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10 years of Health Indicators:

Taking the pulse

How healthy are Canadians and their health care system? It was 10 years ago that CIHI and Statistics Canada set out to answer those two critical questions. Since 1999, we have worked together, developing a broad range of health indicators for regions across the country. Every year, with every new indicator, we're able to better gauge how Canadians and their health system are faring.

Just what is an indicator? It's a single measure that captures a key dimension of health, such as how many people have heart attacks or break their hips. It can also capture dimensions of the system, such as how often patients return to hospital for care after being treated.The first *Health Indicators* report was released in 2000. It included 13 indicators, providing the first-ever comparative data on a range of measures for Canada's 63 largest health regions, as well as the provinces and territories. The goal was to provide objective and up-to-date information to allow evidence-based decision-making, inform health policy, better understand determinants of health and identify gaps in health status and outcomes.

Today the report includes more than 40 indicators—with more slated to be added each year. They offer a critical pan-Canadian perspective, which can help improve care locally. They're also a flag that something may be going on—that it's worth delving deeper. As you will read in this issue of *Directions*, this is data that has made a difference. Indicators allow us, as Canadians, to take the pulse of our system and, in health care, monitoring this vital measure is always a good thing.

In this issue

Canadian Institute for Health Information
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From our interim president

Throughout the 1990s, there was an international movement towards measurement in health care, recognizing the importance of data in decision-making. When CIHI released *Health Indicators* in 2000 in partnership with Statistics Canada, although we were still a relatively new kid on the block, we stepped up to the plate.

The report marked an important step in helping improve care across the health system through evidence-based decision-making. It contained the first comparable, pan-Canadian indicators at the health-region level, which allowed provinces to compare their performance with others. Regions could do the same, something they'd never had the ability to do before on a national scale. Up until then, there were few vehicles available for widespread comparisons.

Behind these indicators were strong and validated methodologies. We took great pains to ensure the data was solid and confounding factors eliminated. These were indicators backed by evidence.

Over the years, our inventory of indicators has expanded to meet growing information needs. New indicators reflecting resource use, health outcomes, wait times and patient safety have been introduced. Today, they're used by health ministries, regions, hospitals, researchers and front-line care providers to drive change across the health care system.

The report itself has evolved from a slim insert in CIHI's yearly flagship *Health Care in Canada* into an established annual report with an increasing number of indicators reported at regional, provincial and national levels.

Perhaps most exciting are the tremendous opportunities that lie ahead. Our focus is on collecting nationally comparable data and we look forward to continually expanding the usefulness of *Health Indicators* to meet the growing needs of our partners. Our job is to ensure this data is available to help those running the health care system face new challenges and meet goals with strong evidence.

Indicators shed light on an aspect of population health, a disease or treatment which is amenable to change. There are things that can be done to move an indicator up or down, to lead to improvements—and generally, we know what those are. What we also know is that you can only truly gain perspective about how you're doing by comparing yourself to others—or with yourself over time. We believe it is an important way to improve the quality and safety of care, ensure best practices and make the most of precious health care dollars.

Equally critical is our role to facilitate increased openness through information. Although we can't make everyone use indicators, we have a responsibility to develop data that is meaningful for the health system, so that we can fulfill our mandate to improve the health of the health care system and the health of Canadians.

Anne McFarlane
Interim President and Chief Executive Officer

Board of directors

The indicator evolution

It can take between a year and 18 months for an indicator to be created, tested and reported. That's because a great deal of thought and effort go into deciding which measures will make the cut.

It's not a decision CIHI makes alone. Indicators are born out of consensus. From the very beginning, their purpose has been to reflect the information needs of their users—decision-makers, health system managers, health professionals and the public.

To gain a better understanding of those needs, in 1999 CIHI and Statistics Canada held the first Consensus Conference on Population Health Indicators, in cooperation with representatives from health regions, ministries of health, hospitals, researchers and Health Canada.

