Rethink, Renew, Retire: Report From the Fourth Consensus Conference on Evaluating Priorities for Canada's Health Indicators

Statistics Canada
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Canadian Institute for Health Information
Institut canadien d'information sur la santé

Our Vision

Better data. Better decisions.
Healthier Canadians.

Our Mandate

To lead the development and maintenance of comprehensive and integrated health information that enables sound policy and effective health system management that improve health and health care.

Our Values

Respect, Integrity, Collaboration, Excellence, Innovation

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Brenda Tipper	Norma Jutan
Jacqueline Singer	Yana Gurevich
Jeanie Lacroix	

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Framework quadrant	Speaker/working group facilitator
Health System Outcomes	Jean-Frédéric Lévesque Chief Executive Officer, Bureau of Health Information, New South Wales, Australia
Health System Outputs	Niek Klazinga Professor of Social Medicine, Academic Medical Centre, Netherlands; and Head, Health Care Quality Indicators Project, OECD Health Division, OECD
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As well, we extend a special thank you to Serina Nghiem, Senior Coordinator, HSP, who organized the post-conference working group and supported the production of this report; to Julie Bazerly and the rest of CIHI's Education and Conferences team; to Jacqueline Kurji, the key lead for all aspects of the work of planning and delivering the conference; and to Omid Fekri for his role in the development of the Indicator Evaluation Strategy that underpinned the discussion around retiring indicators.

Finally, a big thank you goes to all of the conference participants, as well as the post-conference working group members. These individuals are listed in the appendices. Ultimately, it was their participation and engagement that made the conference a success and provided valuable input for CIHI and Statistics Canada.

Executive summary

The fourth National Consensus Conference on Health Indicators, held in October 2014, was co-hosted by CIHI and Statistics Canada and was planned around the theme *Renew, Rethink, Retire: Evaluating Priorities for Canada's Health Indicators*.

This conference continued the work of three previous consensus conferences. The objectives of this conference were to

- Determine future priorities for the development of new indicators of health system performance, building on CIHI's redeveloped Health System Performance Measurement Framework; and
- Identify indicators that are less relevant and that could be retired from public reporting.

There were 61 conference participants from across Canada, representing ministries of health, regional health authorities, health care providers, health quality councils and academic research organizations.

A pre-conference survey gathered input from a broad group of stakeholders on priorities for indicator development and the feasibility of retiring selected indicators. Results of the pre-conference survey were provided to participants in advance of the conference and were used to inform the plenary and working group discussions.

For the first time, the Consensus Conference considered the question of retiring from public reporting indicators that have become less relevant. Through an internal evaluation process, CIHI identified 24 indicators to consider for retirement. Through the pre-conference survey and following discussion at the conference, participants agreed that it was appropriate to retire all 24 of these, and that work to identify indicators that could be retired should continue going forward.

Following the discussion on retiring indicators, the Consensus Conference participants focused on identifying priorities for new indicator development. The participants were organized into working groups, with each working group looking at priorities for one of the four quadrants of the HSP Measurement Framework. These working group discussions were set up through keynote presentations from experts on each of the quadrants and through a panel discussion on perspectives on performance measurement. They were also informed by the results of the pre-conference survey.

Following the working group discussions, the participants met in a plenary discussion and identified a number of overarching themes that cut across the performance measurement quadrants for priority development:

- Outcomes of care;
- Value for money;
- Community care;
- Transitions/trajectories (integration and continuity of care); and
- Upstream investments.

Following the Consensus Conference, a post-conference working group was formed to delve deeper into these five themes and develop recommendations for new indicators that would help CIHI, Statistics Canada and other partners to report on the themes. The post-conference working group prioritized a number of indicator ideas within these themes. These are listed in Table 13 in this report.

While the conversation at the conference was wide-ranging, a number of consistent priority themes for new indicator development were identified across all four quadrants of health system performance. The post-conference working group gave participants an opportunity to roll up their sleeves and consider what kinds of indicators within these themes would be most useful to them.

CIHI and Statistics Canada now have the job of working through the list developed by the post-conference working group to determine which indicators might be doable within their strategic plans and mandates over the next few years and how to best work with other organizations that could support the development of some of the indicators.

Letter from the co-hosts

On behalf of the Canadian Institute for Health Information (CIHI) and Statistics Canada, we are pleased to provide you with this report documenting the proceedings and outcomes from the fourth National Consensus Conference on Health Indicators. This report summarizes the key messages we heard from the senior leaders from jurisdictions and regions across Canada who participated in the conference to evaluate priorities for future health indicator development.

The theme of this year's conference — *Rethink, Renew, Retire: Evaluating Canada's Health Indicators* — provided a venue to stimulate dialogue on the lifecycle of indicators, reach agreement on emerging themes for health indicator development over the next five years and determine short- and long-term priorities for developing new indicators related to these themes. Prior to the conference, we surveyed a wide range of stakeholders and clients about their priorities for indicator development and received more than 150 responses. These results were used to inform the discussion of the conference participants.

The *rethink* section of the program included keynote presentations and plenary sessions by respected national and international experts who set the stage for an engaging discussion with their insights on emerging issues in the area of health system performance reporting and their thought-provoking perspectives on the impact of health system performance measurement.

During the *renew* section, conference delegates engaged in concurrent working group sessions and facilitated discussions designed to reach agreement on areas for future indicator development and delve deeper into specific priorities. Following the conference, these priority themes were discussed more thoroughly by a post-conference working group that developed and prioritized a number of ideas for new indicator development. The outcome of this work will inform the strategic priorities for future work by CIHI and Statistics Canada that will reflect the current environments and be relevant to the needs identified by our stakeholders.

Finally, the *retire* section of the conference gave us an opportunity to discuss the lifecycle of indicators. In response to the issue of "indicator chaos," CIHI undertook a comprehensive evaluation of some existing indicators and identified 24 that are no longer as relevant or that could be replaced by more suitable measures. The results of the pre-conference survey showed that many stakeholders supported indicator retirement, and the discussion at the conference confirmed this direction, with some caveats regarding maintaining capacity (methods and data) for stakeholders to calculate the indicators if needed.

This conference was also a great occasion for us to hear about your challenges and expectations around the use of health indicators, as well as to learn from each other about opportunities to better fill information gaps. There were many engaging and wide-ranging discussions, formal and informal, that have left us with valuable information about what is most important and relevant to our stakeholders as we move forward with information and indicator development.

Your partners in health,

Jeremy Veillard
CIHI

Lynn Barr-Telford
Statistics Canada

Introduction and background

CIHI and Statistics Canada have been reporting on a broad range of health system indicators and the performance of health systems in Canada in various formats since 1999.

That year marked the first National Consensus Conference on Population Health Indicators, convened by CIHI in partnership with Statistics Canada.[1] Two subsequent conferences were held in 2004 and 2009.[2, 3] These conferences were held to develop nationwide priorities on the indicators used by CIHI and Statistics Canada to report on

- The health of Canadians; and
- The factors that affect our health.

Table 1: Previous consensus conferences and topics covered

Year of conference	Topics
First Consensus Conference, 1999	• Initial list of indicators selected for immediate reporting and future development • Initial Health Indicator Framework adopted
Second Consensus Conference, 2004	• Indicators validated and priorities set • Support for new equity measures obtained
Third Consensus Conference, 2009	• Existing indicators and access to indicator data evaluated • Six priority areas identified

The fourth National Consensus Conference, held in October 2014, was co-hosted by CIHI and Statistics Canada and was planned around the theme *Renew, Rethink, Retire: Evaluating Priorities for Canada's Health Indicators*.

The objectives of this conference were to

- Determine future priorities for the development of new indicators of health system performance, building on CIHI's redeveloped Health System Performance Measurement Framework; and
- Identify indicators that are less relevant and that could be retired from public reporting.

The two-day conference program was organized in three sections:

Rethink — Setting the stage: Keynote presentations and plenary sessions by respected national and international experts shared insights on emerging issues in the area of health system performance reporting and thought-provoking perspectives on the impact of health system performance measurement.

Renew — Identifying priorities for future indicator development: Conference delegates participated in concurrent working group sessions and facilitated discussions to reach agreement on areas for future indicator development.

Retire — Identifying indicators for retirement: In response to the issue of "indicator chaos," conference delegates engaged in a discussion about the lifecycle of indicators and considered 24 health and financial indicators that could be retired.

A number of key priority themes emerged from the discussion. Following the Consensus Conference, a post-conference working group was formed to delve deeper into these themes and develop recommendations for new indicators that would help CIHI, Statistics Canada and other partners to report on the themes.

This report provides a summary of the Consensus Conference proceedings and also documents the outcomes of the post-conference working group. It describes the pre-conference survey, the results of the discussions on indicator retirement and the key themes emerging from the discussions on indicator development priorities, as well as implications for data resources to support those priorities.

Overview of conference program and methods

Conference attendance was by invitation only. Of the 68 invitations extended, 61 accepted and attended the in-person conference. Participants included senior leaders from across Canada, representing ministries of health, regional health authorities, health care providers, health quality councils and academic research organizations. A list of participants is given in Appendix A.

A pre-conference survey gathered input from a broad group of stakeholders on both priorities for indicator development and the feasibility of retiring selected indicators. Results of the pre-conference survey were provided to participants in advance of the conference and were used to inform the plenary and working group discussions. These results are available in a separate report.[4]

The conference program was structured over two days of plenary and working group discussion. An overview of the program is shown below. The full program at a glance, with names of keynote speakers and discussion facilitators, can be found in Appendix B.

