

Developing a Balanced Scorecard for Public Health



ICES Investigative Report

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Executive Summary

Public health in Ontario has a mandate to promote and protect health and prevent disease in the population. Public health programs are largely based in the community and oriented to address community health needs. Recent events, such as the Walkerton tainted water crisis, SARS (Severe Acute Respiratory Syndrome), and West Nile Virus, have reinforced the critical role of Public Health, and subsequently, the importance of assessing performance and accountability.

Report cards of health care performance are seen as a helpful accountability instrument, useful for facilitating improvements in service quality and effectiveness. Report cards are also used for advocacy and performance research, including evaluation of health care programs and managerial practices. Report cards of health care performance are already in practice or development in many health care sectors in Ontario. The best known report card is the annual *Ontario Hospital Report* series, which measures and reports on the sector's performance and that of its individual institutions. Public health has a tradition of reporting population health status and evaluating specific programs, but not performance of public health overall.

An increasingly popular method of measuring and reporting health system performance is the balanced scorecard. This tool provides an organization's management with an overarching view of risks and benefits of strategic and operational decisions. Knowledge gleaned from scorecard results can facilitate change and quality improvement, provide an accountability mechanism, and support the health planning process. The following framework is proposed for the development of Ontario's first balanced scorecard for public health.

The scorecard would measure performance in four quadrants:

1. Health determinants and status;
2. Community engagement;
3. Resources and services; and,
4. Integration and responsiveness.

Measures within these quadrants will provide insight into how well public health's structure, resources and activities are aligned with its core functions. A first report should be created for a wide audience to address overall public health performance. Subsequent reports should cover performance measurement of specific public health functions, as defined in the Mandatory Health Program and Service Guidelines (MHPSG) of the Ministry of Health and Long-Term Care (MOHLTC), to provide information to program managers for quality improvement and improved resource allocation, and to funders, such as local municipalities and the provincial Public Health Division, for accountability purposes. Using infectious diseases as an example, a performance report could:

- Include trends in the incidence and prevalence of infectious diseases;
- Assess the level of professional and public knowledge and support for infectious disease programs;
- Examine the amount of resources that are allocated to programs in different jurisdictions; and,
- Determine the extent that necessary activities, processes and networks are in place.

Similar to other health sectors, the task of measuring and reporting on public health performance should be shared among a variety of agencies, and led by the Public Health Division of the Ministry of Health and Long-Term Care, the Association of Local Public Health Agencies, and the Ontario Public Health Association. Similar to other report cards, an experienced project team should be provided with dedicated, largely provincially funded resources and a mandate that allows the team to independently develop performance measurement methods and reports, eventually at the level of all Ontario Public Health Units. A significant barrier to measurement of public health performance is lack of data relating to

delivery of public health services, including information on public health human resources and measures to assess community engagement.

The recent Health Canada report, *Learning from SARS: Renewal of Public Health in Canada*, recommended a number of improvements and investments in public health's management of infectious diseases in Canada. As well, recent reports from the Canadian Institute for Health Research (CIHR) and Ontario's Expert Panel on SARS and Infectious Disease Control reaffirmed the key responsibilities of public health and called for more uniform system performance measures that can be more closely linked to public health activities. A balanced scorecard for public health will help quantify the current state of Public Health in Ontario, assess where change is required, and measure the impact of that change.

Overview

Issue

Public health has a long-standing tradition of creating and using health status reports, however, it has not developed these reports, or its more recent experiences with program evaluation, into a public health performance report.

Study

Review of the literature and consultations with numerous public health representatives were carried out to develop a framework for undertaking Ontario's first report card on public health performance.

Findings

The study results identified a need for increased accountability in public health, along with regular performance reporting. However, methods for measuring public health performance were less common. The balanced scorecard is a performance measurement tool in use by many other health care sectors. A modified version of this tool could be used to measure public health performance in four quadrants:

- Health determinants and status;
- Community engagement;
- Resources and services; and,
- Integration and responsiveness.

This approach identifies the specific types of information that is required for the scorecard. As well, this approach provides greater linkages between public health organization, processes and outcomes, but does not require the same degree of causal inference as is necessary to evaluate specific public health services.