Participants decided on an initial set of indicators that could be compiled from existing data sources and agreed on an indicators framework that is used to this day. Since then, two more consensus conferences have been held to identify new challenges and priorities, and the number of indicators in the report has grown to more than 40. Following the most recent conference in March, the 2010 report will focus on health disparities related to factors such as income. In 2011, new mental health indicators are planned.

"Our stakeholders provide direction and advice for the development of our indicators," says Indra Pulcins, CIHI's Director of Indicators and Performance Measurement. "We respond to what the system needs to better understand the health of the population and improve the delivery of services to all Canadians."

When new indicators are developed, our regional, provincial and territorial partners are consulted about issues ranging from definitions and technical details to reviewing indicator results. This feedback is integrated into revisions and improvements.

Because indicators are only as good as the data that populates them, CIHI has a comprehensive and systematic data quality program that ensures five dimensions of quality are met: accuracy, comparability, timeliness, usability and relevance.

It's not easy to make sure data from so many different sources is comparable on a pan-Canadian level, however. And with the bar set so high, many indicators are rejected as a result of data quality issues for every one we take on.

"The process is always tough for any new measure because we're filling gaps," says Eugene Wen, CIHI's Manager of Health Indicators. "We need to ensure that they are useful, the methodology sound and the underlying data reliable and accurate."

Facts-at-a-glance

- The rate of patients admitted to hospital for a heart attack in Canada dropped 13% between 2003–2004 and 2007–2008.
- Over the same time period, deaths in hospital within 30 days of admission for a heart attack dropped 11%.
- The rate of stroke decreased 14% in the last five years.
- The risk of dying in hospital within 30 days of admission for a stroke did not improve over this same period. Mortality rates remained at 18%, almost double the risk of dying in hospital from a heart attack.
- The three most common reasons for injury hospitalization for those younger than 65 in 2007–2008 were falls (39%), transport collisions (23%) and assaults (9%).
- Between 1998–1999 and 2007–2008, the rate of hip fractures sustained in the community dropped by 21%.
- The rate of babies born by Caesarean sections increased nearly 25% between 2001–2002 (22.5%) and 2007–2008 (27.7%).

Source
Canadian Institute for Health Information, *Health Indicators 2009* (Ottawa, Ont.: CIHI, 2009).

Indicators come into their own

In the beginning, the biggest challenge around indicators wasn't developing them. It was getting people to use them.

A decade ago, when the inaugural *Health Indicators* report was released, it marked the first time comparable pan-Canadian indicators were available at the health-region level. Initially, however, there was some convincing to do, says Eugene Wen, CIHI's Manager of Health Indicators.

"They were new, there weren't many of them and people were only starting to recognize the need for and the value of using measurements to support decision-making to improve care."

In addition to press conferences, interviews, presentations to conferences and workshops, Wen says they recognized that partners and stakeholders needed knowledge and the capacity to use indicators. CIHI staff started providing analysts, coders, decision-support teams and management in health regions and hospitals with hands-on knowledge. To this day, CIHI remains committed to supporting our users, both in person and through elearning.

"Although we provide the most current and useful data for quality improvement, it's always up to our stakeholders to make their own decisions using our health indicators," Wen says.

Today, while there is still work to be done, getting our partners to use indicators is not as much of an issue. They have been adopted as part of regional or provincial performance agreements and system report cards. Many jurisdictions use them to identify priority areas for more in-depth analysis. Others use them to identify problems, and more than once indicators have proven to be a catalyst for change.

"We're very proud that health regions are using these indicators to improve care," says Indra Pulcins, CIHI's Director of Indicator and Performance Measurement. "By themselves, indicators don't provide all the answers; they point out areas that need attention. It's up to health regions to dig deeper and determine what's driving their numbers and identify if and where improvements need to be made—and they are."

> It's not just about doing work to serve our clients. We also make sure our measures are on the leading edge—nationally and internationally.

CIHI extends its indicator work beyond the production of the annual *Health Indicators* report. Our framework has been accepted by the International Standards Organization as a technical specification for guiding indicator development. It was also adapted for use in Australia and elsewhere. Recently, representatives from ministries of health in Singapore and China visited CIHI to learn more about developing national indicator systems. We've also given indicator workshops in Beijing and provided advice on Belgium's performance management system. In Australia, work is under way to develop the hospital standardized mortality ratio (HSMR), an indicator developed in the U.K. and adapted for use in Canada by CIHI. Australia is learning from our experience in its HSMR development.

