President's Quarterly Report

As at March 31, 2019

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Canadian Institute for Health Information

Institut canadien d'information sur la santé

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President's update

Strategic activities and outcomes

The following are key accomplishments for each of the corporate goals for the fourth quarter of 2018–2019.

1 Be a trusted source of standards and quality data

Deliver more timely, comparable and accessible data across the health continuum.

Key accomplishments

Outreach, stakeholder and collaboration activities

- On March 29, 2019, the Canadian Institute for Health Information (CIHI) submitted its first report deliverable — a preliminary data quality report on patient-reported outcome measures (PROMs) — to the Ontario Ministry of Health and Long-Term Care. Ontario is the first province to implement the national standards for hip and knee replacement PROMs. Data collection began in April 2018 as part of a pilot project in alignment with a bundled hip and knee replacement Quality-Based Procedures project and in support of patient-centred care delivery in Ontario. CIHI and Cancer Care Ontario (CCO) are co-executing the project, with CIHI responsible for data standards, production of the analytical file, and health system reporting. Implementation, led by CCO, continues to grow, with 17 hospital sites on board at the time of publication.

Priority themes and populations

- In February 2019, linkable drug claims data from Ontario was loaded into the National Prescription Drug Utilization Information System. The ability to link the drug claims data with other data holdings will allow CIHI to support the evaluation of drug safety and effectiveness, as well as the impact drugs have on patient care.
- CIHI's new Integrated interRAI Reporting System to support standardized assessments in long-term care, home care and child and youth mental health is ready to accept data. This new system — the first major project to be completed under the Modernizing Data Supply and Access key change initiative — leverages technology and industry data messaging standards to reduce the submission burden for data providers. This multi-year project, completed in March 2019, lays the foundation for future enhancements in response to emerging community care needs.

2 Expand analytical tools to support measurement of health systems

Deliver reporting tools, methods and information that enable improvements in health care, health system performance and population health.

Key accomplishments

Outreach, stakeholder and collaboration activities

- CIHI is assessing the feasibility of grouping Quebec ambulatory care data using CIHI's Comprehensive Ambulatory Classification System (CACS) grouper. This initiative is at the request of Quebec's ministry of health (ministère de la Santé et des Services sociaux du Québec, or MSSS). The goal of this project is to assess whether or not Quebec's outpatient clinic data (and possibly emergency department [ED] data) can be grouped using CACS. During Q4, CIHI worked with the MSSS to develop both a memorandum of understanding between the ministry and CIHI, and data-sharing agreements between CIHI and the facilities providing data for this project. Potential outcomes for this project include helping Quebec understand whether or not it is collecting sufficient data to group its ambulatory clinic and ED data into case-mix groups.
- All Case Mix Group+ and CACS annual products were completed in March 2019 and released as of April 1, 2019. These include the annual directory, methodology and Resource Intensity Weights/Estimated Length of Stay (ELOS) client tables, as well as the Health-Based Allocation Model (HBAM) Inpatient Grouping (HIG) weights and ELOS values for Ontario. These products are used by hospitals across Canada to categorize patients and understand resource allocations across and within facilities.

3 Produce actionable analysis and accelerate its adoption

Collaborate with stakeholders to increase their ability to use data and analysis to accelerate improvements in health care, health systems and the health of populations.

Key accomplishments

Outreach, stakeholder and collaboration activities

- On January 22, 2019, Health Canada released an updated version of Canada's food guide. The dietary guidelines contain a section on foods and beverages that undermine healthy eating, including alcohol. The updated guide referenced CIHI's report Alcohol Harm in Canada alongside other sources documenting the health risks and harms associated with alcohol consumption. The inclusion of alcohol in the guide will increase awareness of alcohol as a health risk. Canada's food guide is one of the federal government's most used resources and thus has a large reach.
- On January 23, 2019, CIHI met with the MSSS to discuss options for advancing Quebec's participation in the Canadian Joint Replacement Registry (CJRR). The ministry has indicated renewed interest in CJRR and is investigating the feasibility of collecting hip and knee replacement prosthesis data for the registry. Increased coverage of CJRR would enable more comprehensive analysis of these high-volume and high-cost surgeries, resulting in information that can be used to inform clinical practice patterns, health system delivery and procurement decisions.
- The Cardiac Care Quality Indicators (CCQI) private report was released on February 15, 2019, for data preview. A web conference was held with the Canadian Cardiovascular Society and the CCQI expert advisory panel to present the updated 2017–2018 results. The private report provides pan-Canadian comparable information on mortality and readmission outcomes related to selected cardiac interventions. The goal of the project is to increase transparency related to performance of the cardiac health system by making the data more accessible to a variety of audiences, including physicians, to support quality improvement, collaboration and sharing of best practices in the Canadian cardiac care community.