Implications

Recent reports regarding Ontario's public health system and its preparedness to respond to rapidly emerging infectious diseases, as well as other emergencies, have called for increased public health accountability and performance reporting. This report provides a framework to address this issue, identifying areas that require indicator development, required data sources, and a process for developing and reporting the resulting measures.

Recommendations

The following recommendations are consistent with those of the Walker Commission. The Ontario Ministry of Health and Long-Term Care should allocate funding for the independent development of a system-level public health balanced scorecard by the end of 2005. The scorecard should be developed using a process similar to that used for the hospital report series, led by a collaborative of the Ontario Public Health Association, the Association of Local Public Health Agencies, and the Ontario Ministry of Health and Long-Term Care. A major challenge of the project will be the development of adequate data and information systems to measure key public health structures, processes and outcomes.

Introduction

Events over the past few years have served to highlight the importance of, and difficulties facing, public health in the Canadian health system. Though public health champions disease prevention and health promotion and protection, it functions in the background, largely unnoticed by the public. Situations such as the Walkerton tainted water crisis, SARS, and the West Nile Virus have raised awareness of its importance in the health care system. Through the media and in health care literature, these events also raised a number of issues facing public health, including performance and accountability.¹⁻³

The Canadian Institute for Health Information (CIHI) and Statistics Canada have created national performance reports of health care.⁴⁻⁶ As well, there are detailed reports that reflect province-specific data, accountability and organizational structures. Recent work at the federal and provincial level addresses the issue of provincial comparability, though it initially focused on health outcomes.⁷ In Ontario, a number of activities associated with measuring and reporting the performance of health care system components have been ongoing for many years.

Ontario's best known reporting initiative is the *Ontario Hospital Report Card*, instituted in the late 1990s.⁸ Based on the Balanced Scorecard, the report provides hospital management with an overall view of benefits and risks of strategic and operational decisions. Ninety percent of Ontario hospitals reported changes based on some results of the 2001 report.⁹ The United States has seen a proliferation of reports in the health services sector that address managed health care organizations, hospitals, and surgeons.¹⁰ In the field of public health, performance measurement frameworks have been proposed, national report cards have been published and the US Department of Health and Human Services has produced Public Health Performance Standards.¹¹⁻¹⁴ Recent threats to America, such as the events of September 11 and the anthrax attacks, have resulted in calls for greater accountability in public health.^{15,16}

Measuring health care system performance serves several purposes.¹⁷ It can help facilitate change and improvements in the quality and effectiveness of health care.¹⁰ Performance measures also provide a mechanism for accountability, reflecting responsibilities and expectations within a health care organization or across the health care system.^{18,19} For example, performance measures can reflect the shared expectations of an agency's board and its CEO, a CEO and staff, and government, health care providers, and the public.^{20,7}

Performance measurement supports the health planning process by informing decision makers how the distribution of resources and services affects population health, and by highlighting health system inequalities.²¹⁻²³ Report cards are also used to advocate for services by identifying geographic areas, special populations or health care programs with proportionally low resources or insufficient capacity to address demand. Many research applications are associated with report cards, including performance evaluation of health services and managerial practices, and examination of factors related to high performance.

Background

Public health measurement, such as the collection of vital statistics and community health reports, has been ongoing in Canada for more than a century.^{24,25} Today, public health reporting is highly variable, but continues to focus on a population's health status (mortality and morbidity) and health related characteristics (behavioural risks). A recent example of this type of report is the annual *Health of Canadians*.²⁶ In Ontario, examples include the *Report on the Health Status of the Residents of Ontario* and the Local Health System Monitoring Project, a collaborative initiative of Ontario's District Health Councils.²⁷

The Canadian Institute for Health Research suggests public health reports need improvement, calling for uniform system performance measures that can be closely linked to public health activities.²⁸ While no specific reporting mechanism was discussed, the National Advisory Committee on SARS and Public

Health called for increased public health infrastructure and resources, implying an increased level of public health accountability requiring performance measurement.²⁹ Members of Ontario's Expert Panel on SARS and Infectious Disease Control were more specific, recommending an annual performance report for public health in Ontario.³⁰

The introduction of the Mandatory Health Programs and Services Guidelines (MHPSG) by the Ontario Ministry of Health and Long-Term Care (MOHLTC), which includes more than 200 requirements and minimum standards for programs and services identified in the *Health Protection and Promotion Act*, has led to several initiatives to improve public health performance reporting.³¹

- Association of Public Health Epidemiologists (APHEO) standardized the measurement of many commonly-used public health indicators and attempted to link these indicators to MHPSG programs and First Ministers' Comparable Health Indicators for intra-provincial comparisons;³²
- Public Health Research, Education and Development Program (PHRED) continues to develop benchmarking methods to evaluate specific public health programs; and,
- Ontario Council on Community Health Accreditation (OCCHA) has a program to measure the administrative and operational aspects of Ontario's public health units.^{33,34}

While each of these initiatives addresses important facets of public health, none have attempted to provide a concise, overall picture of public health performance.