"CIHI is well regarded in international indicator work," Eugene says, noting it's very much a two-way street that benefits CIHI as well. "It's not just about doing work to serve our clients. We also make sure our measures are on the leading edge—nationally and internationally."

Dr. Eric Bohm
WRHA

Data helps heal hips faster

For three years in a row, CIHI's annual *Health Indicators* report showed that hip fracture patients in the Winnipeg Regional Health Authority (WRHA) were waiting longer for surgery than in most other Canadian health regions.

"Although we have one of the lowest rates of hip fracture on a population basis, we have one of the worst rates of getting them to the operating room within 72 hours," says Dr. Mike Moffatt, WRHA's Executive Director of Analysis and Research Support.

Although doctors had raised the issue before, CIHI's reports caught the attention of senior management of the region and Manitoba Health and Healthy Living. Now work is under way to reduce wait times to repair broken hips, as research shows longer waits can increase the risk of complications and death.

To stress the need for timely procedures, the health authority has held continuing education sessions for staff. The long-standing practice of easing patients off blood thinners and working to stabilize other health issues before surgery has also changed, as evidence shows hip fracture patients have better results if surgery is sooner, rather than later, regardless of blood thinner use.

The region also developed a real-time information system to provide information about hip fracture patients waiting at every facility across the region. Surgery slates were reorganized and new guidelines developed to reclassify hip fracture patients when their surgery is bumped by urgent procedures. The following day, they now go to the top of the list, says Dr. Eric Bohm, Chair of WRHA's orthopedic standards committee and medical advisor to its orthopedic wait list.

While the efforts of the last 18 months didn't show up in this year's *Health Indicators* report, he says they're seeing shorter waits in their internal tracking.

"I'm quite optimistic. This is exactly the kind of stuff CIHI should be doing. This is what causes changes within the system."

One size does not fit all

Delivering health care in Canada's territories and northern rural regions brings unique challenges. The land mass is vast and the population sparse, which makes it difficult to provide specialty and surgical services in all but the largest regional centres. Of particular concern for health system managers is the difficulty of using indicators as a measure of health status and health system performance.

Indicators, by their nature, require a certain sample size to be reliable. This is why some regions with very low populations can't be reported publicly. We also suppress reports where the number of discrete cases is fewer than five, out of consideration for privacy and confidentiality.

"Health system mangers in the northern and rural areas have the same need for informed decision-making as those in more populated regions, but the indicators we provide often don't reflect their small population size," says Art McIntyre, CIHI's Manager of Client Affairs for Western Canada.

This is one of the reasons CIHI created the Sparsely Populated Health Authorities Panel in late 2006, with the goal of helping these areas improve data capture and quality, and examine the possibility of adapting existing indicators to their regional circumstances.

CIHI has presented workshops on data sources and indicators and looked at using new tools, such as CIHI Portal, to establish communities of practice among these regions.

We're also talking with system leaders, researchers and practitioners to identify data sources and indicator sets which would be applicable to rural and remote settings.

Beyond the report

CIHI's indicator work doesn't begin and end with what's published annually in our *Health Indicators* report. Our analytical teams also produce a wide variety of other measures, reported on a quarterly basis to health planners and providers. These go beyond acute care and hospitals to mental health services and across the continuum to home and continuing care.

Organizations CIHI has partnered with include interRAI, a collaborative network of researchers in more than 30 countries committed to improving health care for the elderly, frail and disabled; the Uniform Data System for Medical Rehabilitation, a group that leads functional assessment research and practice for rehabilitation services in the United States and beyond; as well as the Organisation for Economic Co-operation and Development.

Many of our data holdings and reporting systems include indicators on clinical characteristics, functional outcomes and system integration.