Priority themes and populations

- CIHI continues to build relationships with First Nations, Inuit and Métis organizations and to provide support for accessing data for actionable analysis. CIHI supported the Sioux Lookout First Nations Health Authority by providing access to Portal to create its first regional *Our Children and Youth Health Report* on behalf of 31 First Nations. The report was released in September 2018 and provides information on the health status of infants, children and youth for community leaders and health planners. CIHI met with members from the Kahnawake First Nation's community health agency in Quebec on January 14, 2019, to determine the First Nation's interest in participating in the Measuring Trends in Health Inequalities in Cities project. This invitation came through the relationship that CIHI had developed over the past few months with members of Kahnawake's health agency. Although the Kahnawake First Nation elected not to participate in the Measuring Trends in Health Inequalities in Cities project, they would like to continue discussions on CIHI data and projects, including measuring and reporting on racial and ethnic groups.
- CIHI's Indigenous data governance policy paper was produced. For the first time, CIHI was invited to present on partnerships and data governance at the Métis Nation Health Forum, held February 13 to 15, 2019.
- A joint executive meeting between CIHI and the B.C. First Nations Health Authority (FNHA) confirmed the commitment to our partnership and our current work around Indigenous data governance and the proposed work going forward. On February 14, 2019, CIHI delivered a workshop to the B.C. FNHA on CIHI's Population Grouper. Application of CIHI's Population Grouper will contribute to the FNHA's knowledge of the First Nations population in more detail regarding clinical conditions. This will be valuable in monitoring and guiding the FNHA's work on primary care transformation, understanding the impact of rurality on populations and predicting First Nations' health service needs.
- In March 2019, CIHI released the third of 4 planned new capacity-building courses: Measuring Health Inequalities — Analyzing Your Data. This course covers the steps involved in analyzing data to measure health inequalities: calculating stratified indicator rates and quantifying inequality using summary measures. These courses, together with the Measuring Health Inequalities toolkit resources, will support routine measurement of health inequalities in Canada. As health systems strive to ensure equitable access to care, this analysis is critical for monitoring progress and reducing health inequities.

2018–2019 Corporate Performance Measurement Framework Indicators

CIHI's Performance Measurement Framework (PMF) and logic model were designed to guide the measurement of CIHI's progress in achieving its strategic plan for 2016 to 2021. The logic model (Appendix A) identifies the causal or logical relationships between activities, outputs and outcomes. To measure these outputs and outcomes, CIHI developed 19 performance measurement indicators, 11 of which are reported on to CIHI's Board of Directors. Appendix B provides a complete list of indicators by performance area.

Overall, CIHI has met or surpassed 2018–2019 targets and baselines for 10 out of 12 applicable PMF indicators. Those with unmet targets are being monitored closely for improvements in 2019–2020.

At this time, we are able to report on the following 7 indicators:

Outputs

1. Increase of coverage of data collection in priority areas
2. Percentage of analyses released that align with priority population themes

Immediate outcomes

3. Increase in access to CIHI's public data
4. Number of linked data files available through third parties
5. Increase in total number of users of CIHI's private online tools/products

Intermediate outcomes

6. Percentage of stakeholders who report using evidence from a CIHI knowledge product or service to support decision-making in their setting (modified for non-reporting year)

Long-term outcome

7. Extent to which CIHI has contributed to health system improvements or pan-Canadian population health improvement

The remaining 4 Board-reported indicators, which require stakeholder feedback, are reported on every 3 years:

- Level of stakeholder satisfaction with access to and usefulness of tools and products;
- Percentage of stakeholders (target group) reporting increased knowledge (awareness) of CIHI products and services in their setting;
- Percentage of stakeholders (target group) reporting increased capability to use CIHI products and services in their setting; and
- Percentage of stakeholders who report using evidence from a CIHI knowledge product or service to support decision-making in their setting.

Data was last collected and reported on in 2017–2018. In the interim years, CIHI is collecting impact stories to demonstrate how its stakeholders are using evidence from a CIHI product or service to support decision-making in their setting (Indicator 6). These intermediate outcomes may contribute to health system improvements for the health system or for the health of the Canadian population.