Table 2: Overview of Consensus Conference program

Day 1	**Morning**	• Welcome and opening remarks • Indicator Fest: Discussion and voting on retirement of selected indicators • Presentation and plenary discussion: International Perspective on Indicator Research and Development
	Afternoon	• Overview of CIHI's Health System Performance Measurement Framework • Presentations and plenary discussion on emerging themes and priorities in health system performance reporting, organized by framework quadrant: – Health System Outcomes – Health System Outputs – Health System Inputs and Characteristics – Social Determinants of Health
Day 2	**Morning**	• Panel: Perspectives on Measurement Impact • Concurrent working group discussions on identifying priority areas for future indicator development, organized by framework quadrant • Plenary discussion on results from working groups
	Afternoon	• Concurrent working group discussions on identifying indicators for development, organized by framework quadrant • Plenary discussion on results from working groups • Presentation and plenary discussion: Implications for Priorities in Data Development • Closing remarks

The topic of indicator retirement was the first question to be addressed at the conference. A presentation on indicator retirement was followed by a facilitated plenary discussion.

Following the discussion of indicator retirement, participants moved on to the work of identifying priorities for new indicator development. This was done through keynote presentations and a plenary discussion to set the stage, followed by facilitated working group discussions to identify priority themes organized around the quadrants of performance as described in CIHI's Health System Performance Measurement Framework: Health System Outcomes, Health System Outputs, Health System Inputs and Characteristics and Social Determinants of Health.[5]

The themes identified by the working groups were reviewed in a facilitated plenary discussion. Following the plenary discussion, the working groups reconvened to identify potential indicators related to the priority themes.

The potential indicators were presented in a final plenary session, which concluded with representatives from CIHI and Statistics Canada discussing implications for data source development.

Pre-conference survey

The working group and plenary discussions on indicator priority areas and retirement of indicators were informed by summarized results of a pre-conference survey.

The purpose of the pre-conference survey was to obtain input from a broad range of stakeholders on priorities for health indicator development and on the indicators that were proposed for retirement.

The survey ran from July 31 to September 11, 2014. A total of 153 individuals completed the survey.

There were three groups of survey respondents:

1. Conference participants: The 61 participants were strongly encouraged to complete the survey in advance of the conference.
2. Solicited responses: An email invitation to complete the survey was sent to approximately 450 identified stakeholders.
3. Unsolicited responses: A link to the survey was posted on CIHI's website; any individual visiting the website during the survey period was invited to respond.

Table 3 below summarizes responses for the three groups.

Table 3: Pre-conference survey responses by group

Group	Surveys completed	Response rate
Conference participants	48	70%
Solicited stakeholders and clients (invited through direct email to complete the survey)	50	11%
Unsolicited respondents (completed survey through link on www.cihi.ca)	55	N/A
Total	**153**	**N/A**

Figures 1 and 2 provide information about the individuals who completed the survey.

Figure 1: Number of responses by region

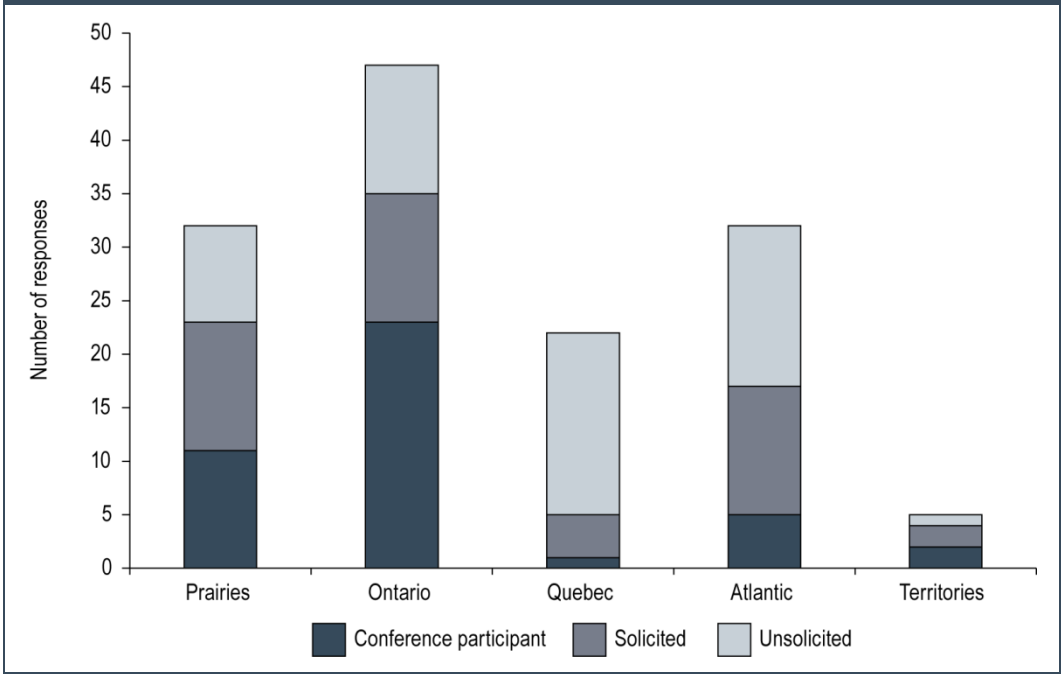
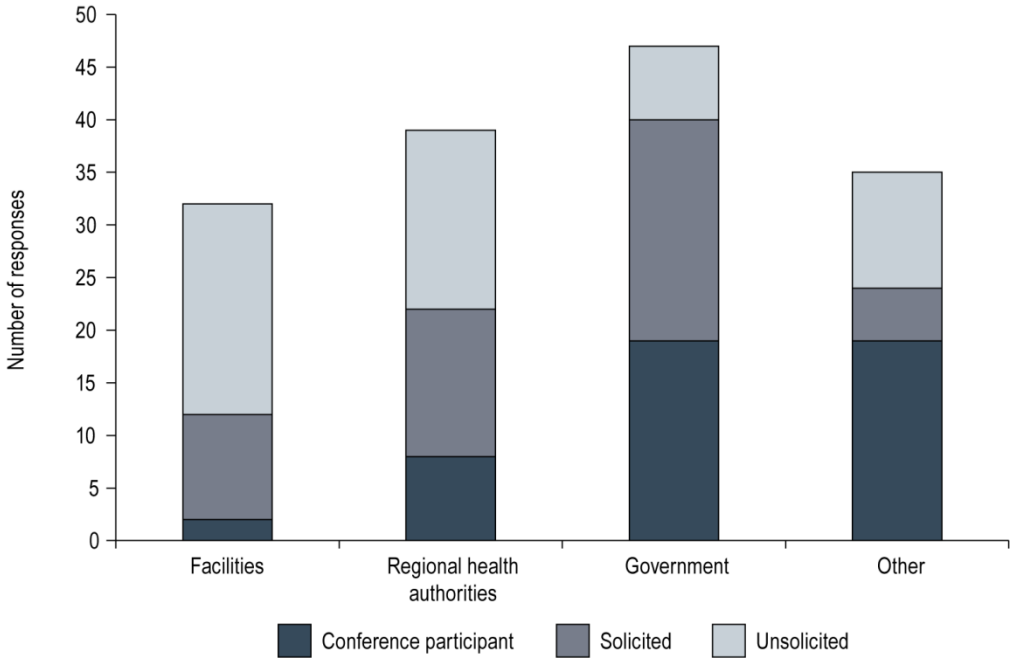


Figure 2: Number of responses by place of work



Conference outcomes

Indicator retirement

The first three consensus conferences focused on the important things to add to indicator development priorities for CIHI and Statistics Canada. However, it is becoming clear that organizations like CIHI should take a lifecycle approach to indicator reporting and consider a systematic way to retire indicators that become less relevant. The topic of retiring indicators was addressed for the first time at the 2014 Consensus Conference.

Why retire indicators?

CIHI developed a process to evaluate the indicators currently reported publicly and determine whether some of these could be retired to address a number of emerging concerns:[6]

- Making room for new indicators — Each indicator reported requires human capacity and resources. With fixed resources, each indicator that is produced and reported means that another, perhaps more relevant one, isn't;
- Reducing indicator chaos and not adding to it;[7] and
- Having the capacity to respond to our stakeholders' needs and making indicators more actionable.

Indicators considered for retirement

The internal evaluation process was applied to 56 selected health and hospital indicators that CIHI was producing.[6] These 56 indicators were rated according to criteria developed and then reviewed internally by two groups. Criteria used in the internal evaluation included usability, importance, scientific soundness and feasibility. Table 4 shows the disposition of the 56 indicators following CIHI's internal review.

Table 4: Disposition of the 56 indicators included in CIHI's internal review

	Hospital indicators	Regional health indicators	Total
Number of indicators reviewed	27	29	**56**
Disposition			
Keep	14	23	**37**
Consult further with stakeholders	2	5	**7**
Conduct research and development	2	1	**3**
Recommend to retire	9	0	**9**

Notes
Hospital indicators include those that were reported in the Canadian Hospital Reporting Project (CHRP). The full list of indicators recommended for retirement is provided in Appendix C.

The Consensus Conference was an opportunity to obtain feedback and input from stakeholders regarding retirement of the nine indicators identified. An additional 15 financial indicators reported by CIHI were also identified as candidates for retirement through a separate internal process, for a total of 24 indicators to review at the Consensus Conference.

Indicator retirement outcomes

The results of the pre-conference survey provided input into the discussion of retiring indicators at the Consensus Conference. For each of the 24 indicators under consideration, respondents were asked whether they

- Agreed with retiring the indicator;
- Disagreed with retiring the indicator; or
- Were unable to assess.