"We have some amazing health indicators through our collaboration with interRAI. We look at many domains of quality, including safety, emotional well-being, nutrition, medications, pain, cognitive function and quality of life," says Nancy White, CIHI's Manager of Home and Continuing Care Development.

"The beauty is that there's international research behind these indicators, and the assessments that feed into the measures also support delivery of seamless interdisciplinary care."

Indicators across CIHI data holdings and reporting systems are used for various management purposes across sectors within the health system and may focus on a particular disease or patient group. The *Health Indicators* report showcases those for which the comprehensiveness and coverage of data across the country warrant inclusion in annual regional-level reporting.

A proactive approach

Not all indicators measure what's happened in the past. They can also serve to flag potential risks to better manage care in the future. interRAI has analyzed the assessments of millions of home care clients and long-term care residents to identify factors leading to undesirable outcomes. The goal? Avoid bad things before they happen.

interRAI Clinical Assessment Protocols (CAPs), released by CIHI for use in home and community care settings, provide evidence-based decision support. For clinicians, it's real-time information on risks and quality issues to support individual care planning. For managers, it's insight into the effectiveness of services.

The Institutional Risk CAP flags home care clients who have an increased risk of needing institutional care with the goal of preventing or delaying it. Institutionalization can be costlier to the system and disruptive for those who want to keep living at home.

In 2007–2008, CIHI analyzed more than 240,000 home care client assessments from Nova Scotia, the Winnipeg Regional Health Authority, Ontario and the Yukon. Nearly 40% of them would have triggered the CAP, meaning they were at risk of institutionalization. The majority had difficulty with locomotion and transfers, cognition, communication and personal hygiene.

The data confirmed that home care clients flagged by the CAP needed more informal support from loved ones and had caregivers showing signs of distress. They also used more formal home care services and were more likely to have hospital admissions and emergency department visits.

"CAPs are valuable for front-line care because they highlight risks in real time, including falls or medication problems, and they flag potential to improve while there is still a chance to intervene and avoid a problem," says Nancy White, Manager of Home and Continuing Care Development. "They are important indicators to identify at-risk populations and target services."

CIHI will begin reporting CAPs data this fall through our new Home and Continuing Care eReports.

Data leads to drop in restraint and drug use

When a flag is waving, there's usually a reason. Recently, Saskatchewan submitted interRAI assessment data from nursing homes across the province to CIHI's Continuing Care Reporting System (CCRS). Prior to submitting this data, quality indicators (QIs) generated by these assessments sent up several red flags, alerting staff to the fact there were areas where things might be done better.

Continuing care staff in one of the larger health regions reviewed their QIs and zeroed in on the use of anti-anxiety and hypnotic drugs, which can pose risks for some residents. The region conducted medication reviews with physicians, pharmacists and nursing staff. These efforts led to a dramatic decrease in the use of these drugs, from 25% to 10%, in 18 months.

In another region, there was a sense that the daily physical restraint use rates might be high, so staff reviewed care plans and developed a protocol for restraint use. Within a year, restraint use dropped from 35% to 20%.

"Without the interRAI tools, this would have been a difficult process," says Roger Carriere, Executive Director, Community Care Branch with the Saskatchewan Ministry of Health. "Some facilities will argue that their rates are high because their clients are different. What always helps is the ability to show them a facility or jurisdiction with like clients," he says. "It's hard to argue with this data."

Roger says CCRS will allow them to compare the province's indicators with jurisdictions across the country.

"This might flag for us that we have a culture of heavy restraint use here. Without benchmarking, there is nothing to say that the lowest rates in Saskatchewan are the best," he says. "This will allow us to ask why others might be doing better on this indicator and determine if they are using best practices we should be looking at."

Although it is still early days, he says evidence-based decision-making has been empowering. "It's had an impact on how regions and nursing homes look at the care they provide and how they can improve it," he says. "It's pretty exciting stuff actually. You're assessing residents, you're planning care and you're monitoring quality, all from the same information."

Three reporting systems at CIHI use interRAI assessments as part of their data standards.