In the United States, a review of public health by the Institute of Medicine led to a renewed examination of public health performance and the development of performance evaluation frameworks.^{11,35-40} These frameworks focus on measuring public health functions in relationship to structure, process and outcomes. Handler *et al.* have noted the need to move from measuring the performance of categorical programs to organizational performance because public health practice is more than the sum of its programs.¹¹

In a related direction, hospitals and other health care sectors have shown an increased interest in evaluating health care performance from a population health perspective.³⁹ In a report for the Ontario Hospital Association and the Ontario Ministry of Health and Long-Term Care, increasingly sophisticated methods used in population health reports (for public health and other health care sectors) were identified.²¹ In the order of evolution, these were:

1. Indicators that use population-based data;
2. Selected indicators of different determinants of health and population health outcomes;
3. "Risk-adjusted" population health indicators; and, most recently,
4. Reports that incorporate population health ideas and evaluate health system performance from this perspective.^{22,23}

Even with the improvements in health system performance reporting, a number of limitations to public health reporting remain, in particular, a heavy reliance on available data and the inability to link specific programs to population health outcomes. The majority of indicators in public health reports are derived from only a few data sources, namely vital statistics, hospital discharges, and national or provincial health surveys such as the Canadian Community Health Survey or the Ontario Health Survey. It has been noted that by using only readily available indicators, conceptual and technical inadequacies continue to be replicated.⁴¹ Additional administrative databases, such as the National Ambulatory Care Reporting System, are being developed but continue to focus on the processes and outcomes associated with the provision of specific health care services. The type, amount and quality of health care services people receive before arriving at, and after their departure from, these facilities (including public health services), remain largely unknown.

The Balanced Scorecard Approach

The remaining portion of this report reviews the concept of the Balanced Scorecard (BSC) and explains its use to measure the performance of public health. It is proposed that the Balanced Score Card approach for hospitals could be modified to incorporate the most developed methods of population health reporting.²¹ While measuring hospital performance with respect to population health differs from measuring public health performance, some of the concepts are similar. Measures in traditional health status reports could be enhanced to form a quadrant on health determinants and health status, with other quadrants addressing community views, finance and resource distribution and policy and organizational structure.

The BSC was designed to provide management with an overarching view of their organization's overall performance in relation to its goals. It does not focus on any one specific aspect of the organization, such as its finances, but rather seeks to translate an organization's strategic objectives into a coherent set of performance measures while minimizing information overload.⁴² The scorecard provides a balanced view of the organization and the benefits and risks of strategic and operational decisions. This tool can also help staff and stakeholders, including the public, to better understand an organization's key strategies and how activities relate to it. A recent study of health care organizations that adopted a BSC reported a number of benefits:¹⁰

- Alignment of the organization around its mission and strategies;
- Facilitation, monitoring, and assessment of strategy implementation;
- A mechanism for communication and collaboration;
- Assignment of accountability for performance at all levels of the organization;
- Continual feedback on the strategy and opportunities for adjustment.

Ontario's hospital system has adopted and refined the BSC framework over the past five years, reporting performance measures in four dimensions or quadrants—system integration and change, clinical utilization and outcomes, patient satisfaction, and financial performance and condition. The framework includes retrospective measures, explaining how well an organization has done against its goals, and prospective measures, which describe if an organization is doing what it needs to do to improve performance.

