

# Health Data in Ontario: Taking Stock and Moving Ahead

## Abstract

Ontario has been a leader in performance-reporting in clinical areas such as surgery, cardiac care and drug use in the elderly. Data used to report on these areas are readily available for performance evaluation and are of reasonable quality.

But other key areas like managing chronic disease and preventive care cannot be fully evaluated because relevant data are either unavailable or of poor quality.

A focus on timely access to good quality demographic and vital statistics data would enhance our ability to evaluate components of the Ontario health system. New comprehensive primary care, laboratory services and drug prescriptions data sources are also necessary for health-system evaluation and planning.

In the short term, a dedicated, centralized agency with legislative authority is proposed to move Ontario’s health information agenda forward in a holistic, strategic and timely manner.

## Background

Health-system performance “scorecards” provide healthcare policy-makers, planners and the public with an overall view of how well the healthcare system serves the needs of the population. However, measuring the healthcare system is a highly

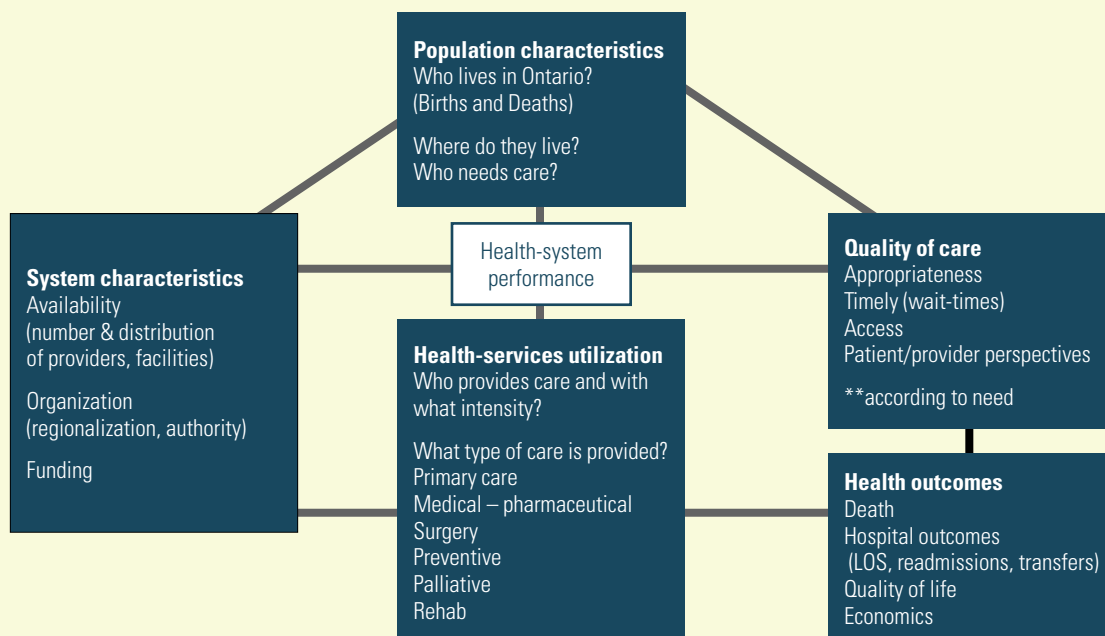
complex task. Many different system characteristics must be evaluated (Figure 1) and many sources of data in Ontario are needed in combination to fully measure these characteristics (Table 1).

Concentrated efforts toward improving the health data that are used to develop performance scorecards within organizations such as the U.S. Department of Veterans Affairs and the National Health Service in the United Kingdom have led to a better understanding of healthcare spending, delivery and prioritization of health services and also to improved patient outcomes.

Ontario has been a leader in comprehensive performance-reporting in many clinical areas, including surgical procedures, cardiac care and the use and effects of particular drugs in the elderly. The hospital-based data used to report on these areas are readily available for performance evaluation and are of relatively good quality.

But other key areas cannot be fully evaluated because the relevant data are either unavailable or of poor quality. Table 2 provides a hypothetical example of what can and cannot be measured for health-system planning, using the currently available Ontario data.

Figure 1. Characteristics for examining health-system performance



Source: Institute for Clinical Evaluative Sciences 2006

**Table 1. Examples of Ontario data used for health-system evaluation and their advantages and limitations**

| Data type  | Example  | Purpose  | Advantages  | Limitations  |
|--|--|--|---|--|
| Administrative                                   | Central Patient Registry (RPDB)                  | <ul style="list-style-type: none"> <li>Identify eligible health cardholders</li> </ul>   | <ul style="list-style-type: none"> <li>Easy to use</li> <li>Collected and updated routinely</li> </ul>  | <ul style="list-style-type: none"> <li>Some data elements not required to be updated (patient address)</li> <li>Deaths not well documented</li> </ul>  |
| Administrative                                   | Hospital discharge abstracts                     | <ul style="list-style-type: none"> <li>In-patient hospital stays gleaned from written patient charts</li> <li>Captures service use</li> </ul>                                      | <ul style="list-style-type: none"> <li>Comprehensive</li> <li>Easy to use</li> <li>Data collection infrastructure in place</li> <li>Trained information specialists using national standards</li> <li>Electronically submitted</li> <li>Financial incentives</li> </ul> | <ul style="list-style-type: none"> <li>Limited detail on treatments</li> <li>Not comprehensive (diagnostic testing for in-patients)</li> <li>Recent coding changes</li> <li>Dependent on physician charting</li> </ul> |
| Clinical registries & clinical chart abstraction | Registry of the Canadian Stroke Network          | <ul style="list-style-type: none"> <li>Augments administrative data</li> <li>Diagnosis and the management of stroke</li> <li>Education for stroke patients and families</li> </ul> | <ul style="list-style-type: none"> <li>Largest stroke registry worldwide</li> <li>High level of clinical detail not found in administrative data</li> <li>Linkable to administrative data by HCN</li> </ul>   | <ul style="list-style-type: none"> <li>Additional funding required</li> <li>Major coordination effort</li> </ul>   |
| Population-based surveys                         | Canadian Community Health Survey (2001 and 2003) | Self-reported information on a range of health issues  | <ul style="list-style-type: none"> <li>Chronic conditions, risk factors</li> <li>Perspectives on healthcare</li> <li>Sometimes linkable to administrative data by HCN</li> </ul>  | <ul style="list-style-type: none"> <li>Reliability of self-reported information</li> <li>One-time data collection</li> <li>Additional funding required</li> </ul>  |

