient Safety | Antibiotic-Resistant Bloodstream Infections in hospital patients |
| Better Outcomes Registry Network (BORN)'s KPI | Proportion of newborn screening samples that were unsatisfactory for testing, by submitting hospital and comparator groups |
| Better Outcomes Registry Network (BORN)'s KPI | rate of episiotomy in women who had a spontaneous vaginal birth |
| Better Outcomes Registry Network (BORN)'s KPI | rate of formula supplementation from birth to discharge in term infants whose mothers intended to exclusively breastfeed |
| Better Outcomes Registry Network (BORN)'s KPI | proportion of women with a caesarean section performed from greater than or equal to 37 weeks to less than 39 weeks gestation among low-risk women having a repeat caesarean section at term |
| Better Outcomes Registry Network (BORN)'s KPI | proportion of women who delivered at term and had Group B streptococcus (GBS) screening at 35-37 weeks' gestation |
| Better Outcomes Registry Network (BORN)'s KPI | proportion of women who were induced with an indication of post-dates and were less than 41 weeks' gestation at delivery |
| CorHealth: Stroke Scorecard | proportion of stroke/TIA patients who arrived at the ED by ambulance |
| CorHealth: Stroke Scorecard | Annual age and sex adjusted inpatient admission rate for stroke/TIA (per 1,000 population) |
| CorHealth: Stroke Scorecard | risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients) |
| CorHealth: Stroke Scorecard | proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care |

| Indicator Source | Indicator Name |
|---|---|
| CorHealth: Stroke Scorecard | proportion of ischemic stroke inpatients who received carotid imaging |
| CorHealth: Stroke Scorecard | median door to needle time among patients who received acute thrombolytic therapy (tPA) (minutes) |
| CorHealth: Stroke Scorecard | proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA) |
| CorHealth: Stroke Scorecard | proportion of stroke/TIA patients treated on a stroke unit at any time during their inpatient stay |
| CorHealth: Stroke Scorecard | proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services |
| CorHealth: Stroke Scorecard | proportion of acute stroke (Excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation |
| CorHealth: Stroke Scorecard | proportion of acute stroke (excluding TIA) patients with mild disability (alphaFIM > 80) discharged home |
| CorHealth: Stroke Scorecard | median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation |
| CorHealth: Stroke Scorecard | median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients |
| CorHealth: Stroke Scorecard | proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target |
| CorHealth: Stroke Scorecard | median FIM efficiency for moderate stroke in inpatient rehabilitation |
| CorHealth: Stroke Scorecard | mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation 2014/15-2015/16 |
| CorHealth: Stroke Scorecard | proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110) |
| CorHealth: Stroke Scorecard | proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC) |
| CorHealth: Stroke Scorecard | age and sex adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients) |
| CorHealth Annual Cardiac Report | cardiac catheterization: elective wait times |
| CorHealth Annual Cardiac Report | cardiac catheterization: urgent wait times |
| CorHealth Annual Cardiac Report | percutaneous coronary intervention: elective wait times |
| CorHealth Annual Cardiac Report | percutaneous coronary intervention: urgent wait times |
| CorHealth Annual Cardiac Report | implantable cardioverter defibrillator (ICD) and cardiac resynchronization therapy (CRT): elective wait list |
| CorHealth Annual Cardiac Report | implantable cardioverter defibrillator (ICD) and cardiac resynchronization therapy (CRT): urgent wait list |
| CorHealth Annual Cardiac Report | door to balloon times: ambulance transfers to PCI centre |
| CorHealth Annual Cardiac Report | door to balloon times: walk-ins to PCI centre |
| CorHealth Annual Cardiac Report | door to balloon times: transfers from non-pci centres |
| CorHealth Annual Cardiac Report | percentage of primary pcis presenting directly to a pci centre achieving 90 minute benchmark |
| CorHealth Annual Cardiac Report | percentage of primary pcis transferred from a non-pci centre achieving 120 minute benchmark |
| ER provincial summary report - access to care (CCO) | provincial ambulance offload time trend for past 10 years, monthly |

| Indicator Source | Indicator Name |
|--|--|
| ER provincial summary report - access to care (CCO) | ambulance volumes by LHIN, previous fiscal year |
| National System for Incident Reporting, CIHI | All Critical Incidents related to Medication/IV fluids |
| National System for Incident Reporting, CIHI | Non-critical medication/ IV fluid incidents |
| Provincial Council for Maternal and Child Health Scorecard | Caesarean Section Rates |
| Provincial Council for Maternal and Child Health Scorecard | Preterm Birth (<37 Weeks) Rates |
| Provincial Council for Maternal and Child Health Scorecard | NICU Admission Rates |
| Provincial Council for Maternal and Child Health Scorecard | Paediatric Inpatient Admission Rates |
| Provincial Council for Maternal and Child Health Scorecard | Paediatric ED Visit Rates |

