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Canadian Institute for Health Information • Institut canadien d'information sur la santé
www.cihi.ca • www.icis.ca
Vol. 17, No. 1 • Winter 2010
ISSN-1201-0383

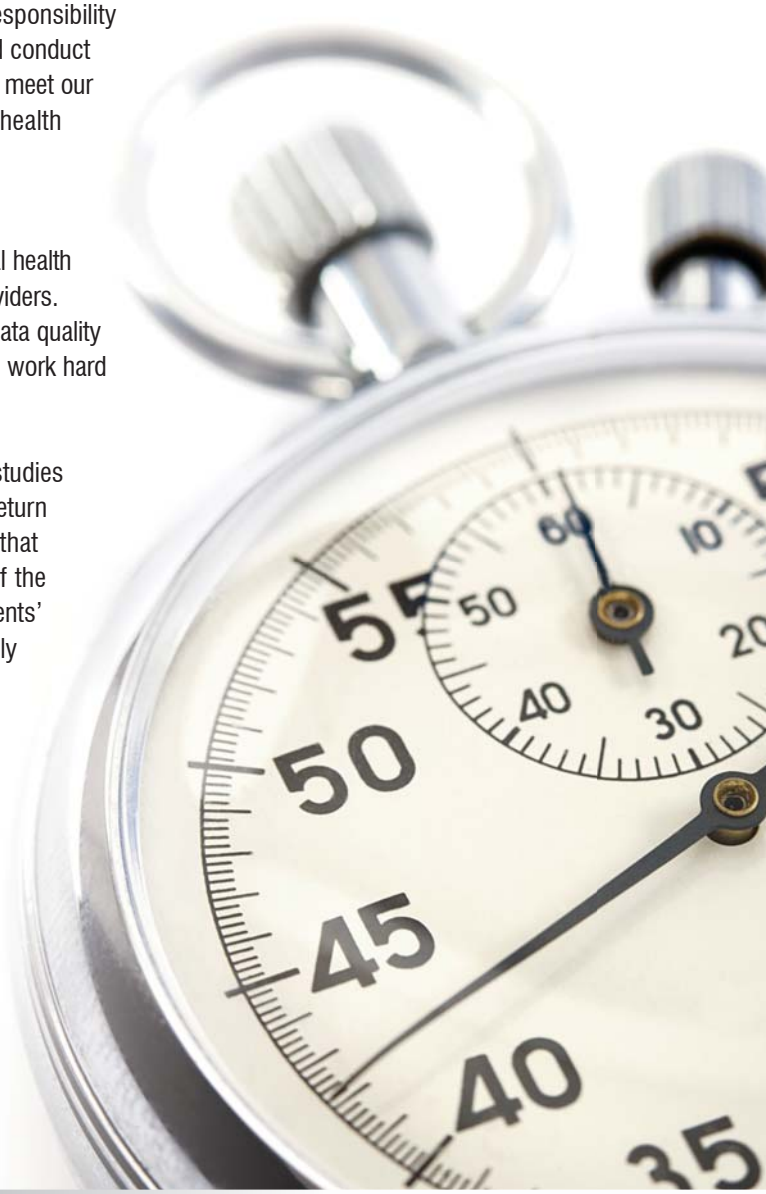
Timely data, quality care . . .

Data is an asset for any organization. When your core business is health information, that importance is amplified. At CIHI, quality is our priority. Decisions about the health care system are based on the information we glean from it—and that's a responsibility we take to heart. Consequently, we set high standards for data collection and conduct regular and rigorous reviews of our work. We consider these critical for us to meet our mandate of providing timely, accurate and comparable information to inform health policies, support the delivery of health services and raise awareness among Canadians about the factors that contribute to good health.

Our stakeholders include health system planners, ministries of health, regional health authorities, health professional associations, researchers and health care providers. Because the scope and magnitude of their decisions are ever-increasing, data quality requirements and challenges have grown accordingly. As a result, we have to work hard to ensure that our data is fit for their use.

In addition to our corporate Data Quality Framework, we use reabstraction studies to assess the quality of the data in select data holdings. This means we return to the original source of information, such as a patient chart, and compare that with what is housed in our holding. We also recently completed a study of the Canadian Organ Replacement Register (CORR) to see whether dialysis patients' medical conditions, aside from kidney disease, are being captured accurately and given the appropriate codes in the database.