For 13 of the 24 indicators, more than 70% of respondents who were able to assess them supported retiring the indicators.

The discussion process on indicator retirement was as follows:

- General discussion on the need to retire indicators from public reporting and support for doing so in principle;
- Agreement to retire the 13 indicators where more than 70% of respondents supported retirement in the pre-conference survey;

- Presentation on and discussion of the 11 indicators that had less than 70% support for retirement in the pre-conference survey; and
- Computer-assisted voting at the conference on whether to retire some or all of these 11 indicators.

Key questions and points raised during this plenary discussion included the following:

- While some of the identified indicators may not be as relevant from a pan-Canadian comparison perspective, there are jurisdictions and facilities that use these internally or for accountability reporting.
- Even if selected indicators are retired from public reporting by CIHI, there is a need to ensure that health system stakeholders retain capacity to calculate and report on these measures. This implies documenting and making the methods available to others.
- With the retirement of some specific readmission indicators as recommended, CIHI would publicly report rates for only broad categories of patients. CIHI has developed a new analytical tool that will allow authorized users at hospitals to explore results for key facility indicators, including readmission rates. This will provide users with the capacity to examine readmission rates for specific patient groups and compare rates for their facilities with those of others.
- The process of evaluating the relevance and usefulness of currently reported indicators and potentially retiring them and replacing them with others should continue on a regular basis.
- Participants appreciated the opportunity to have a discussion about retiring indicators but in the end identified this activity as part of CIHI's mandate; as such, making decisions and recommendations regarding retiring indicators should be left in CIHI's hands, going forward.

Following the plenary discussion and computer-assisted voting on the 11 indicators, it was agreed that all 24 indicators could be retired from regular public reporting (see Appendix C for results from the computer-assisted voting at the conference).

Table 5: Summary of indicator retirement results

	Regional health and hospital indicators	Financial indicators	Total
Proposed for retirement	9	15	**24**
Retired based on pre-conference survey	6	7	**13**
Retired following plenary discussion and voting at the Consensus Conference	3	8	**11**

Determining indicator development priorities

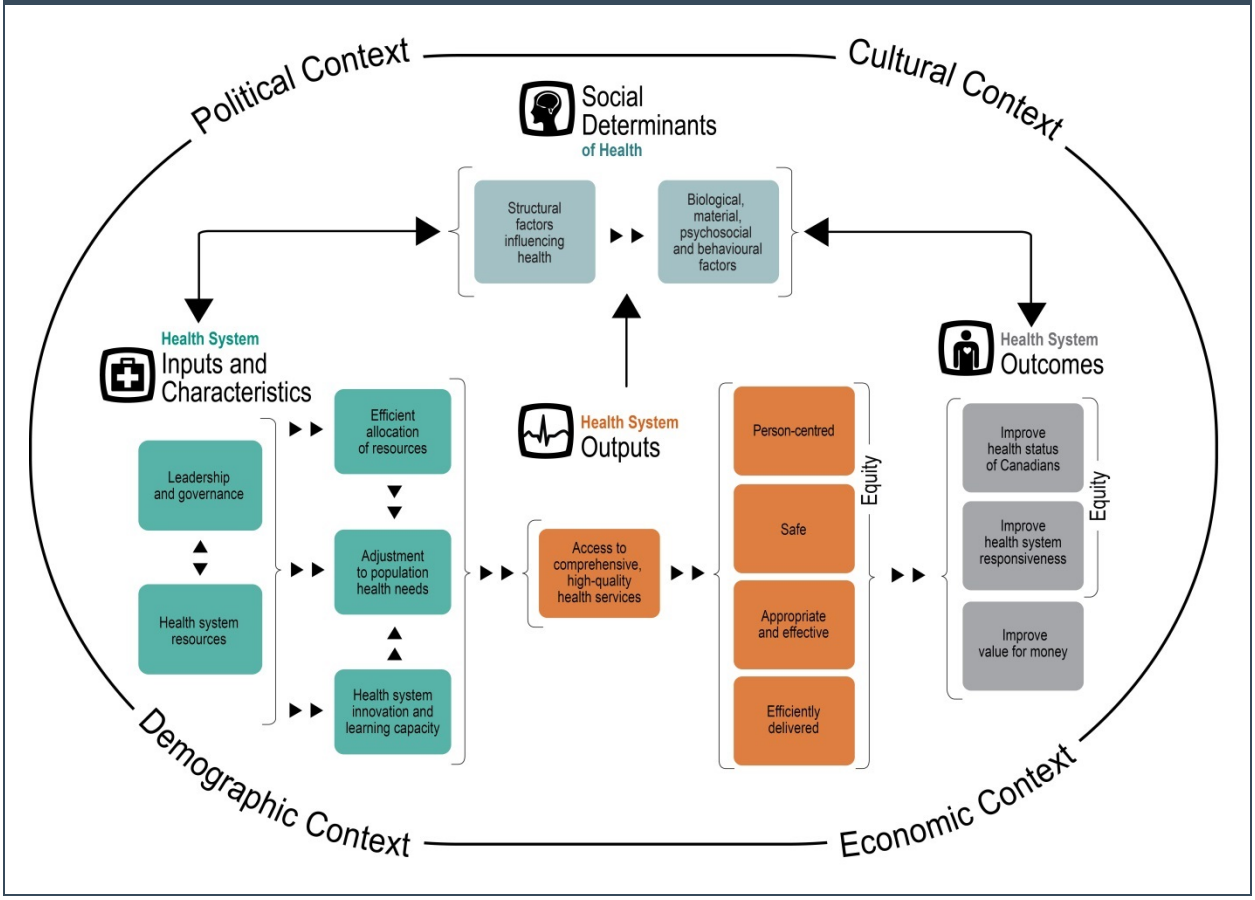
Process

Much of the conference was devoted to working group and plenary discussions to identify priorities for future indicator development. These discussions took place over the second half of Day 1 and most of Day 2.

The discussion on indicator development priorities opened with the keynote presentation "International Perspective on Indicator Research and Development," followed by a presentation and discussion of CIHI's Health System Performance Measurement Framework.[5]

The framework is used to guide the selection and reporting of indicators to ensure that the key dimensions of health system performance are included in reporting. The quadrants and dimensions of the framework are shown in Figure 3.

Figure 3: CIHI's Health System Performance Measurement Framework



In order to address the key areas of health system performance, discussion of priorities for new indicator development was organized around the four quadrants:

- Health System Outcomes;
- Health System Outputs;
- Health System Inputs and Characteristics; and
- Social Determinants of Health.

Plenary presentations by keynote speakers and discussions on emerging themes in each of the quadrants were held in the afternoon to help set the stage for working group discussions on Day 2. The keynote speakers were asked to

- Share insights on emerging issues in the area of health system performance reporting; and
- Provide thought-provoking perspectives on the impact of health system performance measurement.

The panel discussion "Perspectives on Measurement Impact" at the start of Day 2 provided further food for thought as panellists discussed types of indicators they have used, that they have responded to and that have resulted in some positive improvement in some aspect of health and health care. Each of the three panellists brought a unique perspective to understanding key considerations for identifying new indicators. Key messages for each of the perspectives are highlighted in Table 6.

Table 6: Key messages presented by measurement impact

Perspective	Key messages
Policy-makers and senior decision-makers	• Indicators should be easily explained • There should be a clear path to impact and to show that a difference is made • We should be able to present indicators in a way that gets attention
Health care providers	• At a practice level, what is important is indicators that measure what really matters to the patient • At a system level, indicators should reflect the success of changes to the health system
Patients and their caregivers	• We need to measure whether the health care system is meeting the self-identified needs of patients and caregivers • Patient experience indicators should capture whether patient needs are met and their experience at every encounter; real-time feedback is important for accuracy of the information

Following the panel presentation, conference attendees broke into four working groups, each focused on developing indicator priorities for one of the quadrants of the HSP Measurement Framework. In the first working group discussion, participants were asked to identify priority areas. Following the discussion, the working groups reported back to the plenary group for a discussion of priority areas across all four quadrants. Computer-assisted voting was used to identify the three top priority areas for each quadrant.

The working groups then reconvened to focus on more specific ideas for new indicator development within the three priority areas. This was followed by another report back to the plenary group where the ideas were reviewed. The sections that follow describe, by framework quadrant, the priority areas identified and ideas for indicators raised during the working group and plenary discussions.