Recommend to Retire

| Indicator Source | Indicator Name |
|--|---|
| CIHI Indicator Library | Hospital Deaths following major surgery |
| CIHI Indicator Library | percutaneous coronary intervention (PCI) volume by province and centre |
| HSAA | Total Margin (Hospital Sector Only) |
| Critical Care Services Ontario Performance Indicator | % of Nurses with Critical Care Training |
| Critical Care Services Ontario Performance Indicator | 48 Hour Readmission Rate (%) |
| Quality Improvement Plans (QIPs) 2017 | Risk-adjusted 30 day all cause readmission rate for patients with CHF |
| Quality Improvement Plans (QIPs) 2017 | Risk-adjusted 30 day all cause readmission rate for patients with COPD |
| Quality Improvement Plans (QIPs) 2017 | Risk-adjusted 30 day all cause readmission rate for patients with stroke |
| Quality Improvement Plans (QIPs) 2017 | Home support for discharged palliative patients |
| Quality Improvement Plans (QIPs) 2017 | Percentage of patients identified as meeting health link criteria who are offered access to health links approach |
| Quality Improvement Plans (QIPs) 2017 | Pressure ulcers for complex continuing care patients |
| Quality Improvement Plans (QIPs) 2017 | 90th percentile emergency department length of stay for complex patients |
| Quality Improvement Plans (QIPs) 2017 | Physical restraints in mental health |

| Indicator Source | Indicator Name |
|---|---|
| Quality Improvement Plans (QIPs) 2017 | ICU antimicrobial utilization -antimicrobial-free days (AFD) |
| Common Quality Agenda 2017 (some are publicly reported) | average time patients spent in the ED |
| Common Quality Agenda 2017 (some are publicly reported) | % of inpatient days that beds were occupied by patients who could have been receiving care elsewhere |
| CorHealth: Stroke Scorecard | proportion of ALC days to total length of stay in acute care |
| CorHealth Annual Cardiac Report | diagnostic cardiac catheterization volumes by hospital |
| CorHealth Annual Cardiac Report | percutaneous coronary intervention volumes by hospital |
| CorHealth Annual Cardiac Report | cardiac surgery volumes by hospital |
| CorHealth Annual Cardiac Report | transcatheter aortic valve implantation volumes by hospital |
| CorHealth Annual Cardiac Report | electrophysiology studies (EPS) and ablations volumes by hospital |
| CorHealth Annual Cardiac Report | cardiac devices implant procedures volumes by hospital |
| CorHealth Annual Cardiac Report | primary PCI, pharmacoinvasive PCI, and rescue PCI volumes |
| ER provincial summary report - access to care (CCO) | provincial 90th percentile ER length of stay |
| ER provincial summary report - access to care (CCO) | provincial 90th percentile ER length of stay trend by patient type (admitted; non admitted, high acuity, non-admitted, low acuity) |
| ER provincial summary report - access to care (CCO) | provincial 90th percentile time to inpatient bed |
| ER provincial summary report - access to care (CCO) | provincial 90th percentile time to physician initial assessment (PIA) |
| ER provincial summary report - access to care (CCO) | provincial ER volume |
| ER provincial summary report - access to care (CCO) | provincial % change in ER volume (for complex conditions; admitted patients; non-admitted, high acuity; non-admitted, low acuity; visit by ambulance) |
| ER provincial summary report - access to care (CCO) | 90th percentile ER Length of stay (hours), one month snapshot, by LHIN |
| ER provincial summary report - access to care (CCO) | % change in ER length of stay (hours), past two fiscal years, by LHIN |
| ER provincial summary report - access to care (CCO) | 90th percentile ER length of stay, fiscal year, by hospital group (teaching hospital, very high volume community hospital; high volume community hospital; medium volume community hospital; low volume community hospital; very low volume community hospital; paediatric hospital; urgent care centre) |
| ER provincial summary report - access to care (CCO) | ER volume vs. % change in ER volume (current fiscal year and previous fiscal year), by hospital (only outliers identified) |
| ER provincial summary report - access to care (CCO) | most improved hospital sites by hospital group (teaching hospital, very high volume community hospital; high volume community hospital; medium volume community hospital; low volume community hospital; very low volume community hospital; paediatric hospital; urgent care centre) for ER length of stay (hours) for current fiscal year |