This issue of *Directions* focuses on our recent efforts to increase both the quality and timeliness of our information. To remain a trusted custodian of quality pan-Canadian health data, we have to make sure we're getting it to those who need it as quickly as possible. The health care system runs 24 hours a day, 365 days a year. It has no downtime. It's our job to ensure the information needed to run it follows suit.



In this issue

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

From our President

John Wright is no stranger to numbers and data. He's studied economics, lectured on the subject and served as Saskatchewan's deputy minister of Health and deputy minister of Finance.

"As an economist, who doesn't love data?" he says. "You've got to love data!"

As CIHI's new President and CEO, this passion will serve him well. Wright took the helm last month and says he's excited to help the organization meet its goals of delivering reliable, timely and relevant data to improve the health care system and the health of Canadians. He's also looking forward to meeting staff in each of CIHI's offices, as well as our many stakeholders in the health care sector.

Looking ahead to what he believes are the most important challenges for health care in Canada, Wright says he is a huge champion of a country-wide system of electronic health records (EHRs) and appropriate health system use of the information in those records.

"I'm not sure if we're three, five or seven years out on this, but this is the one opportunity we have and if we don't get it right, we'll be looking back with much regret. Not only will we have missed the chance to improve front-line care, we'll have squandered the enormous potential of the EHR to determine best practices, monitor patient outcomes, as well as improve the overall management of the health system."

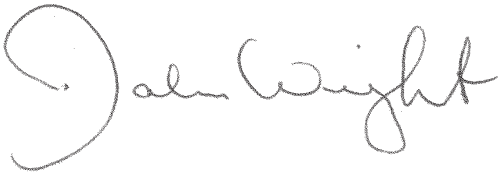
Wright holds a master's degree in economics from the University of Alberta and an honours bachelor of economics from the University of Western Ontario. He came to CIHI from the University of Regina, where he lectured in economics.

In addition to serving as deputy minister of Health and Finance in Saskatchewan, his 30 years of public-sector experience include time as president and CEO of several crown agencies, including SaskPower, Crown Investments Corporation and Saskatchewan Government Insurance.

"John brings experience and talent that will help CIHI continue to fulfill its mandate of providing essential data and analysis on Canada's health system and the health of Canadians," says Graham Scott, CIHI's Board Chair. "Under his leadership, CIHI will strive to keep building on its world-wide reputation as a premier source of accurate, comparable and timely health information."

After many years away, Wright is happy to be back in Ottawa. He hasn't lived here since graduating from high school in 1972—and he says although there have been many changes in the city, the winter slush and salt remain.

"Some things are constant," he laughs.



John Wright
President and Chief Executive Officer

Board of Directors

Looking to the past

to gauge today's pandemic

What kind of impact will H1N1 have on our health care system? Will it ultimately be worse than any other flu season?

CIHI's new Emerging Issues team is working hard to help answer these questions. As one of the more nimble arms of our organization, the group is gathering data to understand hospital admissions during past flu seasons, as well as to profile flu patients who became serious cases requiring intensive care and ventilators, or who died from complications.

Why look at the past? It's the best way to assess the current impact of H1N1. Manager Tracy Johnson and her team are studying variations in the use of acute care hospital services using 2007–2008 data as the baseline. As new data has come in, they've been making comparisons. "Our administrative data has allowed us to understand the context of what's happening now, compared to what's happened in the past, and to gauge the seriousness of what's happening now," Johnson says.

CIHI shared preliminary information from the analysis with other groups tackling H1N1, including the Public Health Agency of Canada (PHAC) and Health Canada. Valuable advice came from the Institut national de santé publique du Québec, the Ontario Agency for Health Protection and Promotion and the council of CIHI's Canadian Population Health Initiative.

Our Classifications team has been helping hospitals code data for H1N1, our MIS Standards team has been working to track costs and we'll be gathering statistics on anti-retroviral use for New Brunswick through the National Prescription Drug Utilization Information System Database.

Already, a comparison between the baseline year and PHAC's FluWatch data shows significantly more hospital admissions for H1N1 by the end of December than for flu admissions in all of 2007–2008. While this may be partly due to the fact there's more testing to identify H1N1, the data confirmed suspicions that H1N1 affects a younger age group.

"Overall, patients with H1N1 are more likely to need intensive care or require breathing assistance than we have seen in previous flu seasons," Johnson says.

As part of our commitment to our stakeholders, this timely information is all available on our website. We'll also be conducting further analyses to answer key questions.

