



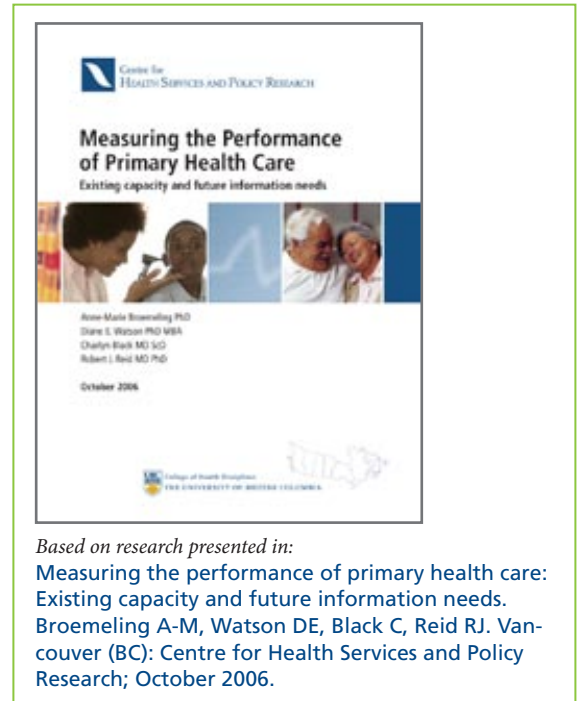
Measuring the Performance of Primary Health Care

What we can do right now?

Primary health care (PHC) is often described as the foundation of our health care system. Most of us visit a PHC provider at least once a year and interact with a PHC provider when any new health concern arises. It is the setting where we expect to have the majority of our health problems dealt with—both short-term health issues and chronic conditions. We expect PHC to provide guidance about improving our health and to provide preventive services such as immunizations. And finally, when we need more specialized care, we expect our PHC providers to refer us to appropriate specialists and to help us navigate more complex services. We have high expectations of our primary health care system.

Because of those high expectations, PHC has long been the focus of renewal efforts, and has recently benefited from substantial government investment. Yet despite our recognition of the importance of PHC, and despite a long history of provincial and federal reform initiatives and investment, Canada lacks the most basic ability to measure and monitor our PHC system. We know little about how PHC systems are structured across and within Canadian provinces, how PHC services are delivered, and how effective those services are.

An old management adage, *You can't manage what you don't measure*, suggests that as much as we try to improve our PHC system, we won't be able to determine if it is getting better (or worse) if we don't measure key aspects of its performance. It is being increasingly recognized that investments in sophisticated new data collection strategies are required to make it possible to measure, monitor and manage PHC. Indeed, a recent Canadian Institute for Health Information project found that data sources that would allow us to measure many key aspects of health care system performance are simply not available.



Based on research presented in:
Measuring the performance of primary health care: Existing capacity and future information needs.
Broemeling A-M, Watson DE, Black C, Reid RJ. Vancouver (BC): Centre for Health Services and Policy Research; October 2006.

Measuring the performance of PHC: What can we do now?

While recognizing that new investments in data and information systems are required, researchers at the UBC Centre for Health Services and Policy Research (CHSPR) have focused on determining which key aspects of PHC performance could be measured right now, given our existing data capabilities. In *Measuring the performance of primary health care*, CHSPR researchers look at how we can better measure key aspects of PHC using data and information that already exist. The report identifies gaps in the existing data landscape that hinder system reporting, and recommends how these gaps might be filled. >>

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This new work builds on an earlier CHSPR report—*A Results-based logic model for primary health care*—that describes PHC as a configuration of linked parts and processes (see figure below). *Measuring the performance of primary health care* systematically reviews key components of the logic model framework to determine areas in which Canadian provinces already have the capability to measure PHC—without having to wait for new data systems.

Measuring PHC contexts

Health care systems do not operate in isolation—it is important to understand the demographic and health status characteristics of the populations they serve in order to accurately measure their performance.