Outputs — Data and standards

Indicator 1: Increase of coverage of data collection in priority areas

Definition: Percentage of activities achieved to increase geographic coverage of priority areas in existing data holdings that have been identified in the operational plan

Baseline (2016–2017): 19

Target: 70% of 43 planned activities

Actual: 74%

CIHI continues to expand the breadth of current data and standards through a variety of activities that are driven by jurisdictional needs and by emerging information needs, such as our support of *A Common Statement of Principles on Shared Health Priorities*.

Activities to increase geographic coverage in priority areas for existing data holdings include the following:

- Acquire data in a new jurisdiction;
- Expand coverage (existing/new facilities/programs);
- Obtain more detailed information (linkable data);
- Secure an ongoing feed of data for use without restriction;
- Obtain agreement to work with the data without restriction; and
- Support the jurisdiction in adapting its own standard to better align with CIHI's standard.

CIHI completed 74% of the planned activities (32 out of 43) for 2018–2019 (Table 1). See Appendix C for activities undertaken to increase coverage of priority areas in existing data holdings for 2018–2019 by jurisdiction. The Data Advancement Strategy has contributed to ongoing discussions with the jurisdictions about feasibility in filling data gaps from internal and external perspectives, including resourcing, arrangements with software vendors and external stakeholder shifting priorities. As a result, some activities for data related to long-term care, home care, child and youth mental health, ED visits, patient experience, PROMs, prescription drugs and medication incidents have been shifted to 2019–2020.

Achievements for 2018–2019

Table 1 Number of activities to increase coverage of priority areas in existing data holdings, 2018–2019

Data area	Number of planned activities	Number of activities completed
Patient experience (acute care)	6	6
Community mental health (new as of 2017–2018)	1	0
Child and youth mental health	2	1
Inpatient mental health (clinical)	1	1
Long-term care (clinical)	1	0
Home care	4	0
ED visits	4	2
Alternative physician payments	1	0
Patient-level physician billing	4	3
Primary health care electronic medical records (PHC EMRs)	8	8

Data area	Number of planned activities	Number of activities completed
Finance	2	2
PROMs	2	5
Narcotics	1	1
Medication incidents	1	0
Prescription drugs (claims data)	5	3
Total	**43**	**32 (74%)**

Outputs — Analytical products

Indicator 2: Percentage of analyses released that align with priority population themes

Definition: Percentage of ad hoc analytical plan products released that align with priority populations

Baseline (2016–2017): 17%

Target: 55%

Actual: 66%

CIHI introduced a focus on priority populations with the launch of its strategic plan for 2016 to 2021. The priority populations are

- Seniors and aging;
- Mental health and addictions;
- First Nations, Inuit and Métis; and
- Children and youth.

CIHI released 12 planned analytical products in 2018–2019. Priority population analytical products represented 66% of all analytical plan releases (Table 2). This exceeded the target of 55% and demonstrates ongoing progress toward meeting stakeholder requirements to produce actionable analysis concerning CIHI's priority populations. The 4 analytical releases outside of the population themes addressed important strategic priorities, including health system performance and equity.

Achievements for 2018–2019

Table 2 List of analytical products by priority population

Analytical product	Priority population
Opioid-Related Harms in Canada (release and 1 update)	Mental health and addictions
Pan-Canadian Trends in the Prescribing of Opioids (update)	Mental health and addictions
Types of Opioid Harms in Canadian Hospitals: Comparing Canada and Australia	Mental health and addictions
Drug Use Among Seniors in Canada, 2016	Seniors and aging
Dementia in Canada	Mental health and addictions
Access to Palliative Care in Canada	Seniors and aging
Care for Children and Youth With Mental Disorders (infographic and data tables update)	Children and youth
Asthma Hospitalizations Among Children and Youth in Canada: Trends and Inequalities	Children and youth

Immediate outcomes — Increased access to quality, integrated data

Indicator 3: Increase in access to CIHI's public data

Definition: Percentage annual increase in access to publicly accessible data

CIHI has a range of online tools in which aggregate data is publicly available. For this indicator, we are monitoring 3 tools: the Patient Cost Estimator (PCE), the Wait Times tool and Your Health System (YHS), which has 2 public sections (In Brief and In Depth).

In 2018–2019, there were 13,867 page views of the PCE, a 19% increase in views from the previous fiscal year. There was also a 26% increase in the number of downloads of the PCE (Table 3). The increase in page views may be attributed to the June update and a social media campaign that ran from April to June 2019.