Dimensions of quality

The foundation of meaningful health information is quality. At CIHI, we work hard to continuously improve data and information quality, both within our own organization and in the health sector. Our corporate strategy includes initiatives aimed at prevention, early detection and resolution of data issues. Quality is a collaborative effort, however. We work closely with our clients and data suppliers in the health care sector to meet their ever-growing data needs and to meet stakeholder expectations. At the very core, there are five dimensions of quality that drive the work we do:

ACCURACY: How well a data holding reflects the reality it was designed to measure.

COMPARABILITY: The extent to which databases are consistent over time and use standard conventions, such as data elements or reporting periods, making them similar to other databases.

TIMELINESS: How up-to-date the data is by measuring the gap between when the reference period for the data ends and when the data becomes available.

USABILITY: The ease with which data is understood and accessed.

RELEVANCE: The degree to which a data holding meets the users' current and future needs.

You can read about our complete data and information quality program in *Earning Trust* and *Earning Trust Three Years Later*, available at www.cihi.ca.

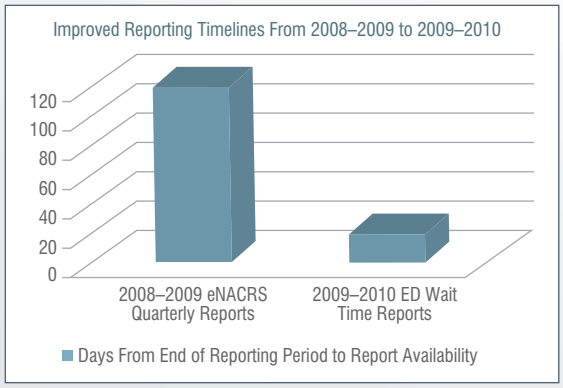
Reinventing NACRS

Front-line care providers asked and CIHI listened. In response to their feedback, last April we overhauled the National Ambulatory Care Reporting System (NACRS) to make it more responsive. In addition to improving the timeliness of reporting, we worked to reduce the burden of data collection on the facilities that submit data to us. We want to increase NACRS uptake across the country with the goal of filling information gaps in the areas of ambulatory and emergency care.

One of the first things we did was give facilities the option of submitting a shorter set of key elements from emergency department (ED) data already collected by hospital information systems. Linking this to the NACRS software reduces the data collection burden on hospitals and means data can be sent to NACRS sooner, within a few days of month end. These data elements allow us to report on new ED indicators developed as part of the NACRS innovation.

The indicators are

- Time to initial physician assessment
- Time from registration to a decision on disposition (for example, discharge home or admit)
- Time waiting for inpatient bed
- Total length of stay in ED



Last July, we released the first reports based on these indicators. They're available within three weeks of month end to all NACRS clients, giving hospitals valuable data on the previous month's ED wait times. They can be modified to meet user needs and generated by factors such as triage level, date and hospital.

The turnaround time for all other NACRS reports will also be dramatically shortened as of this coming June. Currently, NACRS produces quarterly reports, and it can take up to four months for hospitals to get that data. The redeveloped NACRS reports will be cumulative and produced monthly, so this information will also be available within three weeks of month end. Long waits for comparative information will be a thing of the past, says Cathy Davis, CIHI's Interim Director of Acute and Ambulatory Care Information Services.

"With the new reports in 2009, we've improved our reporting turnaround from a few months to a few weeks. This will enable hospitals to manage their resources with very recent information."

Why do these reports matter? Well, although the need is a pressing one, there is currently no source of nationally comparable ED performance indicators. Our goal is to fill this gap. There are more than 200 facilities reporting to NACRS, which represents about 10 million records a year. Although these facilities are primarily in Ontario, by April, 170 facilities in Alberta will start submitting ambulatory care data, representing more than 7.5 million abstracts. In March, the Winnipeg Regional Health Authority, which handles 75% of Manitoba's ED visits, will start submitting ED data.

Ontario began submitting ED data in 2000. By 2007, however, the province had built its own system with the intent of collecting data faster. It didn't make sense to have facilities collecting and submitting the same data twice to different entities, so we worked with the province to find a solution. Ontario is now in the process of winding its system down. As more provinces adopt NACRS, we expect to see the benefits of having nationally comparative ED-related indicators.