| Indicator Source | Indicator Name |
|--|--|
| ER provincial summary report - access to care (CCO) | most improve hospital sites by hospital group (teaching hospital, very high volume community hospital; high volume community hospital; medium volume community hospital; low volume community hospital; very low volume community hospital; paediatric hospital; urgent care centre) for ER length of stay (hours) for previous fiscal year |
| ER provincial summary report - access to care (CCO) | most improve hospital sites by hospital group (teaching hospital, very high volume community hospital; high volume community hospital; medium volume community hospital; low volume community hospital; very low volume community hospital; paediatric hospital; urgent care centre) for ER length of stay (hours) % change from previous two fiscal years |
| ER provincial summary report - access to care (CCO) | most improve hospital sites by hospital group (teaching hospital, very high volume community hospital; high volume community hospital; medium volume community hospital; low volume community hospital; very low volume community hospital; paediatric hospital; urgent care centre) for time to PIA (hours) current fiscal year |
| ER provincial summary report - access to care (CCO) | most improve hospital sites by hospital group (teaching hospital, very high volume community hospital; high volume community hospital; medium volume community hospital; low volume community hospital; very low volume community hospital; paediatric hospital; urgent care centre) for time to IP bed (hrs) currently fiscal year |
| ER provincial summary report - access to care (CCO) | correlation between % CTAS I and II patients and 90th percentile ER length of stay (by hospital, only outliers identified) |
| ER provincial summary report - access to care (CCO) | number of patients designated ALC in acute care by LHIN (one month snapshot of current year) |
| ER provincial summary report - access to care (CCO) | ALC rate by LHIN (one month snapshot of current year) |
| ALC provincial summary report - access to care (CCO) | provincial trend in open patients designated ALC by inpatient service (acute care, complex continuing care, rehab, mental health), by month for past 2 years |
| ALC provincial summary report - access to care (CCO) | provincial trend in ALC rate by inpatient service (acute care, ccc, rehab, mental health), monthly past year |
| ALC provincial summary report - access to care (CCO) | LHIN alc rate, one month snap shot for current year and previous year, by lhin: total ALC days, control to provincial ALC rate, total inpatient days, ALC rate |
| ALC provincial summary report - access to care (CCO) | provincial trend in open patients designated ALC in acute care by top three discharge destinations (long term care, home with ccac, supervised or assisted living), past 2 years |
| ALC provincial summary report - access to care (CCO) | provincial trend in open patients designated ALC in post-acute care by top three discharge destinations (long term care, supervised or assisted living, home with ccac), past 2 years |
| ALC provincial summary report - access to care (CCO) | % cumulative ALC days of open patients designated ALC by discharge destination -one month snapshot in current year, by province and lhin |
| ALC provincial summary report - access to care (CCO) | ALC rate by acute and post-acute care (one month snapshot current year), by LHIN |
| ALC provincial summary report - access to care (CCO) | ALC rate by province, lhin, and inpatient service (all post-acute, ccc, mental health, rehab, all, and acute) |
| ALC provincial summary report - access to care (CCO) | % of acute care patients designated ALC by discharge destination (ltc, rehab, ccc, home w ccac, home with community services, home w/o support, SAL, conv. Care, MH, palliative, unknown), province |