The Wait Times tool had 98,681 page views in 2018–2019, which is a 48% increase over the previous year (Table 3). The increase in page views is noticeable during the update releases, which occurred in early April 2018 and late March 2019.

YHS had a 377% increase in page views in 2018–2019 compared with the previous year (Table 3). The increase in page views is mostly attributed to a one-time investment in a social media campaign that ran from January to March 2019 that resulted in traffic to the site during this period, and is therefore considered an atypical result. Typical reasons for increased page views include data refreshes, media coverage and other standard promotional activities.

Changes in reporting and methodology for 2019 to 2021

In 2018–2019, CIHI improved internal digital analytics by implementing Google Analytics as its primary reporting platform. CIHI will retire WebTrends, the current digital analytics platform, in 2019–2020.

Achievements for 2018–2019

Table 3 Page views and downloads for selected online interactive tools, 2018–2019*†

Tool	Baseline, 2015–2016	Actual, 2017–2018	Actual, 2018–2019	Annual target, 2018–2019	Actual percentage change, 2018–2019
Page views					
Patient Cost Estimator	10,497	11,609	13,867	+10%	+19%
Wait Times	n/a	66,574	98,681	0%	+48%
Your Health System: In Brief/In Depth	69,442	43,438	207,323	+5%	+377%‡
Downloads					
Patient Cost Estimator Dashboard	11,351	12,603	15,831	+10%	+26%

Notes

* Excluding CIHI staff page views and downloads.

† Data from 2015 to 2019 is retrieved from the digital analytics platform WebTrends.

‡ Atypical result attributed to a one-time investment in a social media campaign that ran from January to March 2019.

n/a: Not available.

Indicator 4: Number of linked data files available through third parties

Definition: Number of linked data files available through third parties

Baseline (2016–2017): 1

Target: 2

Actual: 3

In 2018–2019, 3 files that link CIHI's data to data from other organizations were included in the Research Data Centres (Table 4). Linking CIHI's data to other data sources is a major step toward enhancing access to CIHI's data sets for researchers and other users, and toward enabling health service and policy research questions to be answered.

Achievements for 2018–2019

Table 4 List of linked data files

Linked data files	Linked data files completed for 2018–2019
Death data linked to hospitalization data	Yes
High-user cohort	Yes
End-of-life cohort (unplanned)	Yes

Indicator 5: Increase in total number of users of CIHI's private online tools/products

Definition: Semi-annual increase in total number of users of YHS: Insight

Baseline (2016–2017): 176

Target: 160

Actual: 208

YHS: Insight is a secure online tool that provides authorized users with a deeper look at various standardized indicators and summary measures of health system performance. The information provided in Insight helps health system stakeholders explore their indicator results by allowing them to access and drill down to the underlying patient record-level data.

From April to September 2018, there were 100 new registered users of Insight, compared with 110 new users in the same time period last year. From October 2018 to March 2019, there were 108 new registered users, compared with 106 new registered users in the same time period last year (Table 6). The annual total of new registered users in 2018–2019 was 208, which surpasses the target of 160 new users per year (Table 5).

Table 5 Annual 2018–2019 results for new registered users and active users of YHS: Insight

Metric	Baseline, 2016–2017	Annual target, 2018–2019	Annual actual, 2018–2019
New registered users	176	160	208
Percentage of active users*	44%	60%	55%

Note

* Active users accessed Insight 2 or more times during a 6-month period (April to September or October to March).

The increase in new registered users could be attributed to the inclusion of ED data from Quebec (July 2018). This was the first time Quebec data was made available through Insight, which allowed users from a new jurisdiction to register for Insight access, accounting for a third of all new registrations in 2018–2019.

Since Insight's launch, approximately 55% of users have been active users, defined as those who access the product 2 or more times over a 6-month period. 54% of registered users were active from April to September 2018; 56% were active from October 2018 to March 2019 (Table 7). With the increase in active users year after year, we are anticipating the active user rate will continue to rise in 2019–2020.

Achievements for 2018–2019

Table 6 Number of new registered YHS: Insight users

Annual baseline, 2016–2017	Annual target, 2018–2019	Actual, April to September 2018	Actual, October 2018 to March 2019
176	160	100	108

Table 7 Percentage of active* YHS: Insight users

Annual baseline, 2016–2017	Annual target, 2018–2019	Actual, April to September 2018	Actual, October 2018 to March 2019
45%	60%	54%	56%

Note

* Active users accessed Insight 2 or more times during a 6-month period (April to September or October to March).