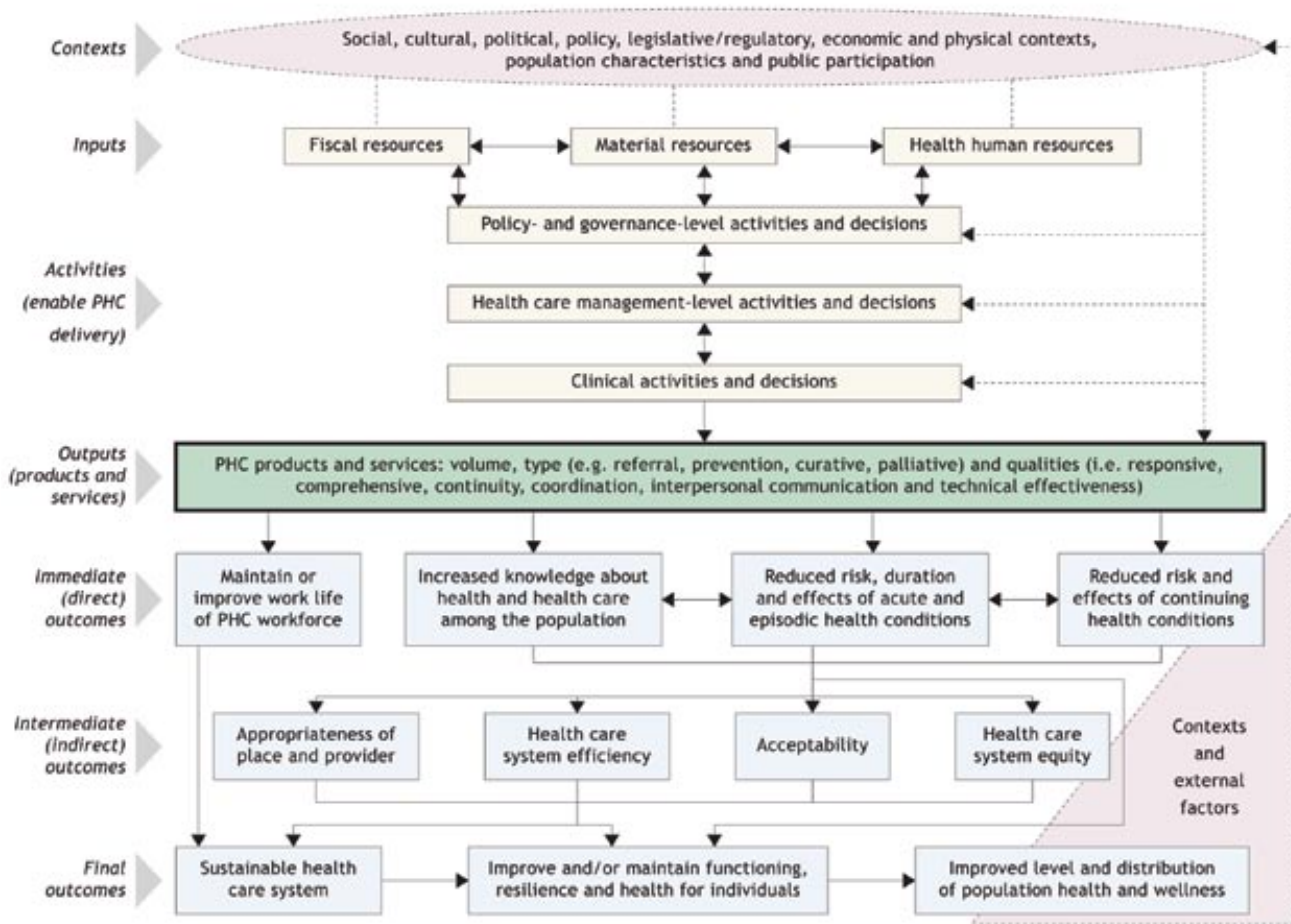
Fortunately, there are considerable amounts of general demographic information available. Census data, registration data from provincial medical plans, and vital statistics data allow us to measure

populations, and their distribution by age, sex and geography. In recent years, researchers at CHSPR have done a great deal of work to improve the accuracy of population data derived from British Columbia’s medical services plan registration data. Census data, along with provincial data sources, also allow us to measure more specific details about the context in which PHC operates, including income, labour force participation, education levels, social support networks, and cultural background.