| Indicator Source | Indicator Name |
|--|--|
| ALC provincial summary report - access to care (CCO) | % of post acute care patients designated ALC by discharge destination (lrc, rehab, ccc, home w ccac, home w comm services, home w/out support, SAL, conv. Care, MH, palliative, unknown) |
| ALC provincial summary report - access to care (CCO) | volume of open patients designated ALC in acute care by top four discharge destinations , past fiscal year (long term care, home w ccac, supervised or assisted living, ccc) |
| ALC provincial summary report - access to care (CCO) | 90th percentile wait time for open patients designated ALC in acute care by top four discharge destinations (all acute open cases, supervised or assisted living, lrc, ccc, home w ccac) , by month, past 2 years |
| ALC provincial summary report - access to care (CCO) | for one month snapshot from previous year, % of acute care patients designated ALC, by discharge destination that was defined as most appropriate discharge destination (% to LTC, rehab, ccc, home w ccac, home w comm services, SAL, conv. Care, MH, palliative, unknown) |
| ALC provincial summary report - access to care (CCO) | for one month snapshot from previous year, % of acute care patients designated ALC, by discharge destination that was defined as NOT the most appropriate discharge destination (% to LTC, rehab, ccc, home w ccac, home w comm services, SAL, conv. Care, MH, palliative, unknown) |
| ALC provincial summary report - access to care (CCO) | for one month snapshot from previous year, % of post-acute care patients designated ALC, by discharge destination that was defined as most appropriate discharge destination (% to LTC, rehab, ccc, home w ccac, home w comm services, SAL, conv. Care, MH, palliative, unknown) |
| ALC provincial summary report - access to care (CCO) | for one month snapshot from previous year, % of post-acute care patients designated ALC, by discharge destination that was defined as NOT the most appropriate discharge destination (% to LTC, rehab, ccc, home w ccac, home w comm services, SAL, conv. Care, MH, palliative, unknown) |
| ALC provincial summary report - access to care (CCO) | proportion of open patients designated ALC in acute care by discharge destination, previous two years, by discharge destination = most appropriate discharge destination vs. discharge destination does not equal most appropriate discharge destination |
| ALC provincial summary report - access to care (CCO) | proportion of open patients designated ALC in post-acute care by discharge destination, previous two years, by discharge destination = most appropriate discharge destination vs. discharge destination does not equal most appropriate discharge destination |
| ALC provincial summary report - access to care (CCO) | wait time for open patients designated ALC in acute care by discharge destination equals most appropriate discharge destination vs. discharge destination does not equal most appropriate discharge destination, one month snapshot in past year (median, % 90th percentile), by LHIN |
| ALC provincial summary report - access to care (CCO) | wait time for open patients designated ALC in post-acute care by discharge destination equals most appropriate discharge destination vs. discharge destination does not equal most appropriate discharge destination, one month snapshot in past year (median, % 90th percentile), by LHIN |
| ALC provincial summary report - access to care (CCO) | percent of acute care patients designated ALC with specialized needs and supports (SNS) as a barrier by discharge destination (LTC, rehab, CCC, home w CCAC, home w/ comm services, home w/o support, SAL, Conv. Care, MH, palliative, unknown) |