Intermediate outcomes — Increased use of CIHI's products and services to support decision-making

4 PMF indicators require stakeholder feedback and are reported every 3 years as part of CIHI's survey cycle. Data was last collected for and reported on in 2017–2018. In the interim years, CIHI is collecting impact stories to demonstrate how stakeholders are using evidence from a CIHI knowledge product or service to support decision-making in their setting.

This year, we are highlighting intermediate outcomes from stakeholders who use

- YHS: In Depth
- National System for Incident Reporting (NSIR)

Indicator 6: Percentage of stakeholders who report using evidence from a CIHI knowledge product or service to support decision-making in their setting *(modified for non-reporting year)*

Definition: Examples of how CIHI's stakeholders are using CIHI's products, tools and services to inform action or decision-making to improve population health, health policy and the health systems

1. Your Health System: How CIHI data can support reducing the number of potentially preventable hospital deaths

Stakeholder name: Centre intégré de santé et des services sociaux de l'Outaouais (CISSSO)

CIHI product or tool: YHS: In Depth; Hospital Standardized Mortality Ratio (HSMR)

Problem or issue: For several years, even before the reorganization of the Quebec health network in 2015–2016 (and the creation of CISSSO), the Outaouais region has had higher HSMR results compared with the provincial and Canada averages.

Goal: Reduce the number of potentially preventable deaths and improve CISSSO's HSMR results

Action: In 2015–2016, the CISSSO implemented the Process Quality of Care Improvement Initiative.

The improvement process includes 5 iterative steps:

- A steering committee examines problematic diagnoses in target patient groups;
- Additional detailed analyses, including clinical practice and patient trajectories, are examined;
- An action plan for improvement is developed;
- The action plan is implemented;
- The action plan is monitored and the HSMR is adjusted for the targeted patient group.

For example, based on 2015–2016 HSMR results, acute myocardial infarction patients were identified for a closer review. The 2017 action plan included

- Implementing optimization strategies to manage wait lists for cardiac catheterization;
- Developing a care trajectory protocol for non-ST-elevation myocardial infarction cases;
- Standardizing the management of chest pain in the ED; and
- Developing training sessions for electrocardiography reading.

Outcomes: The potential long-term outcome is to reduce the number of potentially preventable deaths and, by extension, improve CISSSO's HSMR results. The next data release for Quebec HSMR will be available on May 30, 2019.

2. National System for Incident Reporting: How CIHI data can support reducing the number of medication errors

Stakeholder name: Institute for Safe Medication Practices (ISMP) Canada

CIHI product or tool: NSIR

Problem or issue: In 2004, an adverse event occurred during 7.5% of hospitalizations in Canada. Of these, 24% were drug-related and 37% were preventable.[i] ISMP Canada, in collaboration with CIHI, analyzed NSIR data to inform Canada's health care systems about how patients are being harmed, or could be harmed, by medication errors. Health care leaders across Canada use this information to make decisions about their care processes that result in improved patient safety.

Goal: Reduce the number of medication errors due to the use of problematic abbreviations, as well as detect the emergence of new issues in the information exchange related to medications

Action: In May 2018, following an analysis of data from multiple sources, including NSIR data, ISMP Canada reaffirmed the Do Not Use list of dangerous abbreviations, developed in 2006. It also identified the risk of using fractions to denote frequencies or durations on prescriptions — a finding designated as an "early warning" to be monitored for potential future inclusion in the Do Not Use list.

Outcomes: ISMP Canada's Do Not Use list of dangerous abbreviations has become part of Accreditation Canada's Required Organizational Practices and has been integrated into many hospitals' pharmacy software and medication ordering systems, with a recent audit of hospitals finding less than 0.5% of electronic orders contained an abbreviation from the list. Avoiding the use of dangerous abbreviations and symbols ensures that prescriptions are communicated in a clear and consistent way, which can help to reduce harmful medication errors and improve patient safety.

i. Baker GR, et al. The Canadian Adverse Events Study: The incidence of adverse events among hospital patients in Canada. *CMAJ*. May 2004.