There are also existing data sources regarding the health status of Canadians. Survey data on self-reported health, as well as administrative data on chronic condition prevalence, co-morbidity, mortality and premature mortality rates, are readily available.

All these measures influence the demand for care, as well as the outcomes of that care, particularly in the long run.

A Results-based Logic Model for Primary Health Care (PHC)



From *A Results-Based Logic Model for Primary Health Care*. Watson D, Broemeling A-M, Reid RJ, Black C. Laying an Evidence-Based Foundation to Guide Performance Measurement, Monitoring and Evaluation. Vancouver (BC): Centre for Health Services and Policy Research; September 2004.

Measuring inputs: What we invest in the PHC system

Once we have a better understanding of the environment in which the primary health care system operates, we have to measure system inputs—the human, material and fiscal resources that enable it to operate.

Health human resources are the focus of many data sources currently available. A variety of administrative and survey data allow us to measure provider supply, geographic distribution, sex, age, education and training background, and migration patterns.

In contrast, very limited amounts of data are available to measure material inputs into PHC (medical imaging technologies are one exception) and the degree to which information technologies have been incorporated into practices (Internet access, use of electronic information systems, video conferencing, PDAs). However, we have no data that would allow us to count or describe, for example, clinics or other PHC sites.

National expenditures and provincial fee-for-service records allow us to track some of the fiscal resources we put into primary health care, although the increasing use of alternative payment plans (APP) to fund organizations has obscured this picture. Statistics Canada's Survey of Household Spending looks at spending from the individual's perspective, and allows us to understand some aspects of household spending on care.

Measuring PHC activities

Once resources have been allocated to PHC, a wide range of decisions and activities by governments, managers and providers transform those inputs into services and products. At the governance and policy level, national and provincial data sources allow us to break down fiscal activities (proportion of private financing, distribution of expenditures by physician category, remuneration types) and look into activities regarding professional regulation and training.

At the management and clinical levels, survey and administrative data provide some information regarding the work setting, income, practice composition, hours worked, and referrals of PHC physicians. Unfortunately, we collect less information on other health care providers, and very little on indicators of teamwork or interdisciplinarity, both important aspects of PHC renewal.

Measuring outputs: PHC services and products

Using inputs and activities, a system delivers services and products, and it is important to not only be able to measure the volume and types of these outputs, but to also collect data on the characteristics, or qualities, of those services and products.

Both administrative and survey data are already available to help us measure Canadians' use of services (visit rates, proportion of population using PHC services, and use of home support) and use of pharmaceuticals. However, APP funding data, which are available only at an aggregate level, are less useful unless they are supplemented by physician- or person-specific data.

Data are also available that allow us to measure some important characteristics of the services supplied by Canada's PHC system. A range of survey data are available concerning responsiveness of care (much of it derived from the Canada Community Health Survey), and provincial medical services plan data allow us to assess continuity of care. To a degree, comprehensiveness (how well the system provides the array of services an individual needs) and the technical effectiveness of care can also be measured using sources already available.

However, we have very little data to measure other important aspects of PHC service delivery. For example, coordination (how well services are integrated) and provider interpersonal effectiveness (issues surrounding communication, shared decision-making, interpersonal style and other 'soft' skills) are both extremely difficult to measure.

Measuring the immediate outcomes of PHC

Measuring outcomes of care is one of the most important tasks in evaluating PHC. As an immediate outcome, the PHC system should reduce the risk, duration and effects of illness. Much of the data we do have are related to hospital admissions and discharges, and ER visits—which provide some insight into adverse outcomes. Critically, data that would allow us to measure reduced risk, duration and effect of acute and episodic illnesses are lacking. Assessing the impact of chronic disease management over the longer term is even more complicated—where data are available, it is very difficult to determine to what extent an outcome is related to primary health care, or to external factors.