Source: Institute for Clinical Evaluative Sciences 2006

**How Could Health Information Be Improved in Ontario?**

The Ontario hospital discharge abstract data (DAD), collected by Canadian Institute for Health Information (CIHI), are systematically collected and assembled and are of relatively good quality (Table 1). New and innovative strategies driven by the Ministry of Health and Long-Term Care (MOHLTC) are aimed at enhancing these and other institutional-level data through consultation with health information specialists and health data users. For example, Local Data Management Partnerships have brought together health management specialists to identify best practices for effective data to support at least some of the information needs for the Local Health Integration Networks (LHINs).

But other sources of data collected for administrative uses and routinely used for health-system performance measurement require immediate attention as well:

- **Update and validate demographic information.** The Registered Persons Database provides timely information about Ontarians who are eligible for healthcare and provides much needed demographic information that can be anonymously linked to health services data. However the accuracy of the data, particularly the address information, has been

called into question. One reason is that people with old (red and white) health cards are currently not required to provide updated demographic information (name and address) to receive healthcare, as is expected of citizens with the newer photo health cards. This requirement should be introduced immediately.

- **Provide timely access to vital statistics.** Accurate and timely information about births and deaths in Ontario is currently not available for health-system evaluation. Vital Statistics data should be supplied directly by the Office of the Registrar General for health-system planning. The feasibility of collecting health card numbers on death certificates should be explored, and the correct address information on the death registration should be ensured.
- **Create a complete and comprehensive primary care database.** Ideally, this database, in addition to physician claims data that is currently used, would include information from all primary care providers (physicians and nurses), including: reasons for the patient’s visit, what treatment or advice was provided and outcome of the visit (i.e., referral for testing; referral to a specialist or to some other provider; and/or a drug prescription).
- **Create a complete and comprehensive database of laboratory data.** This would capture data from all Ontario

**Table 2. Hypothetical scenario to illustrate health data needs for system planning and evaluation**

The Chief Executive Officer of a Local Health Integration Network (LHIN) is developing a plan for orthopedic surgical and rehabilitation services over the next five years. The CEO needs information such as: Who lives within the LHIN boundaries (i.e., their age, gender, socioeconomic status, ethnicity/immigration status)? How likely are they to need orthopedic surgical and/or rehabilitation services in the next five years? What type and how many procedures have been performed in each hospital within the LHIN during the previous five years?

| What to measure   | Can we accurately measure it for system planning?   |
|---|---|
| <ul style="list-style-type: none"> <li>• Age, sex of LHIN population</li> <li>• SES, ethnicity/immigration status</li> <li>• Other risk factors for orthopedic surgery</li> <li>• Orthopedic procedures in the previous five years by hospital</li> <li>• Rehabilitation services provided after surgery over five years</li> <li>• Population-based need for rehabilitation services after surgery</li> </ul>  | <p>Maybe</p> <p>No data that can be linked to health services</p> <p>No data that can be linked to health services</p> <p>Yes</p> <p>No</p> <p>No</p> |
| Implications for health-system performance measurement and planning   |   |
| <ul style="list-style-type: none"> <li>• Surgical information is established and of relatively good quality, even by LHIN boundaries.</li> <li>• Important information about who is at risk for requiring orthopedic surgery and subsequent monitoring of persons who are most at risk for poor outcomes is not routinely available either provincially or by LHIN.</li> <li>• Information about the need for rehabilitation is lacking provincially and by LHIN. (The Ontario Joint Registry did collect some of this but it is no longer available.)</li> </ul> |   |

labs, the reasons for each test and the test results and could be linked to health service information. (In fact, the Ontario Laboratory Information System [OLIS] is currently underway; data collection is set to begin in 2006 with partial data available in 2007.)

- **Create a complete and comprehensive prescription drug database.** This would include data for all patients to be obtained at the time each drug is dispensed. The database would also cover prescription drugs administered in-hospital and in other institutions such as long-term care facilities and would be linkable to other health service information.

**Moving towards a Newer, Better Health Data System**

An electronic system to track real-time health service and clinical information for all Ontarians is necessary. Such electronic systems are already pervasive in our society, but transferring such technology to a large and tremendously complex healthcare system will require considerable political will and cooperation among healthcare stakeholders.

In the short term, a dedicated and centralized agency with the legislative authority to move the health information agenda forward is proposed. The health information agency would assemble, link and maintain all routinely collected health data and would systematically evaluate and report on data quality to improve its usefulness for system performance measurement. New information, such as registry data or other clinical data sets, would be linked to the system as it becomes available.

The ability to measure how the health system works is necessary to fully understand and bolster patient outcomes and

system efficiency. The creation of a centralized and dedicated health information agency is the first step toward creating a real-time health service and clinical information system that is vital for improving the health of all Ontarians.

**About the Author**

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