Long-term outcomes — Contribution to pan-Canadian population health and health system improvement

Indicator 7: Extent to which CIHI has contributed to health system improvements

Definition: Examples of actions/decisions implemented based on CIHI's products, tools and/or services that have shown an improvement/change in a health system, population health or health policy

To track long-term outcomes on how CIHI's products and services are contributing to population health and health system improvements, we follow up with stakeholders to learn how they've used our products and services to identify an issue and to trigger an implementation plan to improve an outcome.

This year, we are highlighting long-term outcomes from stakeholders who use YHS: In Depth.

Your Health System: In Depth: How CIHI data can support reducing ED wait times

Stakeholder name: Winnipeg Regional Health Authority (WRHA)

CIHI product or tool: YHS: In Depth; National Ambulatory Care Reporting System (NACRS) Emergency Department Visits and Length of Stay

Problem or issue: Using CIHI's YHS: In Depth NACRS Emergency Department Visits and Length of Stay data, hospital managers, policy-makers and health care planners were able to identify that the WRHA ED wait times were some of the highest in the country over the past several years. Long ED wait times can lead to poor patient satisfaction and experiences, and may increase the risk of short-term mortality and hospital readmission.[ii]

Goal: Decrease the ED wait times and improve patient flow across the system

ii. Guttman A, et al. Association between waiting times and short-term mortality and hospital admission after departure from emergency department: Population based cohort study from Ontario, Canada. *The BMJ*. June 2011.

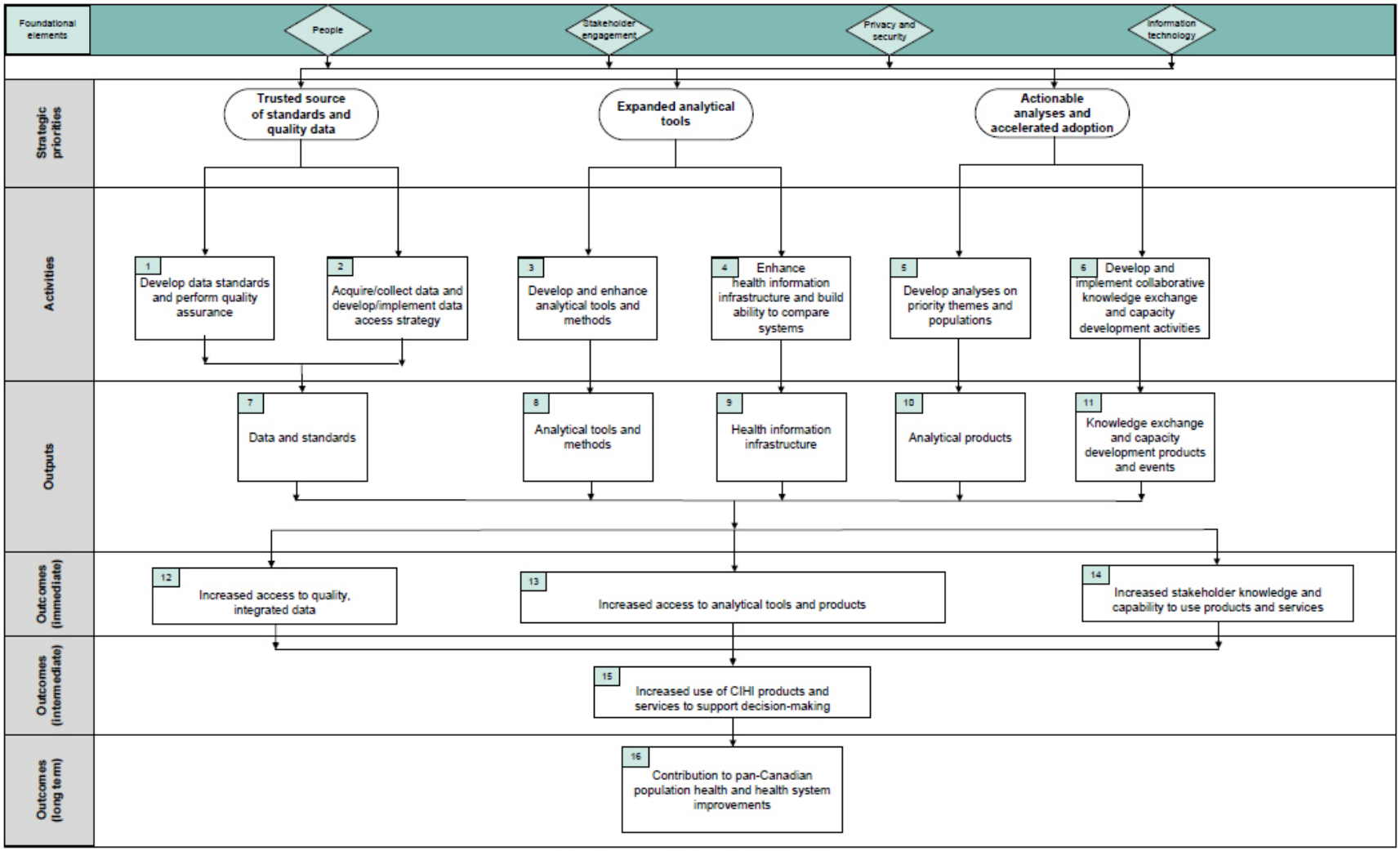
Action: To address the long ED wait times, the WRHA launched the Healing Our Health System plan. The plan is focused on providing better health care by