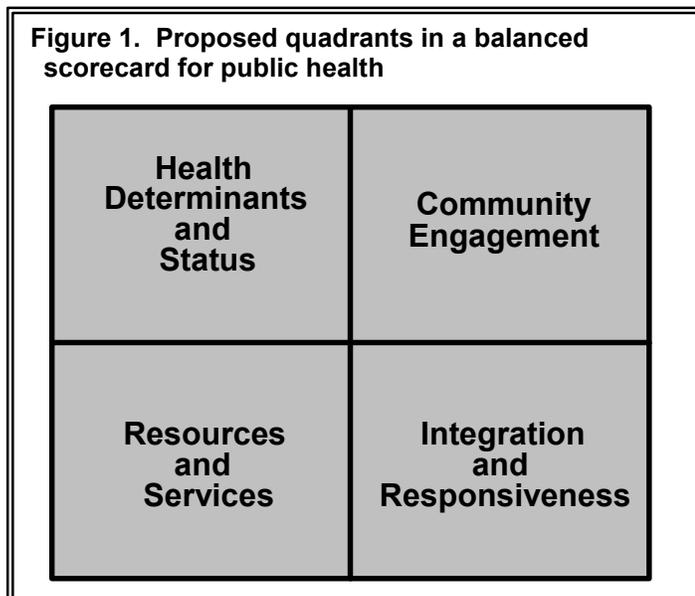
Before this report card series, performance within, and among, acute hospitals was difficult to measure and interpret, and data for many of the proposed measures were not available. Consistent and comparable data are now collected on a regular basis through a number of surveys created for this purpose. Other Ontario health care sectors, such as complex and continuing care and emergency department care, have also developed scorecards. As well, performance measures and scorecards are planned, or in development, for primary care, rehabilitation services, and telehealth.

Applying the Scorecard Framework to Public Health

Public health's focus on prevention and health promotion, often for entire populations, distinguishes it from many other areas of health care that are more patient and treatment focused. This is often a concern when assessing public health performance. While other health sectors are most often responsible for specific outcomes or services, public health works in an environment in which many factors, other than its own programs, simultaneously influence broad population outcomes. For example, measuring progress towards improving heart disease mortality is frequently seen as neither helpful nor appropriate as a public health performance measure because public health is accountable for only some factors related to this outcome. However, this issue does not significantly impact the success of a BSC because the framework does not aim to assess effectiveness of specific programs. Rather it evaluates the alignment of goals, objectives, and strategies with structures, resources and activities, as well as the views and health of the community.

The proposed framework to develop a public health report card uses the BSC approach to measure health determinants and outcomes, in addition to, resource use, community engagement, and system integration and responsiveness (Figure 1). Together, these proposed quadrants incorporate the accepted attributes of health care quality (efficacy, effectiveness, efficiency, optimality, acceptability, legitimacy, equity), while building on principles for evaluating public health (structure, process, and outcome).^{43,44} An advantage of the BSC is a design that focuses on performance and can be used for different audiences through the selection or development of different indicators within the quadrants or reporting at different levels of aggregation (system, regional or local level). As well, the BSC has been adopted to measure the performance of other Ontario health care sectors, increasing the comprehension and acceptance of this approach.

Public health reporting in the United States has emphasized the relationship of structure, process and outcomes for specific programs.^{11,39,40,45} Linking indicators that reflect these three factors is seen as a way of addressing overall program effectiveness and gauging appropriate allocation of resources. Outside the United States, the same approach is discussed as a way to provide linkages between the complex relationships of factors that influence population health.²¹



The BSC approach is similarly designed to provide conceptual linkages between factors that relate to performance. Health determinants and community engagement quadrants primarily address public health outcomes. The quadrants of resources and services and system integration and change reflect public health structure and processes. The outcomes of public health activities fall into three categories: health status, social functioning, and consumer satisfaction. Structure can be further divided into inputs (personnel, physical resources, funding) and organization (how resources are arranged and managed).³⁹ When complete, the scorecard framework should relate outcome performance measures with process and structure performance measures.

The BSC approach and the structure, process and outcome framework of reporting in the United States differ in the degree to which specific indicators are linked and outcomes are emphasized. The approach

for the BSC is to conceptually link indicators within context of the entire report, whereas the linkages in structure-process-outcome approach occur at the level of specific programs. For a Public Health Report Card, the two approaches could be incorporated by creating specific indicator linkages when more detailed program specific reporting evolves. Similarly, there is a greater emphasis on reporting the outcome of public health programs in the United States approach. Because there is difficulty evaluating the outcome of public health programs at the program level, this is not emphasized in the BSC approach, although it is possible to incorporate it for the evaluation of specific programs.