| Indicator Source | Indicator Name |
|--|--|
| ALC provincial summary report - access to care (CCO) | percent of post-acute care patients designated ALC with specialized needs and supports (SNS) as a barrier by discharge destination (LTC, rehab, CCC, home w CCAC, home w/ comm services, home w/o support, SAL, Conv. Care, MH, palliative, unknown) |
| ALC provincial summary report - access to care (CCO) | proportion of open patients designated ALC in acute care by SNS and top four discharge destinations, one month snapshot in past year |
| ALC provincial summary report - access to care (CCO) | proportion of open patients designated ALC in post-acute care by SNS and top four discharge destinations, one month snapshot in past year |
| ALC provincial summary report - access to care (CCO) | 90th percentile wait time for open patients designated ALC in acute care by specialized needs and supports (no SNS required, SNS as a need only, SNS as a barrier), past 2 years |
| ALC provincial summary report - access to care (CCO) | 90th percentile wait time for open patients designated ALC in post-acute care by specialized needs and supports (no SNS required, SNS as a need only, SNS as a barrier), past 2 years |
| ALC provincial summary report - access to care (CCO) | percentage of acute care patients designated ALC with SNS as a barrier, by type of SNS (no barrier, bariatric, behavioural, development, dialysis, equip/structure, feeding, infection, mechanical ventilation, meds/labs, mental health, neuro, respiratory, social, wound), snapshot of one month |
| ALC provincial summary report - access to care (CCO) | percentage of post-acute care patients designated ALC with SNS as a barrier, by type of SNS (no barrier, bariatric, behavioural, development, dialysis, equip/structure, feeding, infection, mechanical ventilation, meds/labs, mental health, neuro, respiratory, social, wound), snapshot of one month |
| ALC provincial summary report - access to care (CCO) | volume of open patients designated ALC in acute care by top four barriers to discharge (social, behavioural, neurological, infection control/isolation), one month snapshot in past year |
| ALC provincial summary report - access to care (CCO) | volume of open patients designated ALC in post-acute care by top four barriers to discharge (social, behavioural, neurological, infection control/isolation), one month snapshot in past year |
| ALC provincial summary report - access to care (CCO) | 90th percentile wait time for open patients designated ALC in acute care by top four barriers to discharge , previous two years |
| ALC provincial summary report - access to care (CCO) | 90th percentile wait time for open patients designated ALC in post-acute care by top four barriers to discharge , previous two years |
| ALC provincial summary report - access to care (CCO) | percentage of acute care patients designed ALC by age group (0 to 64, 65 to 74, 75 to 84, 85+), one month snapshot previous year |
| ALC provincial summary report - access to care (CCO) | percentage of post-acute care patients designed ALC by age group (0 to 64, 65 to 74, 75 to 84, 85+), one month snapshot previous year |
| ALC provincial summary report - access to care (CCO) | trend of volume of open patients designated ALC in acute care by age group (-064, 65-74, 75-84, 85+), previous 2 years |
| ALC provincial summary report - access to care (CCO) | trend of volume of open patients designated ALC in post-acute care by age group (-064, 65-74, 75-84, 85+), previous 2 years |
| ALC provincial summary report - access to care (CCO) | 90th percentile wait time for open patients designated ALC in acute care by age group (0-64, 65-74, 75-84, 85+), previous 2 years |
| ALC provincial summary report - access to care (CCO) | 90th percentile wait time for open patients designated ALC in post-acute care by age group (0-64, 65-74, 75-84, 85+), previous 2 years |

| Indicator Source | Indicator Name |
|--|---|
| ALC provincial summary report - access to care (CCO) | percentage of long wait acute care patients designated ALC by discharge destination (LTC, rehab, ccc, home w ccac, home w comm services, home w/out support, SAL, conv. Care, MH, palliative, unknown) |
| ALC provincial summary report - access to care (CCO) | proportion of long waiters out of all open patients designated ALC in acute care - trend in past two years |
| ALC provincial summary report - access to care (CCO) | proportion of long waiters out of all open patients designated ALC in post-acute care - trend in past two years |
| ALC provincial summary report - access to care (CCO) | Age and SNS breakdown for long waiters in acute care -one month snapshot in past year, number of cases and % of acute open ALC cases |
| ALC provincial summary report - access to care (CCO) | Age and SNS breakdown for long waiters in post-acute care -one month snapshot in past year, number of cases and % of acute open ALC cases |
| ALC provincial summary report - access to care (CCO) | percentage of discharge acute care patients designated ALC by discharge destination (LTC, rehab, ccc, home w ccac, home w comm services, home w/out support, SAL, conv. Care, MH, palliative), one month snapshot, previous year |
| ALC provincial summary report - access to care (CCO) | percentage of discharge post-acute care patients designated ALC by discharge destination (LTC, rehab, ccc, home w ccac, home w comm services, home w/out support, SAL, conv. Care, MH, palliative), one month snapshot, previous year |
| ALC provincial summary report - access to care (CCO) | volume of patients designated ALC discharged from acute care by top four discharge destinations, one month snapshot previous year |
| ALC provincial summary report - access to care (CCO) | volume of patients designated ALC discharged from post-acute care by top four discharge destinations, one month snapshot previous year |
| ALC provincial summary report - access to care (CCO) | 90th percentile wait time for patients designated ALC discharged from acute care by top four discharge destinations , previous 2 years |
| ALC provincial summary report - access to care (CCO) | 90th percentile wait time for patients designated ALC discharged from post-acute care by top four discharge destinations , previous 2 years |
| ALC provincial summary report - access to care (CCO) | percentage of discharge acute care patients designated ALC by discharge destination (lrc, rehab, ccc, home w ccac, home w comm. Services, home w/o support, SAL, conv. Care, MH, palliative) |
| ALC provincial summary report - access to care (CCO) | percentage of discharge post-acute care patients designated ALC by discharge destination (lrc, rehab, ccc, home w ccac, home w comm. Services, home w/o support, SAL, conv. Care, MH, palliative) |
| ALC provincial summary report - access to care (CCO) | volume of patients designated ALC discharged from acute care by top four discharge destinations, year to date |
| ALC provincial summary report - access to care (CCO) | volume of patients designated ALC discharged from post-acute care by top four discharge destinations, year to date |
| ALC provincial summary report - access to care (CCO) | wait time for patients designated ALC discharged from acute care by discharge destination, year to date |
| ALC provincial summary report - access to care (CCO) | wait time for patients designated ALC discharged from post-acute care by discharge destination, year to date |
| ALC provincial summary report - access to care (CCO) | provincial trend in open patients designated ALC 65+ years old, past two years |
| ALC provincial summary report - access to care (CCO) | provincial trend in open patients designated ALC 65+ years old, past two years, by top four discharge destinations |
| ALC provincial summary report - access to care (CCO) | 90th percentile wait time for open patients designated ALC 65+ years old by top four discharge destinations, past two years |