- Consolidating specialists and diagnostic services into fewer facilities by reducing 6 EDs in the WRHA to 3 and converting 2 former EDs into urgent care centres;
- Grouping specific health services at WRHA sites to focus services on areas such as mental health, orthopedic surgery, renal services and rehabilitation for elderly persons;
- Improving patient flow through home and community care strategies, including
  - Enhanced home care model and rapid response nursing to help people stay healthy in their own homes; and
  - Expanded transitional care as a temporary alternative to hospital stays for people waiting for long-term care placements.[iii]

Outcomes: Following the 2017 commitment from the WRHA to reduce wait times, total length of stay in an ED for patients requiring admission to hospital improved 25% (from 43.5 hours in 2016–2017 to 32.6 hours in 2017–2018). The ED wait time for initial physician assessment also improved 13% (from 5.1 hours in 2016–2017 to 4.4 hours in 2017–2018).

iii. Healing Our Health System. Better health care sooner. Accessed May 8, 2019.

Appendix A: CIHI's logic model



Better data. Better decisions. Healthier Canadians.

Appendix B: List of indicators by performance area

Performance area	Performance indicators	Data sources	Frequency	Board-reported indicator
Outputs				
Data and standards (logic model box 7)	Number of planned new and major standards enhancements completed by CIHI	CIHI administrative data	Annually	No
	Number of planned data quality assessments completed by CIHI	CIHI administrative data	Annually	No
	Increase of coverage of data collection in priority areas	CIHI administrative data	Annually	Yes
Analytical tools and methods (logic model box 8)	Percentage of planned new and enhanced analytical tools completed by CIHI	CIHI administrative data	Annually	No
	Percentage of planned new and enhanced methods completed by CIHI	CIHI administrative data	Annually	No
Health information infrastructure (logic model box 9)	Percentage of planned health information infrastructure enhancements completed within the year	CIHI administrative data	Annually	No
	Percentage of data sources included in integrated eReporting against the 2021 target (retired)	n/a	n/a	No
Analytical products (logic model box 10)	Percentage of analyses released that align with priority population themes	Analytical plan	Annually	Yes
Knowledge exchange and capacity-development products and events (logic model box 11)	Number of capacity-development events or activities	CIHI administrative data	Semi-annually	No

Performance area	Performance indicators	Data sources	Frequency	Board-reported indicator
Immediate outcomes				
Increased access to quality, integrated data (logic model box 12)	Percentage improvement in the quality of the data accessed	CIHI administrative data	Annually	No
	Number of linked data files available through third parties	CIHI administrative data	Annually	Yes
	Increase in access to CIHI's public data	CIHI administrative data	Semi-annually (annual targets)	Yes
Increased access to analytical tools and products (logic model box 13)	Level of stakeholder satisfaction with access to and usefulness of tools and products	Surveys Evaluations	Stakeholder survey every 3 years, and other activities in between survey years	Yes
	Increase in total number of users of CIHI's private online tools/products	CIHI administrative data	Semi-annually (annual targets)	Yes
Increased stakeholder knowledge and capability to use products and services (logic model box 14)	Percentage of stakeholders (target group) reporting increased knowledge (awareness) of CIHI products and services in their setting	Surveys Evaluations	Stakeholder survey every 3 years, and other activities in between survey years	Yes
	Percentage of stakeholders (target group) reporting increased capability to use CIHI products and services in their setting	Surveys Evaluations	Stakeholder survey every 3 years, and other activities in between survey years	Yes
Intermediate outcomes				
Increased use of CIHI products and services to support decision-making (logic model box 15)	Percentage of stakeholders who report using evidence from a CIHI knowledge product or service to support decision-making in their setting	Surveys Evaluations	Stakeholder survey every 3 years, and other activities in between survey years	Yes

Performance area	Performance indicators	Data sources	Frequency	Board-reported indicator
Long-term outcomes				
Contribution to pan-Canadian population health and health system improvements (logic model box 16)	Extent to which CIHI has contributed to pan-Canadian population health improvements	Vignettes External evaluations	Annually	Yes
	Extent to which CIHI has contributed to health system improvements	Vignettes External evaluation	Annually	Yes

Note
n/a: Not applicable.