"Once the data gets out there, it provides a basis for comparing hospitals and learning from best practices," says Davis. "Why are patients waiting 24 hours in some facilities to get an inpatient bed whereas in others, they are placed within two to three hours? That's the whole benchmarking piece. Facilities will be able to see how they compare to others and make contacts with peers that have shorter wait times to identify how they can improve."

Ambulatory care is medical care delivered on an outpatient basis, which sees patients registered and discharged on the same day for things such as X-rays, biopsies, endoscopies and surgical follow-ups. It can be delivered in any number of settings, including the ED or a cancer clinic. NACRS accepts data on day surgery, ambulatory clinics and EDs.

The NACRS effect on the front lines

Ten years ago, no one had any idea how many people were showing up in Canada's emergency departments each year, let alone how long it was taking to treat them.

"We didn't know how busy we were nationally or the outcomes of patients in the past. We didn't have the system to tell us," says Dr. Brian Rowe, an emergency medicine professor at the University of Alberta. "You can't change what you can't see."

Holder of a Canada Research Chair, Rowe has written papers calling for more action from provinces and ministries to get a national registry for emergency departments (EDs).

"For a pretty important part of the health care system, we have very little information outside of Ontario and Alberta," he says. "One in three Canadians visits an ED every year for themselves or a close family member. That's a pretty impressive portion of the population. The more we know about it and what we can do to prevent the next presentation, the better."

Thanks to the improvements made to our National Ambulatory Care Reporting System (NACRS), Rowe is hoping to do just that. A member of the Canadian Association of Emergency Physicians, he and his organization served in an advisory capacity during the system's overhaul, along with the National Emergency Nurses Affiliation.

"Using vehicular analogies, what we want as doctors and nurses is the Bentley. NACRS was a Honda Accord, but it's moving towards being a BMW," Rowe says. "The last five or seven years there's been a lot of dialogue with CIHI, so it's moved along considerably."

The Bentley will come in the form of administrative data with disease-specific data collection enhanced with quality markers, Rowe says. When this happens, he's expecting the effects of better data will trickle all the way down to the front lines. For example, if a patient comes to the ED with general shortness of breath or non-specific chest pain, care providers will be able to use information from previous cases and learn from it: which patients were admitted, what interventions were used and what the outcomes were. This will help better identify diagnoses and treat patients sooner in the future.

"Take a headache patient that is sent home and comes back as a hemorrhage and dies," Rowe says. "We're clearly not doing that on purpose, so we want to make sure these records help improve the diagnosis of a headache."

He welcomes the new ED indicator reports, as they give hospitals a snapshot of how they're doing. And if CIHI can provide those, saving the need for hospitals to have analysts do it, all the better.

"People and institutions are relatively competitive, I've found. You give them information that shows how they compare to another group and they'll work to reduce any negative comparisons or emphasize their elevated position to staff and the community," he says. "I coach kids in soccer and the best thing to get them motivated is to put them in a competition. It's the same thing in health, but all the more so because we care about saving lives."

Tracking the gift of life

How many Canadians are on dialysis or waiting for organ transplants? How many life-saving transplants are being performed? The answers are coming more quickly than ever before.

When it comes to timeliness, our Canadian Organ Replacement Register (CORR) has come a long way in a relatively short time, having trimmed more than a year from its production schedule. The register receives both dialysis and transplant data, and instead of taking 25 months after year end to put out CORR's annual report, as was the case with 2005 data, the turnaround has dropped to 14 months after year end.

"Our goal is to get it down to 9 or 10 months for the 2009 data," says Claire Marie Fortin, Manager of Clinical Registries. CORR records, analyzes and reports on the level of activity and outcomes of vital organ transplantation and renal dialysis in Canada.

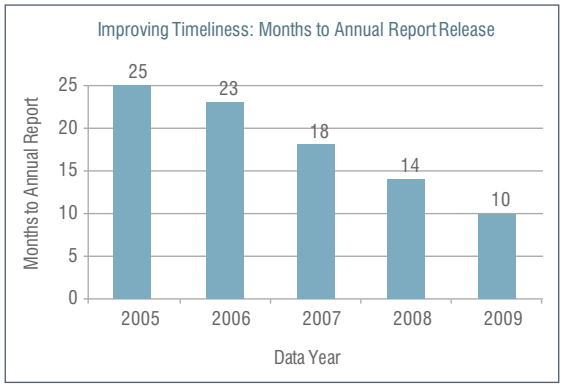
With most of the above times spent waiting for our partners at participating facilities to submit data, efforts to improve the timeliness of reports have been under way for the past few years. The CORR team has worked hard to help data providers understand that our ability to turn around reports more quickly is very much reliant on the rate at which they provide us with data.