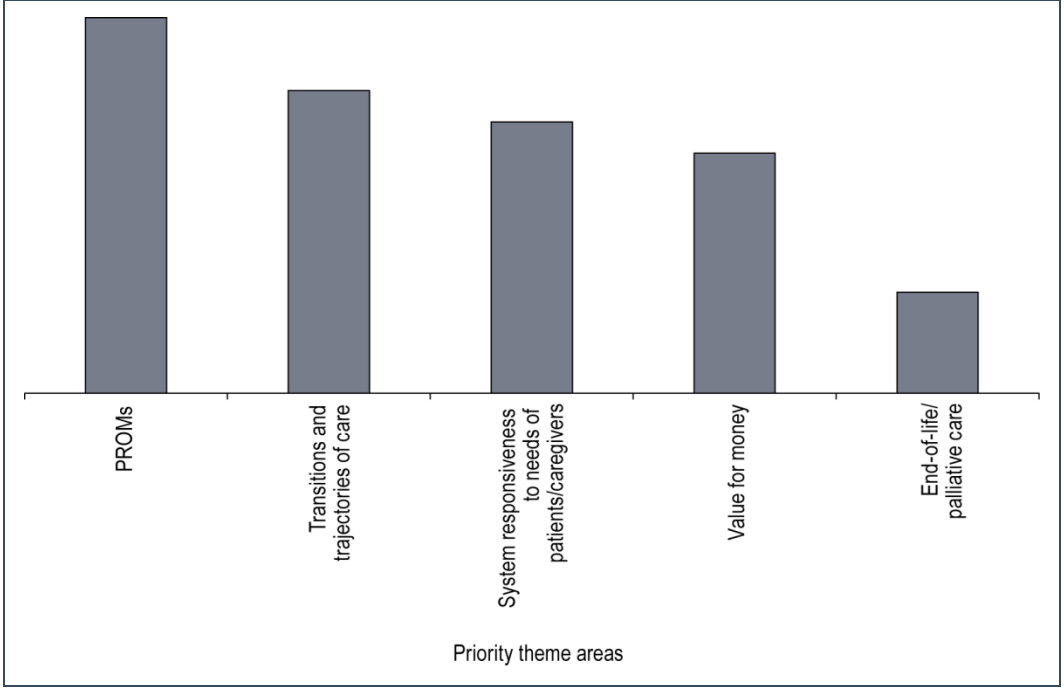
Quadrant 1: Health System Outcomes

The working group on Health System Outcomes presented five priority areas for new indicators to the full group:

1. Patient-reported outcome measures (PROMs)
2. Transitions and trajectories of care — How well do patients move across care providers in the system and how does their health state change during transitions?
3. Responsiveness of the system to the needs of patients, in particular those with multi-morbidity and complex needs, and caregivers
4. Value for money — What is the relationship between outcomes and spending?
5. End-of-life and palliative care — How well does the system respond to the needs of individuals near the end of life?

Figure 4 shows the relative support for these priorities based on computer-assisted voting during the plenary discussion.

Figure 4: Relative support for Health System Outcomes priority themes



The key messages and recommendations raised during the presentation and discussion of these priorities included the following:

- While outcome indicators are useful in understanding the performance of a health system as a whole, very few indicators can be attributed to a single provider, type of care or even time period. Performance on these indicators is a shared outcome.
- While these indicators may be described as health system outcomes, they are not influenced by health care only. Social determinants of health, as well as policy and the contextual factors identified in the framework, have a profound influence on many outcomes.
- Development of new outcome indicators should be linked to improvement initiatives and emerging synergies.
- There are some outcomes that need to be monitored from a surveillance perspective. Even if performance is good and there are no specific initiatives for change or improvement, we need to have indicators that alert us if performance changes (e.g., indicators of safety).

The working group developed ideas for a number of new indicators associated with the priority themes identified. These are listed in Table 7.

Table 7: Potential indicator development by priority area for Health System Outcomes

Priority area	Potential indicator development
Patient-reported outcome measures	• Number of adverse events (as reported by the patient) during care • PROMs related to specific conditions and treatments • Interventions that did not lead to improved quality of life
Transitions and trajectories of care	• Speed of health state transitions • Deterioration in health while waiting for placement in long-term care or home care • Frequency of long hospital stays
Responsiveness of the system to the needs of patients and caregivers	• Days free of health system use
Value for money	• Value for money across the system related to specific conditions
End-of-life and palliative care	• None specified
Other indicators not directly related to a priority theme	• Excess mortality due to specific conditions (e.g., mental health, alcohol) • Health literacy related to outcomes

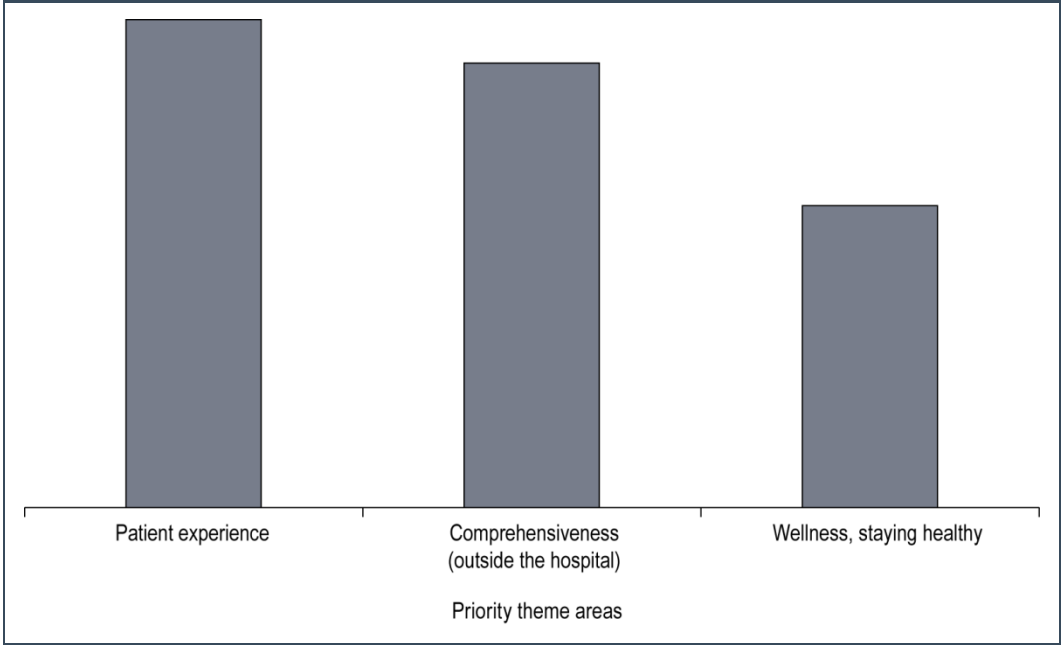
Quadrant 2: Health System Outputs

The working group on Health System Outputs (i.e., health care services) presented three priority areas for new indicators to the full group:

1. Patient experiences with care services
2. Comprehensiveness — More indicators about services provided outside of acute care settings
3. Wellness and staying healthy — To balance the current focus on outputs associated with treating illness

Figure 5 shows the relative support for these priorities based on computer-assisted voting during the plenary discussion.

Figure 5: Relative support for Health System Outputs priority themes



The key messages and recommendations raised during the presentation and discussion of these priorities included the following:

- A meaningful set of indicators for understanding outputs needs to be considered. Results for individual indicators, particularly those that are used for accountability, should not be examined in isolation from contexts: demographic context and the impact of aging populations; cultural context and the impact on patient experiences and expectations; and political context and the impact of accountability. We need balance in the Health System Outputs portfolio of indicators:
  - We need indicators that tell us how patients experience the services they receive, the variation in those experiences and how the experience is changing over time.
  - Our indicator capacity needs to expand beyond the current acute care focus to encompass more information about the quality of community-based services, particularly primary health care.
  - Indicators should reflect a "contextual filter" that considers changing demographics, economic situations and fiscal constraints, as well as the cultural values of solidarity and equity and Canada's federal system. These contexts are key, particularly with respect to international comparisons.

The working group developed ideas for a number of new indicators associated with the priority themes identified. These are listed in Table 8.

Table 8: Potential indicator development by priority area for Health System Outputs

Priority area	Potential indicator development
Patient experiences with care services	• Experiences with providers in non-acute care sectors (also relates to the priority of comprehensiveness) • General population experiences across the system
Comprehensiveness	• Appropriateness of the setting and level of care (right care at the right time) • Compliance with standards and care paths in patients' journeys • Patients' perspectives on their continuity of care across sectors
Wellness and staying healthy	• Outcomes from and effectiveness of public health services • Workplace injuries

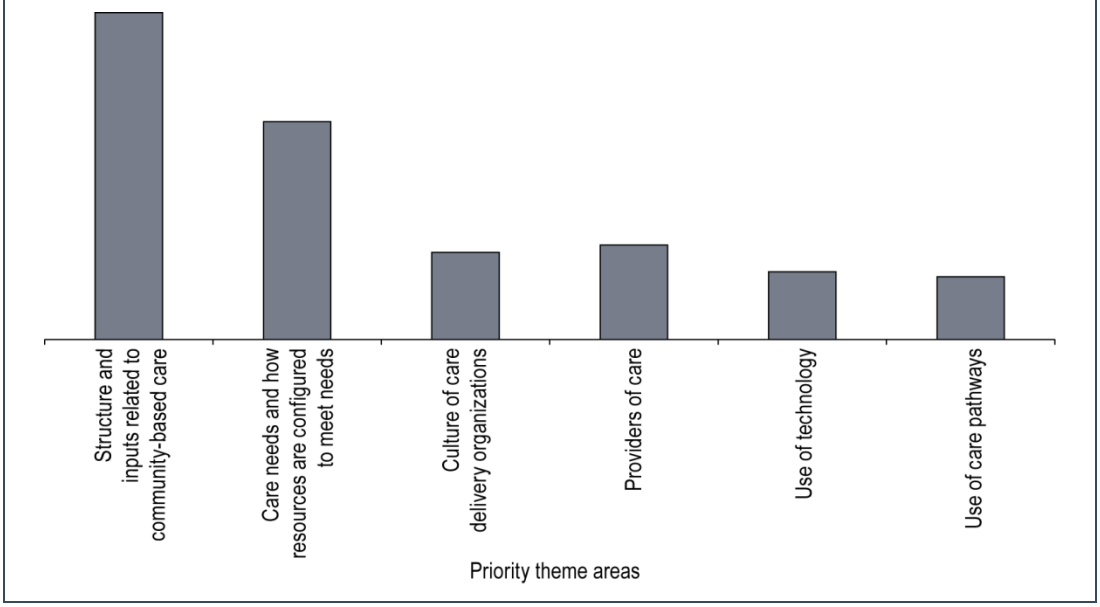
Quadrant 3: Health System Inputs and Characteristics

The working group on Health System Inputs and Characteristics presented six priority areas for new indicators to the full group:

1. Structure and inputs related to community-based care, particularly primary care and mental health care
2. Care needs and how local and system resources are configured to respond to needs
3. Culture of care delivery organizations — Orientation toward patient-centred care, learning and innovation, quality improvement, and capacity to use data and evidence
4. Providers of care — Scope of practice and satisfaction with work
5. Use of technology
6. Use of care pathways across the system

Figure 6 shows the relative support for these priorities based on computer-assisted voting during the plenary discussion.