Appendix C: Activities undertaken to increase coverage of priority areas

Data area	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nun.	# of planned activities	# of achieved activities
Finance and statistics	—	—	—	—	6*	—	—	—	—	3*	—	—	—	2	2
Long-term care (clinical)	—	—	—	1	—	—	—	—	—	—	—	—	—	1	0
Home care	—	—	4	—	—	3	2, 3	—	—	—	—	—	—	4	0
Narcotics	—	—	—	—	—	4*	—	—	—	—	—	—	—	1	1
Prescription drugs	—	2	3	—	—	2,* 3*	—	3†	2	—	—	—	—	5	3
Medication incidents	—	—	1	—	—	—	—	—	—	—	—	—	—	1	0
Patient-level physician billing	—	—	4*	—	1,† 4	4*	—	—	4	—	—	—	—	4	3
PHC EMRs	6*	—	6*	6	—	1,† 6*	6*	6*	6*	6†	—	6	—	8	8
Alternative physician payments	—	—	—	—	—	—	—	2	—	—	—	—	—	1	0
Mental health															
Inpatients (clinical)	2*	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Child and youth	—	—	—	—	—	1, 6*	—	—	—	—	—	—	—	2	1
Community (clinical)	2	—	—	—	—	—	—	—	—	—	—	—	—	1	0

Data area	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nun.	# of planned activities	# of achieved activities
Emergency departments	—	2	2†	1	1*	—	—	2	—	—	—	—	—	4	2
Patient experience (acute)	—	1	—	—	—	2,* 3†	2,* 3†	—	3,† 4*	5, 1†	—	—	—	6	6
PROMs hip and knee	—	—	6†	—	—	1,* 4†	6, 1†	—	1†	—	—	—	—	2	5

Notes

* Planned activity completed.

† Unplanned activity completed.

— Not applicable.

Legend

1. Acquire data in a new jurisdiction.
2. Expand coverage (existing/new facilities/programs).
3. Obtain more detailed information (linkable data).
4. Secure an ongoing feed of data for use without restriction.
5. Obtain agreement to work with the data without restriction.
6. Support the jurisdiction in adapting their own standard to better align with CIHI's standard.

Appendix D: Text alternative

Logic model

The logic model describes CIHI's foundational elements, strategic priorities, activities, outputs and outcomes (immediate, intermediate and long term) in a logical flow.

Our foundational elements are people, stakeholder engagement, privacy and security, and information technology.

With these elements, we developed strategic priorities (as mentioned elsewhere in this document). The priorities in this model have been shortened to read "trusted sources of standards and quality data," "expanded analytical tools" and "actionable analyses and accelerated adoption."

In order to achieve our strategic priorities, the following activities are being conducted:

Trusted sources of standards and quality data

1. Develop data standards and perform quality assurance
2. Acquire/collect data and develop/implement a data access strategy

Expanded analytical tools

3. Develop and enhance analytical tools and methods
4. Enhance the health information infrastructure and build the ability to compare systems

Actionable analyses and accelerated adoption

5. Develop analyses on priority themes and populations
6. Develop and implement collaborative knowledge exchange and capacity-development activities

The outputs will result as follows:

- Activities 1 and 2 will produce data and standards.
- Activities 3 and 4 will produce analytical tools and methods, and a health information structure.
- Activities 5 and 6 will produce analytical products, and knowledge exchange and capacity-development products and events.

The aim of all outputs is to produce the immediate outcomes of

- Increased access to quality, integrated data;
- Increased access to analytical tools and products; and
- Increased stakeholder knowledge and capability to use products and services.

The aim of the immediate outcomes is to produce an intermediate outcome of increased use of CIHI products and services to support decision-making, which will ideally produce the long-term outcome of CIHI contributing to pan-Canadian population health and health system improvements.

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