| Indicator Source | Indicator Name |
|--|--|
| ALC provincial summary report - access to care (CCO) | provincial trend in open patients designated ALC 65+ years old by inpatient service (acute care, ccc, rehab, mental health), past 2 years |
| ALC provincial summary report - access to care (CCO) | open patients designated ALC 65+ years old by all discharge destinations, one month snap shot of each of the previous two years |
| ALC provincial summary report - access to care (CCO) | province/LHIN snapshot: volume and 90th percentile wait time for open patients designated ALC 65+ years old, one month snap shot of each of the previous two years |
| HSAA Volume Management | Ambulatory care: visits |
| HSAA Volume Management | complex continuing care: weighted patient days |
| HSAA Volume Management | day surgery: weighted cases |
| HSAA Volume Management | elderly capital assistance program (ELDCAP): patient days |
| HSAA Volume Management | emergency department: weighted cases |
| HSAA Volume Management | emergency department and urgent care: visits |
| HSAA Volume Management | inpatient mental health: patient days |
| HSAA Volume Management | inpatient rehabilitation days: patient days |
| HSAA Volume Management | total inpatient acute: weighted cases |
| HSAA Volume Management | Hip replacement BUNDLE (unilateral): volume |
| HSAA Volume Management | Knee replacement BUNDLE (unilateral): volume |
| HSAA Volume Management | Rehabilitation inpatient primary unilateral hip replacement: volume |
| HSAA Volume Management | acute inpatient primary unilateral knee replacement : volume |
| HSAA Volume Management | acute inpatient hip fracture: volume |
| HSAA Volume Management | knee arthroscopy: volume |
| HSAA Volume Management | elective hips - outpatient rehab for primary hip replacement: volume |
| HSAA Volume Management | elective knees - outpatient rehab for primary knee replacement: volume |
| HSAA Volume Management | acute inpatient primary bilateral joint replacement (hip/knee): volume |
| HSAA Volume Management | rehab inpatient primary bilateral hip/knee replacement: volume |
| HSAA Volume Management | rehab outpatient primary bilateral hip/knee replacement: volume |
| HSAA Volume Management | acute inpatient congestive heart failure: volume |
| HSAA Volume Management | acute inpatient stroke hemorrhage: volume |
| HSAA Volume Management | acute inpatient stroke ischemic or unspecified: volume |
| HSAA Volume Management | acute inpatient stroke transient ischemic attack (TIA): volume |
| HSAA Volume Management | stroke endovascular treatment (EVT): volume |
| HSAA Volume Management | acute inpatient non-cardiac vascular aortic aneurysm excluding advanced pathway: volume |
| HSAA Volume Management | acute inpatient non-cardiac vascular lower extremity occlusive disease: volume |
| HSAA Volume Management | unilateral cataract day surgery: volume |
| HSAA Volume Management | retinal disease: volume |
| HSAA Volume Management | acute inpatient tonsillectomy: volume |
| HSAA Volume Management | acute inpatient chronic obstructive pulmonary disease: volume |
| HSAA Volume Management | acute inpatient pneumonia: volume |
| HSAA Volume Management | non-routine and bilateral cataract day surgery: volume |
| HSAA Volume Management | corneal transplant (day surgery): volume |

| Indicator Source | Indicator Name |
|------------------------|--|
| HSAA Volume Management | non-emergent spine (non-instrumented - day surgery): volume |
| HSAA Volume Management | non-emergent spine (non-instrumented- inpatient surgery): volume |
| HSAA Volume Management | non-emergent spine (instrumented- inpatient surgery): volume |
| HSAA Volume Management | shoulder (arthroplasties): volume |
| HSAA Volume Management | shoulder (reverse arthroplasties): volume |
| HSAA Volume Management | shoulder (repairs): volume |
| HSAA Volume Management | shoulder (other): volume |