Figure 6: Relative support for Health System Inputs and Characteristics priority themes



Key messages and recommendations raised during the presentation and discussion of these priorities included the following:

- System characteristics and structure may matter more than technical inputs or efficiency to the performance of the health system. When looking at which indicators would be most useful, we want to be clear on the relationship to system outcomes; otherwise, we will have a vast number of potential indicators but little clear connection to what we are trying to achieve in the system.
- We need to be careful about how input indicators might be (mis)used. A focus only on inputs/resources being too high or too low that does not consider outcomes achieved can drive expenditures and policy to a significant degree.
- While it is increasingly system characteristics that are worthy of our attention, the priority areas identified are very tough to capture and measure.
- Aging will not bankrupt our system, but it will have a profound impact on how well the system performs. We need to consider which indicators of system structure and characteristics will tell us how well the system can respond to the challenges associated with aging.

The working group developed ideas for a number of new indicators associated with the three highest-rated priority themes. These are listed in Table 9.

Table 9: Potential indicator development by priority area for Health System Inputs and Characteristics

Priority area	Potential indicator development
Structure and inputs related to community-based care	• Extent of connections and collaborations across sectors of care • Characteristics of community-based resources
Care needs and how local/system resources are configured to respond	• Sector-based spending (changes and shifts) • Patients' perspectives on their needs (especially seniors and individuals with multi-morbidity)
Culture of care delivery organizations	• Employee/staff engagement • Dimensions of organizational culture, including – Patient-centredness – Learning and innovation capacity – Quality orientation • Capacity to use data and evidence

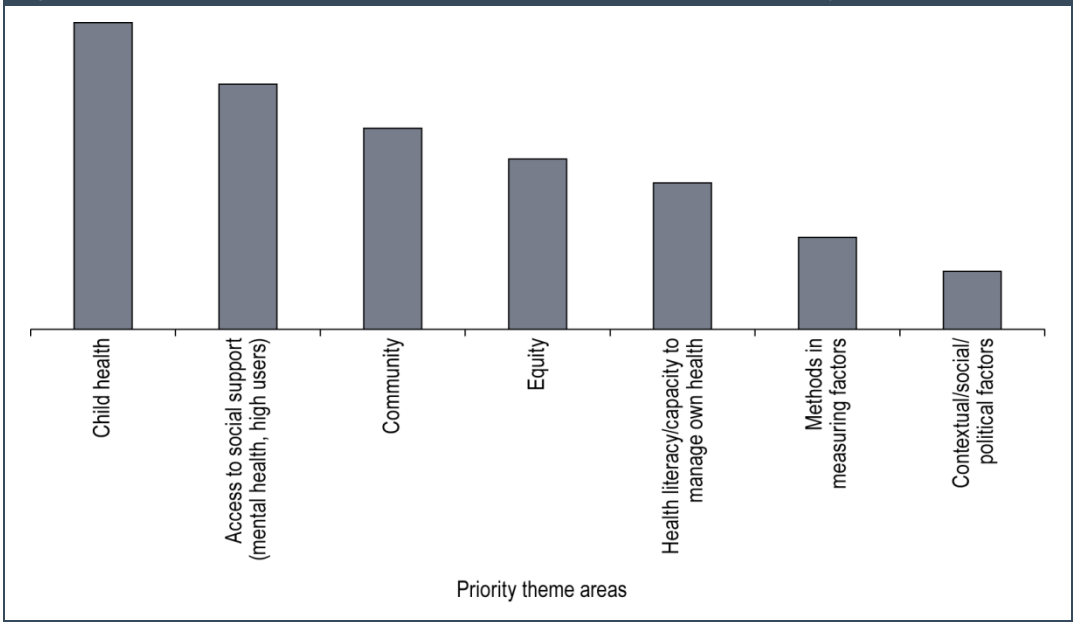
Quadrant 4: Social Determinants of Health

The working group on Social Determinants of Health (SDOH) presented seven priority areas for new indicators to the full group:

1. Child health
2. Access to social support, particularly with respect to individuals with mental illnesses and high users of the health system
3. Community, including the built environment and support of healthy lifestyles
4. Equity — Access and resources available based on SDOH factors
5. Health literacy and capacity for individuals to manage and change their own health
6. Methods in measuring SDOH factors, including culturally diverse needs
7. Contextual, social and political factors affecting health

Figure 7 shows the relative support for these priorities based on computer-assisted voting during the plenary discussion.

Figure 7: Relative support for Social Determinants of Health priority themes



Key messages and recommendations raised during the presentation and discussion of these priorities included the following:

- The best indicators are those that bring the four quadrants together and demonstrate the linkage between SDOH and outcomes. Examples would include mortality attributable to smoking or heavy drinking or related to mental illnesses.
- Indicators developed should be populated at both the population and provider practice levels. This provides us with information on system outcomes and also makes the indicators clinically relevant for providers.
- The line between contextual measures and performance indicators should move. We need to shift thinking that considers SDOH factors as "givens" or contextual factors for health system performance and instead focus on some of these as performance indicators that the health system can work to influence or change. Actionable indicators can support policy changes.
- Housing, neighbourhoods and the built environment have a profound effect on health. In line with the point above, we should think of these as changeable.

The working group developed ideas for a number of new indicators associated with the four highest-rated priority themes. These are listed in Table 10.

Table 10: Potential indicator development by priority area for Social Determinants of Health

Priority area	Potential indicator development
Child health	• More work with early development–type measures, including behaviours and bullying • Child and youth mental health • Childhood obesity
Access to social support, particularly for individuals with mental illnesses and high users	• Needs for and access to housing and other social support • Interactions with the justice system • Measures of positive mental health (resiliency)
Community	• Built (physical) environment and the extent to which it supports health (e.g., walkability, green/park space) • Composite indicator of healthy behaviours
Equity	• Big-dot measure of outcomes linked to SDOH to provide an overall indication of progress

Overarching priority themes

A number of related themes surfaced during the plenary discussions of priorities in the four individual quadrants. While the HSP Measurement Framework (see Figure 3) depicts quadrants and their dimensions as boxes, the arrows show that the dimensions are clearly linked and that all relate to Health System Outcomes. For example, the system can be structured with inputs and resources to support community-based care. This will likely have an impact on the way patients and caregivers experience integration of their care, and this again will have an impact on health status, responsiveness of the system and value for money. Given these linkages, it is not surprising that community-based care and coordination and integration of care were identified as priorities in all quadrants.

The overarching priority themes and linkages across the four quadrants are described in the table below.

Table 11: Overarching themes and linkages to HSP Measurement Framework quadrants

Overarching theme area	Relationship to framework quadrants
Outcomes of care	• Within the outcomes quadrant itself, there was significant discussion and focus on the use of PROMs and variations of these. It was noted that in addition to standard disease-specific and health status measurement tools, the concept of PROMs could also include patient-reported adverse events and identification of interventions/treatments that did not lead to improved quality of life. • From a population perspective, there was discussion of the idea of examining excess mortality, particularly from preventable causes, and the impact of socio-economic status/SDOH factors as well as the relationship of health status with health literacy and the capacity of individuals to manage their own health status. • Outcomes (patient-reported or population self-assessed) with respect to mental health are also a current gap.

(cont'd on next page)

Table 11: Overarching themes and linkages to HSP Measurement Framework quadrants (cont'd)

Overarching theme area	Relationship to framework quadrants
Value for money	• We require more information on costs and outcomes (particularly from the patient perspective). Value for money is related to and cuts across the concepts of efficiency and waste, as well as appropriateness of care settings and appropriateness of interventions. Are we spending money on things that make a difference to people? Is there a way to get at the concept of "better care and less care"? • The outcomes part of the value for money equation should also consider the value of equity as an outcome.
Transitions and trajectories across care settings addressing **1. Integration and continuity of care** **2. Multi-morbidity**	• Part of the discussion here addressed health state transitions, the relationship of these with appropriate care settings and the deterioration in health state that can occur while waiting for placement. Are there ways we can look at preventing disease progression, particularly while people wait for care in the right setting? • The discussion of multi-morbidity related in large part to frequent users of health and social care services and how to consider responsiveness and patient-centredness. The burden of care-seeking on frequent users with multi-morbidities was acknowledged, with a need to understand how better integration across sectors and coordination of care could reduce this burden. • We also require some capacity to connect patient/caregiver experiences with health and social care services, particularly when we go beyond the acute care sector into community-based services (see below).
Community care, and mental health community care in particular	• There was general acknowledgement across all working group discussions that we have significant gaps in indicators that address measurement outside of the acute care world. While there is some capacity to report on outcomes and client status for long-term care and home care, measures of other care in the community — particularly mental health care and primary care — are still lacking. This is true across the quadrants of the framework. It is difficult to measure health system inputs and resources allocated to these areas in a comparable way, despite long-term initiatives to shift resources from acute to community care. Additionally, we need to consider the effectiveness, safety and efficiency of the services delivered (outputs) through these settings. • The importance of examining community-based settings also ties in with the priorities of multi-morbidity and of coordination and integration of care across settings. We will not understand much if we have little information about community-based care. We may also need to consider how to cast a wider net in thinking about community-based care that also includes coordination with social care and support services, especially in the case of community mental health. • We need to consider how to include both patient- and caregiver-reported experiences and outcomes with care in these settings. This is an important aspect of moving beyond acute care.
Upstream investments, in particular **1. Prevention and interventions such as primary care** **2. Child health (specifically mental health and obesity)**	• This theme also reflects the need to know more about and to support investment of resources in areas beyond acute care, but rather than looking at care services addressed to meet current needs, the focus is on what we can learn about prevention and interventions that — over the long term — can address population health status, health literacy and the relationship of these with the social determinants of health. • The broader area of child health status and its relationship to social determinants of health and health status was identified as a key aspect in this area, with an emphasis on child mental health and obesity.