"Submission to CORR is voluntary and that means we are very dependent on our clients," Fortin says. "We're only as strong as our weakest link, so we have to get everyone, including those in small facilities, to understand how important it is to get the data flowing."

Part of that education has been a quarterly campaign to remind clients to submit, says Bob Williams, CORR's Program Lead with Clinical Registries. "We're not assuming that the data is going to come. We're reminding them that the quarter is up."

Fortin says timely submission is critical to providing relevant information on which to base planning and policy decisions. "It's not useful to be publishing information two years later."

CORR is currently a paper-based register, but a project is under way that will see it accept electronic dialysis submissions next summer. The team developed a submission specification that will be provided to facilities so that they can develop systems to send data to us. "That's going to give data submitters another option for participating in CORR and will reduce some of our data entry burden," Fortin says. "We'll look at transplants after that, but I think we can still meet the 9- to 10-month target without it."



Apples to apples in home and continuing care

When making comparisons in the quality of patient care across health facilities, apples to apples is the ideal. Within continuing care, however, different facilities have very different resident populations with diverse needs: apples and oranges, so to speak.

A new generation of interRAI quality indicators (QIs) for the Continuing Care Reporting System (CCRS) is helping to better select the right aspects of quality of care to measure and account for these differences when making comparisons. Summary measures that flag potential risks or quality problems, QIs are used by nursing and long-term care homes and jurisdictions to identify trends, compare performances, target improvements, measure results, track progress and provide accountability.

The new QIs measure more dimensions of quality of care, including pain, communication, delirium and infections, and they better reflect the impact of care received. New risk adjustment methods account for individual resident risk factors and facility characteristics. This supports apples-to-apples comparisons across facilities, regions and jurisdictions.

Overall, this new set of QIs will allow for better measurement of quality in continuing care and for fairer comparisons between organizations and across Canada. They will be incorporated into the CCRS eReports in June.

PHC indicators:

Essential road signs on Manitoba's primary health care renewal journey

Dr. Mark Duerksen is a pioneer of the information age in family practice.

The President of the Steinbach Family Medical Center in Manitoba, he's been using electronic medical records (EMRs) for a decade, and his group practice was among the first in Canada to build in quality measurement with primary health care (PHC) indicators.

Developed by the Canadian Institute for Health Information, PHC indicators allow care providers to use EMR data to measure things, such as delivery of services, and determine whether patients are getting recommended care that meets clinical guidelines.

Prior to incorporating the indicators into the EMR, Duerksen's practice had no systemic approach to preventive screening and management of chronic conditions, such as diabetes and hypertension. But now, with data extracts pulled from their EMRs every three months, screening rates are presented "in black and white," with the rates for each indicator broken down by physician.

"We found that data itself is motivating," he says. "You don't want to look bad, so you look at what process needs to be put in place to improve."

As the ultimate goal is providing comprehensive chronic disease management and preventive care, Steinbach's software features automatic reminders that alert physicians to required tests and exams. Even if a patient comes in for a sore ankle, a screen will pop up on Duerksen's monitor, notifying him the patient is due for a cholesterol test, a Pap smear and a blood pressure reading. The reminders allow him to track over time how consistently his patients are getting these tests.

CIHI's PHC indicators have been essential road signs on Manitoba's primary health care renewal journey to ensure that residents have timely access to quality care. At the heart of renewal efforts is the Physician Integrated Network (PIN). The physician-engaged initiative got under way in 2006 in three demonstration sites involving 65 doctors, as well as a control site, which was Duerksen's group. Incentives reward care that meets quality targets, which has allowed practices to incorporate new care providers. This ultimately sees everyone doing what they do best.

Because one of PIN's objectives is demonstrating quality, EMRs have been integral to tracking indicators.

"The indicators have assisted us in knowing the direction we're headed related to quality primary care," says Jeanette Edwards, Special Advisor to the Deputy Minister on Primary Care, Manitoba Health and Healthy Living.

The EMR/indicator combination led many physicians to better understand their patient populations. With the ability to target improvements, Duerksen feels he's practising better medicine. "When we make an intervention, it's nice to have data to know if it's worked."

PIN results speak for themselves. One clinic's colorectal cancer screening is up more than 31% over phase one of the project. At another, diabetes screening is up 44% and hypertension monitoring increased almost 17%.