APPENDIX C: Consultations

Consultations and meetings to discuss system monitoring, performance management and data flow.

| Date | Organization | Participant and Role | HQO / OHA Participants |
|-----------------------------|-------------------------------------|---|---|
| INDICATOR DEVELOPERS | | | |
| February 6, 2019 | CorHealth | Graham Woodward , Senior VP Laurie Bourne , Senior Director, Health System Policy, Design and Improvement | Imtiaz Daniel, Gail Dobell |
| March 20, 2019 | CCO, Data Assets | Shari Dworkin , Director, Data Assets Kiren Handa , Director, Analytics and BI | Stephanie Hylmar, Wendy Medved |
| March 26, 2019 | CCO, Analytics and Informatics | Jason Garay , Former VP, Analytics and Informatics | Gail Dobell |
| April 12, 2019 | Sunnybrook Health Sciences | Melanie Lam , Manager, Business Intelligence Wendy Li , Manager, Decision Support | Shirley Chen, Jethro Cheng, Gail Dobell |
| April 30, 2019 | CCO, Ontario Renal Network (ORN) | Daphne Sniekers , Group Manager, Ontario Renal Network | Gail Dobell |
| May 2, 2019 | BORN | Lise Bisnaire , Executive Director Sandy Dunn , Knowledge Translation Specialist | Gail Dobell, Stephanie Hylmar, Wendy Medved, |
| May 17, 2019 | CCO, Regional Programs | Christina Tassone , Performance Analyst, Regional Victoria Hagens , Manager, Regional Programs Jennifer Stiff , Manager, Cancer Quality System Sharmila Kandasamy , Team Lead, Regional Programs Samatha Hughes , Regional Programs Coordinator | Shirley Chen, Jethro Cheng, Michal Kapral, Stephanie Hylmar, Wendy Medved |

| Date | Organization | Participant and Role | HQO / OHA Participants |
|--|---|--|--|
| June 7, 2019 | CCO, Surgical Oncology Program | Dr. Frances Wright , Affiliate Scientist, Sunnybrook Leigh McKnight , Program Manager, Surgical Oncology | Shirley Chen, Jethro Cheng, Stephanie Hylmar |
| June 13, 2019 | MOHLTC | Michael Hillmer , Executive Director, Information Management, Data, and Analytics | Gail Dobell, Wendy Medved |
| June 26, 2019 | CCO, Data Assets, Analytics and Regional Programs | Ravi Akula , Group Manager, BI Asim Bhatti , Director, Product Management Shari Dworkin , Director, Data Assets Daniel Funge , Team Lead, BI Victoria Hagens , Group Manager Regional Programs and Performance Management Kiren Handa , Director, Analytics and BI Garth Matheson , VP, Planning and Regional Programs Sid Suwande , Chief Technology Officer | Shirley Chen, Jethro Cheng, Imtiaz Daniel, Gail Dobell, Michal Kapral, Stephanie Hylmar |
| June 11, 2019 | CIHI | Saul Melamed , Manager, Client Affairs Kathleen Morris , VP, Research and Analytics Francine Anne Roy , Acting VP, Eastern Canada | Gail Dobell |
| CANADIAN AND INTERNATIONAL ENTITIES | | | |
| March 27, 2019 | Nuffield Trust UK | Chris Sherlaw-Johnson , Sr. Research Analyst | Shirley Chen, Jethro Cheng, Imtiaz Daniel, Michal Kapral, Stephanie Hylmar, Wendy Medved |
| April 2, 2019 | Cambridge University UK | Dr. David Spiegelhalter , Winton Professor, Faculty of Mathematics, University of Cambridge | Shirley Chen, Jethro Cheng, Imtiaz Daniel, Michal Kapral, Stephanie Hylmar, Wendy Medved |
| April 25, 2019 | LSE UK | RG Bevan , Emeritus Professor of Policy Analysis Department of Management | Imtiaz Daniel, Gail Dobell |