Implications for data resources

The conference proceedings wrapped up with both CIHI and Statistics Canada representatives presenting and discussing implications for data. The presentations focused on work being undertaken in data development, what is currently in the pipeline and how it relates to the identified indicator development priorities.

CIHI's perspective

Work to expand and increase the usability of data sets is organized around three key streams:

1. *Acquire* new data, including expanded participation in and reach of existing CIHI data sets. Some of the initiatives in this stream include the following:
   - CIHI has expanded coverage of the Continuing Care Reporting System, Home Care Reporting System, Canadian Joint Replacement Registry and National Ambulatory Care Reporting System.
   - The Canadian Multiple Sclerosis Monitoring System is now accepting data.
   - The National Prescription Drug Utilization Information System Database can now be linked to other data sets.
   - Patient-level physician billing data is now being submitted by some jurisdictions.
   - CIHI is the repository for The Commonwealth Fund's survey data.
2. *Enrich* existing data sets to develop more capacity for analysis and indicator development. Key developments here include the following:
   - CIHI's Integrated eReporting program of work has developed an Organization Index data set and a standard data linkage methodology.
   - CIHI is using existing data resources to develop a population risk adjustment grouper.
   - In collaboration with the Toronto Central Local Health Integration Network, CIHI has established a pilot project to collect socio-demographic data elements in the Discharge Abstract Database.
3. *Disseminate* data, making it easier to access and use. There are a number of existing tools (with more under development) that allow stakeholders and researchers to access CIHI data.

Current priority areas for future development of data resources at CIHI include these:

- Patient experiences data set: Seven jurisdictions are supporting CIHI in the development of a standardized, internationally comparable survey and system for data collection, beginning with acute care and potentially expanding to emergency care and long-term care.
- PROMs: CIHI is currently consulting stakeholders on development priorities for a PROMs data set.
- Primary health care data: This remains a significant gap. CIHI is working to improve access to electronic medical records and on ways to structure and standardize this data.
- Health expenditures: CIHI is streamlining standards to make it easier to submit financial data, both for hospitals and care providers in other sectors. As well, we are enhancing our patient costing program and reporting of organizational expenditures.
- Community care: Community mental health care is a current focus.

Finally, there are ways that CIHI can use its existing data resources to do more. These initiatives include using physician billing data to add physician costs to other reported health care costs; examining relationships between financial, health workforce and clinical data; linking Statistics Canada survey data with CIHI's administrative data; and partially filling the PHC data gap through other data sets, such as patient-level physician billing data, lab data and drug data.

However, despite the need for new indicator development and implications for data resources, there is generally low tolerance and little enthusiasm to invest in new data. We need to think about better and more purposeful use of existing data collections. As well, we have to focus on how data can be easily captured at the point of care and on how we can decrease the burden of data collection and submission.

Statistics Canada's perspective

With respect to health data, the mandate of Statistics Canada is to focus on pan-Canadian population data (as opposed to data collection based on interventions or care delivery). Within this mandate, the objective is to have high-quality data so that the indicators and measures developed from them have strong integrity. The three key principles are

- Relevance: Pay attention to the highest-priority information needs of the health statistical system;
- Access: Make data accessible in many formats, ensuring understanding, interpretation and flow of information; and
- Trust: Maintain strong stewardship and objectivity. The conversation should not be about the data, but about what the data is telling us.

Statistics Canada has been working on a project to demonstrate the value of linking data across the health and social sectors as well as within the health sector. Linkage to social sector data would open up substantial possibilities in reporting on social determinants and in understanding the impacts of cultural and demographic contexts on health system performance. This would help maximize the potential of the large amount of data that is already being collected across the country.

This project holds significant promise but also reinforces ongoing concerns that issues and questions around privacy could impede the capacity to link, use and analyze data. Personal identifying information is required to link data, and it is important to acknowledge privacy concerns and to focus on addressing and managing them rather than letting them halt progress altogether.

Another key challenge is to respond to the limited time that survey respondents have to spend in conversation and keep up with new ways to access the population and make responding to surveys simple and quick. It is incumbent on us to value respondents' time and manage the time they can give us.

Finally, Statistics Canada continually poses key questions to ensure we support better use of existing data collection tools and take advantage of new opportunities:

1. Are we using our data collection tools in the best way possible and maximizing our capacity?
2. Are we using existing infrastructure to its fullest potential?
3. How can we improve the communication and dissemination of what we already have?
4. How can we develop awareness and facilitate the use of what is already collected?

Post-conference follow-up

A number of cross-cutting priority themes for indicator development were identified and garnered strong support at the conference. It was proposed at the close of the conference that a working group of 15 to 20 participants should be formed to follow up on these themes and work with CIHI and Statistics Canada to develop a more specific list of priority indicators.

Following the conference, a call for working group volunteers went out and individuals put their names forward. A list of the post-conference working group members is provided in Appendix D.

This group met via teleconference (with some in-person attendance based on proximity to CIHI's offices) four times between January 6 and March 23, 2015. The focus of each of these meetings is described in Table 12.

Table 12: Post-conference working group meetings

Meeting date	Focus of meeting	Outcomes and next steps
January 6, 2015	Kick-off Presentation and discussion on how to prioritize the themes raised at the conference	Prioritized set of themes Assignment of members to sub-groups to develop indicator possibilities
January 28, 2015	Presentation and discussion of submitted indicator possibilities	Understanding of possibilities for new indicator development Need to develop further indicator possibilities in areas related to conference themes Rating of indicator possibilities by working group members
March 16, 2015	Presentation and discussion of all indicator possibilities, including summary of results from the rating survey	Prioritized list of indicators for development
March 23, 2015	Continuation of March 16 discussion to complete review of all five theme areas	Prioritized list of indicators for development

Statistics Canada and CIHI staff reviewed the prioritized list of indicator ideas and concepts and discussed which organization(s), together with partners, would be best suited to determine next steps on potential indicator development. The indicators listed in this table will be considered by CIHI and Statistics Canada in their strategic and operational planning processes to determine what progress can be made, which of the indicators show the most promise as low-hanging fruit and their importance for strategic investment in data resources and standards today to obtain key relevant and reliable indicators for tomorrow's health system performance reporting.

Table 13: List of priority indicators developed by post-conference working group	
Indicator idea/concept	**Rationale for priority**
Theme: Value for money	
Index of appropriateness of care setting, possibly with an initial focus on avoidable hospital admissions and/or emergency department visits	This measure identifies where there is inappropriate use of resources within the system. It is also highly related to the theme of transitions/trajectories (integration and continuity of care) and provides information about how well patient needs for the right level of care are being met. The measure would also tell us about how well the needs of seniors and patients with multi-morbidities are being met, given the complex care needs of this group.
Index of waste in health care (inappropriate procedures and diagnostic interventions)	This index would identify and allow us to compare the extent of waste in jurisdictions across the country by measuring potentially unnecessary diagnostic and treatment interventions. It is a big-dot indicator that could be disaggregated into actionable components.
Costs for bundles of care, with focus on care bundles related to conditions where we have outcome information	Work by Porter and Lee looks at measuring costs and outcomes for care focused on conditions and measuring outcomes in relation to costs across all sectors and providers.[8]
Theme: Community care	
Burden on informal caregivers	This measure would provide important information about the responsiveness of the health (long-term/home care) system to the needs of both patients requiring ongoing home care and those who provide informal care to them. The indicator focuses on the informal caregivers (family members, friends, neighbours) of individuals living in their homes in the community.
Access to and effectiveness of palliative care and/or end-of-life care (an early opportunity may be hospitalizations in the last six months of life)	Palliative care delivered in the community is an important aspect of patient-centred and community-based care. It requires coordination of services across providers (home care, primary care, clinical specialists). A better understanding of effectiveness and performance in this area, as well as knowing how well the services support patient needs for community palliative care, is critical to health system performance. An indicator of hospitalizations in the last six months of life would provide information about the extent to which people are **not** receiving community care at the end of life for whatever reasons. It would be a big-dot indicator that could be disaggregated into different clinical groups to understand where needs for community care were not being met.
Access to community mental health care services for children and youth	This would provide important information about the extent to which community mental health services are accessible and meeting the needs of children and youth. A registry-type data set (similar to that in use in British Columbia) could provide information about wait times for different types of services (e.g., psychiatrist, substance abuse counselling).