"The indicators have been fundamental," says Dr. Alan Katz, associate professor of family medicine and community health sciences at the University of Manitoba. "The process of collecting (data for them) has had a huge impact on how physicians use the EMR to the benefit of the patient. There has been a change in understanding as to the responsibility physicians have for care. We have people thinking on a population-at-risk basis."

The PHC indicators were developed in collaboration with clinicians, researchers, Canada Health Infoway and jurisdictions across the country. Our three goals now are 1) to enhance the indicators based on feedback from the field; 2) to develop a standardized subset of EMR data elements to facilitate regular reporting of these indicators; and 3) to establish new pan-Canadian data sources to populate them. For more information, contact us at phc@cihi.ca.

Timely turnaround

Today's health care managers and providers require timely access to comparative information to support decision-making and quality improvement. That's why we've worked hard to expand and enhance our eReporting applications for participating facilities.

These secure, web-based reporting products facilitate the electronic use of quality indicators and other measures based on several of our data holdings, including the following:

- National Ambulatory Care Reporting System (NACRS)
- Discharge Abstract Database (DAD)
- National Rehabilitation Reporting System (NRS)
- Continuing Care Reporting System (CCRS)
- Home Care Reporting System (HCRS)
- Ontario Mental Health Reporting System (OMHRS)

Produced quarterly, and in some cases monthly, we take a cut of all the data that comes to us from hospitals and health regions to produce organization-level comparative reports.

"Over time, we've refined the process of getting the reports back to facilities," says Brent Diverty, Director of Continuing and Specialized Care Information Services. "When a data quarter closes, generally within a week or two we have a report back to them. We've set up our data sets so that it's really quick to generate and release these reports, so it produces very timely data."

The DAD and NACRS reports are in the process of being updated to a new business intelligence application that will improve the overall client experience.

Customizable and easily accessible, eReports serve as user-friendly decision-support tools. Interested? New users from eligible facilities can register through the Client Services section of CIHI's website. For more information, please contact us at help@cihi.ca.

Where you'll see CIHI next!

March

18–19 RPNC World Congress for Psychiatric Nurses
Westin Bayshore
Vancouver, B.C.

29–31 NSAHO Leadership Conference
Westin Nova Scotian
Halifax, Nova Scotia

30–31 CHSPR 2010 Health Policy Conference: Innovations in Health Human Resources
Sheraton Wall Centre
Vancouver, B.C.

April

12–14 SAHO 2010: Conference and Exhibition
Regina, Saskatchewan

May

6–7 Trauma Association of Canada Annual Scientific Meeting
Marriott Halifax Harbourfront
Halifax, Nova Scotia

30 e-Health 2010
Vancouver Convention and Exhibit Centre
Vancouver, B.C.

Benchmarking drives improvements

A competitive spirit drives improvement and the health sector is no exception. Every year, CIHI sends data quality reports to Canada's deputy ministers of health to provide a snapshot of how their jurisdictions compare to others.

In collaboration with Statistics Canada, the annual reports, now in their sixth year, are typically released in late fall. They include a data quality indicator chart for eight data holdings from CIHI and three health databases from Statistics Canada.

Each data holding chart highlights up to 12 data quality indicators, clearly showing how the results from each province and territory compare to an optimal value and how they compare to one another.

"Providing these types of reports to deputy ministers creates incentives for jurisdictions to strive to submit the best possible data," says Ann Chapman, CIHI's Manager of Data Quality.

The reports come with companion documents that explain how each indicator is calculated—as well as trending tables to show how the data holding is performing over time.

Customized one-page data quality reports are created for each jurisdiction that speak to the areas that need work for each data holding. Deputy ministers also receive a summary table that shows the results for their jurisdictions for all of the data holdings. For this summary table, we use coloured flags (red, yellow and green) that show at a glance which data holdings performed well in these assessments and which ones have areas where improvements can be made.

List of databases included in the data quality reports

- Discharge Abstract Database
- Continuing Care Reporting System
- Canadian Organ Replacement Register
- National Rehabilitation Reporting System
- National Prescription Drug Utilization Information System Database
- National Physician Database
- Canadian MIS Database
- National Trauma Registry
- Statistics Canada databases (Canadian Vital Statistics Databases for Births and Deaths, Canadian Cancer Registry)

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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Cette publication est également disponible en français.