| Date | Organization | Participant and Role | HQO / OHA Participants |
|-----------------|---|---|--|
| July 6, 2019 | Alberta Health Services | Stafford Dean , Senior Program Officer, Analytics, Alberta Health Services Andrew Fong , Clinical Analytics, Alberta Health Services Deborah Katz , Clinical Analytics, Alberta Health Services Aaron Sheldon , Analytics Architecture, Alberta Health Services, and University of Calgary | Shirley Chen, Jethro Cheng, Imtiaz Daniel, Gail Dobell, Michal Kapral |
| April 3, 2019 | University of North Carolina at Chapel Hill | George Pink , Distinguished Professor, Department of Health Policy and Management, Senior Research Fellow at the Cecil G. Sheps Center for Health Services Research, Gillings School of Global Public Health | Imtiaz Daniel and Gail Dobell |
| PATIENTS | | | |
| May 27, 2019 | HQO's Patient, Family and Public Advisory Council | Five members of the HQO Patient, Family and Public Advisory Council | Imtiaz Daniel, Wendy Medved, Stephanie Hylmar, Michal Kapral, Jethro Cheng, Shirley Chen |

APPENDIX D: Reference Materials

This is a selection of references consulted to inform indicator management, system surveillance and data flow.

ARTICLES:

Baker, G.R., A. MacIntosh-Murray, C. Porcellato, L. Dionne, K. Stelmacovich and K. Born. 2008. "Veterans Affairs New England Healthcare System (Veterans Integrated Service Network 1)." *High Performing Healthcare Systems: Delivering Quality by Design*. 71–114. Toronto: Longwoods Publishing.

Gozzard, D., Willson, A., Henriks, G., Asaad, K., Crosby, T., Harrison, J., Kloer, Phil., Lewis, A., Lloyd, B., Newman, J., Robinson, G. (2011). *Quality, Development and Leadership – Lessons to learn from Jönköping*. Improving Healthcare White Paper Series – No.4.

Martine, D. A., Kane, E. M., Jalalpour, M., Scheulen, J., Rupani, H., Toteja, R., Barbara, C., Bush, Bree., Levin, S. R. (2018). *Journal of Medical Systems*. 42: 133 – 141.

Meyer, G. S., Nelson, E. C., Pryor., James, B., Swensen, S. J., Kaplan, G. S., Weissberg, J. I., Bisognano, M., Yates, G. R., Hunt, G. C. (2012). More quality measures versus measuring what matters: a call for balance and parsimony. *BMJ Quality and Safety*. 21: 964 – 968.

Schilling, L., Chase, A., Kehrli, S., Liu, A.Y., Stiefel, M. Brentari, R. (2010). Kaiser Permanente's Performance Improvement System, Part 1: From Benchmarking to Executing on Strategic Priorities. *The Joint Commission Journal on Quality and Patient Safety*. 36 (11): 484-498.

Schilling, L., Deas, D., Jedlinsky, M., Aronoff, D., Fershtman, J., Wali, A. (2010). Kaiser Permanente's Performance Improvement System, Part 2: Developing a Value Framework. *The Joint Commission Journal on Quality and Patient Safety*. 36 (12): 552 – 560.

Whippy, A., Skeath, M., Crawford, B., Adams, C., Marelich, G., Alamshahi, M., Borbon, J. (2011). Kaiser Permanente's Performance Improvement System, Part 3: Multisite Improvement in Care for Patients with Sepsis. *The Joint Commission Journal on Quality and Patient Safety*. 37 (11): 483 – 493.

Schilling, L., Dearing, J., Staley, P., Harvey, P., Fahey, L., Kuruppu, F. (2011). Kaiser Permanente's Performance Improvement System, Part 4: Creating a Learning Organization. *The Joint Commission Journal on Quality and Patient Safety*. 37 (12): 532 – 548.

Spiegelhalter, D., Sherlaw-Johnson, C., Bardsley, M., Blunt, I., Wood, C., Grigg, O. (2012). Statistical methods for healthcare regulation: rating, screening and surveillance. *Journal of the Royal Statistical Society*. 175, Part 1: 1- 47.

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