We also look to the PHC system to improve individuals' knowledge of their own health and wellbeing. While some available survey data can help us assess the populations' knowledge of health issues, much of it deals with changes in risky behaviour, and the data are collected in a way that does not allow us to link it back to PHC system practices. So we can't measure how well PHC is performing some of its key functions—preventative care and health promotion.

In addition to improving health and knowledge about health, we also expect the PHC system to provide a supportive environment

that contributes to job satisfaction for physicians, nurses and other providers. Survey data (particularly the National Physician Survey) provide information about the work life and job satisfaction of physicians and nurses. We have less data on other PHC providers.

Even when existing data are available to assess outcomes, the complex interplay of external factors and contexts limit the extent to which final outcomes can be attributed to PHC.

Mind the gaps

From the perspective of PHC, the current collection of census, administrative and survey data available in Canada is a patchwork. It allows us to measure some indicators in isolated areas of importance to primary health care. These include demographic and contextual factors, the sector's human, material and financial inputs, and to some degree, the actions and decisions of government, managers and providers and PHC outputs.

However given this patchwork, we are unable to measure critical aspects of PHC. Moreover, we are not taking advantage of the capacity we do have, and when we do, we're only getting part of the picture. The glass is both half full (we have identified capacity to measure some aspects of PHC) and half empty (we are still, unfortunately, unable to measure some critical areas).

Most strikingly, we lack the most basic information systems that would allow us to assess and monitor the immediate outcomes of the PHC system, particularly in reducing the risk and duration of illness, and improving knowledge about health and health care among the population.

In addition, many of the sources we do have are cross-sectional—available only at a single point in time. System evaluation is, by necessity, an ongoing and long-term job, and requires consistent data collection over time. This is particularly true of any efforts to evaluate how well the PHC system is treating individuals with chronic conditions.

Scope is also an issue. We collect very little consistent data regarding organizations delivering primary health care at the local level—we can't compare PHC models across jurisdictions. Survey data availability also tends to vary greatly by geographic area; some are available at the national or provincial level, but not at the health region, local or organizational level. And while surveys are valuable, their quality depends on their sampling rates and methods, and they are often more expensive than using routinely collected population-based administrative data.

A comprehensive data collection strategy

The importance of the PHC system, and PHC renewal, has been recognized in recent federal and provincial-territorial health system reports for several years. Canada's provincial and federal governments identified PHC reform as a major priority for nationwide health system renewal.

In recognition of this increased interest in PHC renewal, the federal government allocated \$800 million to the Primary Health Care Transition Fund. The Transition Fund supported a variety of primary health care renewal initiatives—including CIHI's efforts to identify, define and build consensus on a set of pan-Canadian PHC indicators. Other work is also underway to produce more data: the development of the electronic health record, and work by Statistics Canada, CIHI and Health Canada to develop surveys on the work life and health of nurses. However, a comprehensive data collection strategy is still lacking, and we have limited ability to measure the return on investments that taxpayers are making in Canada's primary health care system.

What would a comprehensive data collection strategy focusing on primary health care look like? It would collect population-based, longitudinal data across every part of the primary health care system, making it possible to link individual patients to providers, clinics and organizations. It would also target areas where our existing capacity is weak—collecting data that would allow us to measure more of the immediate outcomes of the PHC system. Finally, any data collection strategy would have to be designed in a way that recognizes the links across the various aspects of the system and allow us to answer more complex questions—for example, do interdisciplinary teams (a product of system activity) improve continuity of care (an output) and reduce the impact of chronic illness (an outcome)?

Building such a system is possible (other countries have made strides toward implementing systems that incorporate some of these features) but would require substantial investment. Only a pan-Canadian data collection strategy will provide the necessary building blocks for primary health care system evaluation, give planners and managers the information they need, and offer Canadians the level of reporting they expect and deserve.