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Table 13: List of priority indicators developed by post-conference working group (cont'd)

Indicator idea/concept	Rationale for priority
Theme: Transitions/trajectories (integration and continuity of care)	
Patient and caregiver perspectives on continuity and integration of care, with an initial focus on alignment of treatment objectives	This would provide important information on how patients see their health care as being coordinated (or not); it may also help to identify barriers (i.e., hassles due to multiple locations, wait times, duplicate testing, etc.) in accessing needed care. We would also learn more about how care is coordinated in the community and outside of institutional care. Focusing on the alignment of treatment goals is of particular importance for patients with multi-morbidities, where there needs to be a clear understanding across all providers of the overall treatment goals for the individual. Information about treatment goals is essential for managing patients as they receive services from providers across the spectrum of care.
Wait time to long-term care and home care placement	Understanding wait times for placement in an appropriate level of care is important to understanding how well care services in the community are meeting needs. Long waits for these services also indicate poorer performance with respect to the appropriateness of care setting and value for money. Seniors with multi-morbidities and mental health conditions are often those in most urgent need of the appropriate level of care in the community; this measure would be an important aspect of system responsiveness to the needs of these individuals.
Wait time for specialist consultation	There is a need to look at performance in this area in a finer way, similar to how we look at wait times for surgical procedures. Some questions to ask: Which specialties (including medical) have the longest waits? What is the impact on the overall wait? This is an area where patients and their caregivers have significant issues in terms of waiting for a consultation and for a specialist that can help them deal with their health issues.
Access to or waits for social care services that support health for high users	Individuals with multi-morbidities, especially those that include a mental health condition, have needs for social care and services that go beyond health care. The provision of health care services only cannot improve and sustain health status. This indicator would go beyond the health care system and examine how well these individuals are supported by the provision of social care and services in the community.
Prevalence of medication reviews, particularly in the community	Medication review and flagging of potentially inappropriate medications is an important component of coordinating care for individuals who have multi-morbidities and/or who receive care from multiple providers or settings. It is particularly important to examine medication reviews during hand-offs between care providers.

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Table 13: List of priority indicators developed by post-conference working group (cont'd)	
Indicator idea/concept	**Rationale for priority**
Theme: Outcomes of care	
Patient-reported outcomes — population-based health status (e.g., EQ5D, VR12, VR6-D)	These measures provide the population perspective on overall health. Depending on the demographic questions included in the survey tool, results could be disaggregated by socio-economic status and targeted populations.
Patient-reported outcomes for specific procedures/conditions (e.g., joint replacements, end-stage renal disease/kidney transplantation), with adjustment for patient complexity	These would reflect the patient's perspective on the outcomes of the intervention and the contributions of all care providers and sectors for the full episode of care (e.g., hospital, home care, rehab). Depending on the demographic questions included in the survey tool, results could be disaggregated by socio-economic status and targeted populations.
Composite or index measure of overall health and well-being	There are many current indicators that report on health status and well-being, but it is difficult to get an overall assessment of how these contribute to health and well-being. A composite measure would provide a big-dot picture of how the individual measures roll up.
Improvement in health status of the elderly	This indicator would provide important information about the extent to which home and continuing care services are able to contribute to improving the health status of elderly residents and patients. It would provide a focus on community-based care and information about performance outside of the acute care sector.
Patient engagement in own health and health care	This measure aligns well with the broad agenda on person-centred care. It seeks to understand the role that patients wish to play in making decisions about their care. Patient engagement and capacity to be involved in one's own health and health care is an important factor in health outcomes and well-being. A tool to measure engagement could be applied across sectors of care in care settings or at the population level.
Burden of treatment and illness (broader than morbidity-type burden)	A measure of treatment and illness burden would help us understand the impact of health conditions on the daily lives of individuals. Treatment burden is important to assess because it may affect adherence to treatment and quality of life, among other things. The measure would reflect the burden of treatment and illness from the patient's perspective.
Theme: Upstream investments	
Mental health status for children and youth; possibilities could include Children/youth diagnosed with or reporting symptoms of mental disorders (e.g., mood, depression, anxiety) Self-rated mental health for children/youth Self-reported incidents of intentional self-harm	This is a mental health status outcome measure reported specifically for a youth population. It provides an overall picture of mental health for this group.

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Table 13: List of priority indicators developed by post-conference working group (cont'd)

Indicator idea/concept	Rationale for priority
Summary measure of the impact of income inequality on health status	Developing measures that relate income inequality and health status would add to our understanding of social and structural factors related to population health status.
Additional methods in disaggregation for identified vulnerable groups (e.g., Aboriginal peoples, immigrants, refugees)	The equity dimension in the framework would be most thoroughly measured by disaggregating the other dimensions by populations of interest — that is, by comparing the degree to which Different population groups are able to access comprehensive, high-quality health services; and The health system is person-centred, safe, appropriate, effective and efficiently delivered for all population groups. Examples of indicators include Access to health services in general, and in particular access to health promotion resources and initiatives for the population groups identified; and Cultural safety, in order to respond to growing acknowledgement of the need for trauma-informed and culturally safe care in health services, and their importance for equity.
Theme: Research themes (understanding the impact of structural, organizational and contextual factors on performance)	
Impact of structural and contextual factors on the health system and health	Our capacity to measure structural factors is particularly limited with respect to available indicators and therefore most in need of indicator development. This area of work would help us to better understand how multiple social systems operate together to create environments that are damaging to or supportive of health. The current definition of structural factors emphasizes individual-level outcomes, rather than looking at the social systems perspective.
Impact of organization culture on patient and caregiver experiences with continuity of care	This is very applicable across the spectrum of care and all sectors, but it may be more difficult to obtain assessment information from smaller organizations (e.g., small primary care providers). Indicators in this area would provide information that could be used to improve service quality and patient experience and that could reflect the impact of engagement on organizational performance and patient outcomes.

Concluding remarks

The state of health and health system performance indicator reporting has evolved significantly since the first National Consensus Conference on Population Health Indicators in 1999. This fourth Consensus Conference, coming toward the end of CIHI's three-year HSP initiative to provide better structure and coordination to CIHI's pan-Canadian performance reporting, provided CIHI, Statistics Canada and our stakeholders with an opportunity to re-examine our current suite of indicators and develop priorities for new indicators to fill the key gaps in our performance measurement framework. The conference also provided an opportunity to consider which currently reported indicators are no longer as relevant in light of health system improvement priorities across the country, and whether these indicators could be retired to focus on emerging priority themes.

While the conversation at the conference was wide-ranging, a number of consistent priority themes for new indicator development were identified across all four quadrants of health system performance. The post-conference working group gave participants an opportunity to roll up their sleeves and consider what kinds of indicators within these themes would be most useful to them.

CIHI and Statistics Canada now have the job of working through the list developed by the post-conference working group to determine which indicators might be doable within their strategic plans and mandates over the next few years and how to best work with other organizations that could support the development of some of the indicators.

Appendices

Appendix A: Conference participants

Conference participant	Organization
Adalsteinn (Steini) Brown	Institute of Health Policy, Management and Evaluation, University of Toronto
Alan Katz	Manitoba Centre for Health Policy
Alima Alibhay	Institute of Health Services and Policy Research, Canadian Institutes of Health Research
Andrew Wray	Patient Safety and Quality Council (British Columbia)
Ash Damji	Ministry of Health and Long-Term Care (Ontario)
Bernadette MacDonald	Accreditation Canada
Brent Diverty	CIHI
Brie DeMone	Manitoba Health
Bryany Denning	Government of the Northwest Territories
Christine Grimm	Nova Scotia Department of Health and Wellness
Cory Neudorf	Saskatoon Health Region
Cynthia Damba	Toronto Central Local Health Integration Network
Dan Skwarchuk	Winnipeg Regional Health Authority
Danielle Martin	Women's College Hospital
Deborah Malazdrewicz	Manitoba Health, Healthy Living and Seniors
Doug Manuel	Ottawa Hospital Research Institute
Elizabeth Lin	Centre for Addiction and Mental Health (CAMH)
Eugene Wen	Workplace Safety and Insurance Board (WSIB)
Gary Teare	Health Quality Council (Saskatchewan)
Georgina MacDonald	CIHI
Glenn Kissmann	Interior Health Authority, British Columbia
Heather Bryant	Canadian Partnership Against Cancer
Imtiaz Daniel	Ontario Hospital Association/University of Toronto
Irfan Dhalla	Health Quality Ontario
Jean-Frédéric Lévesque	Bureau of Health Information, New South Wales, Australia
Jeremy Veillard	CIHI
John Quince	Alberta Health
Josée Bégin	Statistics Canada
Julie Soucy	Ministère de la Santé et des Services sociaux du Québec
Karima Velji	Canadian Nurses Association
Kaye Phillips	Canadian Foundation for Healthcare Improvement (CFHI)
Kerry LeFresne	Newfoundland and Labrador Centre for Health Information
Kim McGrail	Centre for Health Services and Policy Research (CHSPR), University of British Columbia
Kim Stelmacovich	Canadian Patient Safety Institute