The Continuing Care Reporting System captures information on individuals in nursing and long-term care homes, as well as hospital continuing care units. Our Home Care Reporting System captures similar data from publicly funded home care services, while the Ontario Mental Health Reporting System gathers clinical, administrative and resource data on all individuals in adult inpatient mental health beds in Ontario.

These CIHI–RAI reporting systems are designed to help managers, clinicians, policy-makers and researchers plan services, allocate resources, monitor care and improve system-wide service delivery. They also allow for comparisons and benchmarking using quality indicators available to all participating organizations every quarter.

CIHI's new website to be live by year's end

Over the years, CIHI's website has become the primary portal to the wealth of data in our holdings. To improve our clients' and stakeholders' access to the information they need, when they need it, we set out last fall to redevelop our website and create a more user-friendly portal.

By the end of the year, an entirely redesigned site will be unveiled, showcasing a new look and feel, easier navigation and new tools and applications to provide timely and accurate information to all.

To ensure this site would meet the needs of the health care community, CIHI consulted with our partners across the country and web design experts to develop a stronger technological platform and create a new governance structure. Listening to what they had to say, we built a new navigation strategy and design, offering additional functionality and a new single sign-on system for our clients. Over the last few months, we validated our design through testing with a number of users who provided feedback on our site. Results have shown we're on the right track.

"The results of our tests were fantastic," says Scott Murray, CIHI's Chief Information Officer. "Users were able to quickly find the information they were looking for and found the site to be a refreshing departure from its predecessor. We're excited by the possibilities this new site will provide for the organization as much as for our health partners and the public."

The new site is expected to go live in December. Stay tuned!

Where you'll see CIHI next!

September

17–18 Portal User Conference 2009
Ottawa, Ontario

21–22 Data Users Conference 2009
Crowne Plaza Hotel
Ottawa, Ontario

October

18–21 CAPHC 2009 Annual Meeting
Halifax, Nova Scotia

22–24 Halifax 9: The Canadian Healthcare Safety Symposium,
The Sheraton Centre
Montréal, Quebec

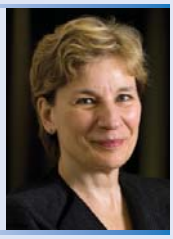
23 McGill Nursing Explorations 2009
Centre Mont-Royal
Montréal, Quebec

November

14–18 37th NAPCRG Annual Meeting
The Sheraton Centre
Montréal, Quebec

Transitions

After five years of service, **Glenda Yeates**, President and CEO, has moved to Health Canada as associate deputy minister, effective May 1. During her time with us, Glenda was instrumental in our success and we thank her for her very meaningful contributions to both CIHI and the health sector in general. On a personal level, while the organization is very happy for her and this new opportunity, her friendly, open demeanour and easy laugh will certainly be missed.



While we search for Glenda's replacement, **Anne McFarlane** is the Interim President and CEO. Anne has been CIHI's executive director, Western Canada, for more than five years. During that time, she established the Western Office—the organization's first regional bureau—and built a team focused on ensuring the organization's products and services meet the needs of the health systems in the west and the territories.

Anne has more than 20 years of experience in the health and social service sectors, having held senior management roles with the British Columbia Ministry of Health Services and the Health Services Utilization and Research Commission of Saskatchewan. She's also served in advisory roles with the Canadian Institutes of Health Research's Institute of Health Services and Policy Research and the Canadian Cochrane Centre.

Helen Angus has left her position as vice president of Research and Analysis at CIHI to take on a new and exciting opportunity with Cancer Care Ontario. It was a homecoming of sorts, as Helen spent seven years with the agency in a variety of roles before joining CIHI in December. Although with us for a relatively short time, Helen had a positive impact on the organization by seeking better ways to identify analytic questions, streamlining the process of answering them, as well as helping to coordinate the development and roll-out of our analytic plan. We wish her the best in her new career endeavours.

Credits

CIHI Directions ICIS is published by the Canadian Institute for Health Information (CIHI). CIHI collects and analyzes information on health and health care in Canada and makes it publicly available. For comments, suggestions or additional copies of this publication, in English or French, please contact the editor, at:

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