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Conference participant	Organization
Lori Mitchell	Winnipeg Regional Health Authority
Lynn Barr-Telford	Statistics Canada
Marian Walsh	Bridgepoint Active Healthcare, Ontario
Mark Chase	Vancouver Coastal Health
Martin Lemire	Statistics Canada
Michael Cohen	Queensway Carleton Hospital
Michael Kary	British Columbia Care Providers Association
Michael Schull	Institute for Clinical Evaluative Sciences (ICES)
Michelina Mancuso	New Brunswick Health Council
Mireille Lanouette	Vitalité Health Network
Nancy Roberts	New Brunswick Department of Health
Nick Grant	British Columbia Ministry of Health
Niek Klazinga	Organisation for Economic Co-operation and Development
Rukshanda Ahmad	Public Health Agency of Canada
Sabrina Kinsella	Yukon Health and Social Services
Sabrina Wong	University of British Columbia
Sacha Bhatia	Choosing Wisely Canada
Sharon Lehr	Eastern Health, Newfoundland and Labrador
Sheena McRae	Acute and Emergency Services Branch, Saskatchewan Health
Stephen Vail	Canadian Medical Association
Steven Lewis	Access Consulting Ltd.
Sylvain Paradis	Health Canada
Tim Cooke	Health Quality Council of Alberta
T. Lawson Greenberg	Statistics Canada
Una Hassenstein	Health PEI
Wendy Kolodziejczak	Northumberland Hills Hospital
Wendy Levinson	University of Toronto

Appendix B: Conference program at a glance

Program at a Glance

Wednesday, October 15

8 a.m.–4 p.m.	**Conference Registration | Foyer**
8–9 a.m.	**Breakfast | Balmoral**
9–9:20 a.m.	**Welcome and Opening Plenary | Guildhall A/B** *David O'Toole* President and CEO, CIHI *Lynn Barr-Telford* Director General, Health, Justice and Special Surveys Branch, Statistics Canada
9:20–10:30 a.m.	**Indicator Fest | Guildhall A/B** *Terry Sullivan* President, Terry Sullivan and Associates
10:30–10:45 a.m.	**Break | Balmoral**
10:45–11:45 a.m.	**Indicator Fest | Guildhall A/B** *Terry Sullivan*
11:45 a.m.–12:15 p.m.	**International Perspective on Indicator Research and Development | Guildhall A/B** *Niek Klazinga* Professor of Social Medicine, Academic Medical Centre, Netherlands; and Head, Health Care Quality Indicators Project, OECD Health Division, OECD
12:15–1 p.m.	**Lunch | Balmoral**
1–1:15 p.m.	**Health System Performance Framework | Guildhall A/B** *Jeremy Veillard* Vice President, Research and Analysis, CIHI
1:15–2 p.m.	**Discussion 1: Health System Outcomes | Guildhall A/B** *Jean-Frédéric Lévesque* Chief Executive Officer, Bureau of Health Information, New South Wales, Australia
2–2:45 p.m.	**Discussion 2: Health System Outputs | Guildhall A/B** *Niek Klazinga*
2:45–3:05 p.m.	**Break | Balmoral**
3:05–3:55 p.m.	**Discussion 3: Health System Inputs and Characteristics | Guildhall A/B** *Steven Lewis* Adjunct Professor of Health Policy, Faculty of Health Sciences, Simon Fraser University, British Columbia; and President, Access Consulting
3:55–4:40 p.m.	**Discussion 4: Social Determinants of Health | Guildhall A/B** *Doug Manuel* Senior Scientist, Clinical Epidemiology, Ottawa Hospital Research Institute
4:40–5 p.m.	**Day 1 Closing | Guildhall A/B** *Jeremy Veillard*
5 p.m.	**Dinner | Balmoral**

Thursday, October 16

7:30–8:25 a.m.	**Breakfast | Balmoral**
8:25–8:40 a.m.	**Welcome and Opening | Guildhall A/B** *Terry Sullivan*
8:40–9:40 a.m.	**Keynote Panel Presentation: Perspectives on Measurement Impact | Guildhall A/B** *Steven Lewis* *Adalsteinn Brown* Director, Institute of Health Policy, Management and Evaluation; and Chair, Public Health Policy, Dalla Lana School of Public Health, University of Toronto *Dr. Danielle Martin* Vice-President, Medical Affairs and Health System Solutions, Women's College Hospital *Wendy Kolodziejczak* Project Manager, Partners Advancing Transitions in Healthcare (PATH), Northumberland Hospital
9:40–10 a.m.	**Break | Balmoral**
10–11:20 a.m.	**Concurrent Working Groups: Identify Priority Areas for Future Indicator Development** *Working Group 1: Social Determinants of Health | Guildhall A/B* Moderator: Doug Manuel *Working Group 2: Health System Inputs and Characteristics | Garden Room* Moderator: Steven Lewis *Working Group 3: Health System Outputs | Westminster Room* Moderator: Niek Klazinga *Working Group 4: Health System Outcomes | Humber Room* Moderator: Jean-Frédéric Lévesque
11:20–11:40 a.m.	**Break | Balmoral**
11:40 a.m.–12:40 p.m.	**Consensus Discussion | Guildhall A/B** *Terry Sullivan*
12:40–1:30 p.m.	**Lunch | Balmoral**
1:30–2:50 p.m.	**Concurrent Working Groups: Identify Indicators for Development** *Working Group 1: Social Determinants of Health | Guildhall A/B* Moderator: Doug Manuel *Working Group 2: Health System Inputs and Characteristics | Garden Room* Moderator: Steven Lewis *Working Group 3: Health System Outputs | Westminster Room* Moderator: Niek Klazinga *Working Group 4: Health System Outcomes | Humber Room* Moderator: Jean-Frédéric Lévesque
2:50–3:10 p.m.	**Break | Balmoral**
3:10–4:10 p.m.	**Consensus Discussion | Guildhall A/B** *Terry Sullivan*
4:10–4:40 p.m.	**Summary: Implications for Priorities in Data Development | Guildhall A/B** *Brent Diverty* Vice President, Programs, CIHI *Lynn Barr-Telford*
4:40–5 p.m.	**Closing Remarks | Guildhall A/B** *Jeremy Veillard* *Lynn Barr-Telford*
5 p.m.	**Adjourn**

Appendix C: List of indicators recommended and retired

Health indicators	Pre-conference survey; percentage agreed to retire	Retired pre-conference	Computer-assisted voting at conference: percentage agreed to retire
28-day readmission after hysterectomy	80.2%	Yes	
28-day readmission after prostatectomy	82.0%	Yes	
90-day readmission after hip replacement	71.7%	Yes	
90-day readmission after knee replacement	72.7%	Yes	
28-day readmission after stroke	57.7%		72.6%
28-day readmission after acute myocardial infarction (facility-based)	58.7%		82.4%
Use of coronary angiography following acute myocardial infarction	77.7%	Yes	
Primary Caesarean section rate	56.6%		97.0%
Hip fracture surgical procedures performed within one facility (48 hours)	71.7%	Yes	
Financial indicators	**Pre-conference survey; percentage agreed to retire**	**Retired pre-conference**	**Computer-assisted voting at conference: percentage agreed to retire**
Total margin	81.1%	Yes	
Current ratio	81.3%	Yes	
Information systems expense as a percentage of total expense	61.7%		90.5%
Average age of equipment	73.2%	Yes	
Labour rate adjusted cost per weighted case	64.0%		87.1%
Unit-producing personnel (UPP) worked hours for patient care functional centres as a percentage of total worked hours	68.2%		93.1%
Total worked hours for patient care functional centres as a percentage of total worked hours	64.1%		96.6%
Nursing inpatient services UPP worked hours per weighted case	64.4%		81.8%
Nursing inpatient services total worked hours per weighted case	60.4%		87.2%
Diagnostic services UPP worked hours per weighted case	69.8%		94.7%
Diagnostic services total worked hours per weighted case	69.7%		96.7%
Clinical laboratory UPP worked hours per weighted case	72.1%	Yes	
Clinical laboratory total worked hours per weighted case	71.6%	Yes	
Pharmacy UPP worked hours per weighted case	73.6%	Yes	
Pharmacy total worked hours per weighted case	73.0%	Yes	

Appendix D: Post-conference working group members

Post-conference working group member	Organization
Beth Jackson	Public Health Agency of Canada
Brenda Tipper	CIHI
Brent Diverty	CIHI
Cory Neudorf	Saskatoon Health Region
Douglas Yeo	CIHI
Doug Manuel	Ottawa Hospital Research Institute
Elizabeth Lin	Centre for Addition and Mental Health (CAMH)
Éric Fournier	Ministère de la Santé et des Services sociaux du Québec
Glenn Kissmann	Interior Health Authority, British Columbia
Imtiaz Daniel	Ontario Hospital Association/University of Toronto
Jennifer Ali	Statistics Canada
Jeremy Veillard	CIHI
Josée Bégin	Statistics Canada
Joseph Emmanuel Amuah	CIHI
Kaye Phillips	Canadian Foundation for Healthcare Improvement (CFHI)
Kerry Kuluski	Bridgepoint Active Healthcare, Ontario
Kerry LeFresne	Newfoundland and Labrador Centre for Health Information
Kira Leeb	CIHI
Lynn Barr-Telford	Statistics Canada
Marian Walsh	Bridgepoint Active Healthcare, Ontario
Mark Chase	Vancouver Coastal Health
Michael Hunt	CIHI
Ross Upshur	Bridgepoint Active Healthcare, Ontario
Rukshanda Ahmad	Public Health Agency of Canada
Sara Grimwood	CIHI
Sharon Lehr	Eastern Health, Newfoundland and Labrador
Shirley Bryan	Statistics Canada
Una Hassenstein	Health PEI
Wendy Kolodziejczak	Northumberland Hills Hospital

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Cette publication est aussi disponible en français sous le titre *Repenser, renouveler, retirer : rapport de la quatrième Conférence consensuelle sur l'évaluation des priorités relatives aux indicateurs de santé au Canada*.

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