Each quadrant and how it relates to previous public health and performance reporting and current practice of performance evaluation is explained in the following sections.

Health determinants and status

This quadrant contains measures traditionally found in community health status reports, such as trends in disease mortality/morbidity and health behaviours. The primary purpose is to identify the need for public health services. For example, regions that have high prevalence of a disease or risk factor require increased public health resources. Broad community health status measures can also be used to assess the distribution of resources within a health unit. A region that has high rates of communicable disease compared to other regions may require a greater proportion of resources allocated toward addressing those needs.

To compare regions, Manuel and Goel have described a number of adjustment methods, such the focus model approach, peer groups, risk-adjustment methods, and estimation of the potential impact of risks or health care processes on populations rather than individual health status.²¹ Regardless of how population-based measures are adjusted, difficulties evaluating the health outcomes of particular public health services or programs will remain because health outcomes, particularly at the level of populations, are the product of a large variety of influences. Measures in this quadrant are helpful for estimating the *potential* contribution of public health interventions on population health outcomes. Attribution of specific public health services to changes in health status should continue to be investigated within the realm of public health evaluation but is not required for public health performance measurement to proceed. Such community effectiveness studies are generally difficult to design and time consuming to perform.

Estimating the potential impact of health risks, traditionally part of community health needs planning, can provide conceptual linkages to the assessment process and improve planning and resource allocation.⁴⁶⁻⁴⁸ Population health impact measures also illustrate that even modest improvements in population health risks can achieve greater benefits than many individual-based medical care interventions.⁵⁰ As indicated previously, this quadrant aims primarily to identify areas of health burden within and across Ontario health units, using risk-adjustment methods to increase the validity of comparisons.

Ultimately, this quadrant should contain three types of measures:

1. Determinants of population health;
2. Population health status measures; and,
3. Population health intervention impact measures.

While the actual performance measures for this quadrant need to be refined, it is more developed and richer in data than the other three.

Community engagement

All balanced scorecard initiatives include a quadrant on client satisfaction, whether it refers to clients of a business or, in the case of health care reports, patients receiving care. Understanding the views of the people a program serves is a fundamental principle of accountability and can improve the way services are delivered. Accountability and quality of service are pertinent to public health, thus, the views and involvement of the community need to be included as part of a public health performance report.

Measuring and interpreting satisfaction as an accountability or quality measure in public health raises some issues.

- Many public health programs target the entire community therefore it is difficult to define the clients who are in need of or who benefit from a service.
- Many public health programs and responsibilities, such as quarantine, are mandated and so must be provided regardless of public views. Unlike most health care services, Ontario residents cannot choose who provides these mandated services but must use the local health unit responsible for the area in which they reside.
- “Consumers” of public health services may have difficulty judging services due to their preventive and long-term nature and their perspective may not be reflective of the entire population at risk.⁵¹
- There are concerns that the current emphasis on the medical care system will lessen support for key public health prevention programs and the required resources.
- The health care system strives for equitable distribution of services based on health needs, but often those with the lowest health needs are the most dissatisfied and have the highest expectations. Addressing their concerns could lead to further inequities and gaps in health outcomes.³⁹ Similarly, some of the world’s top ranked health systems by experts are much more poorly rated by consumers.^{22,51}

For these reasons, it is proposed that the emphasis for public health should be changed from “client or patient satisfaction” to “community engagement”. Citizens, high-risk groups, health care providers, government policy makers, and health department staff (“the community”), can contribute unique and valid perspectives on public health performance.³⁹ Both the MOHLTC and OCCHA have identified the need for public health to work with, and actively seek input from, the community, including relevant agencies, district health councils, health care providers, and the general public, when identifying and assessing community needs and resources, as well as developing and evaluating programs and services.^{31,52}

There is little information being gathered on the community’s awareness and perception of the mission and key strategies of public health. Recent Canadian studies suggest that the public has limited knowledge of local public health programs (personal communication Durham Region Health Department) and that there is limited uptake of population health ideas by key members of government.⁵³ Similar concerns also are being voiced in Europe.⁵⁴

Public Health can engage the community in a number of ways. Boards of Health that govern public health departments often include representatives of the public as well as health-related community agencies. Public health priority setting exercises often use a variety of information sources, including community consultation through focus groups and surveys, to assess community awareness and preferences. The Rapid Risk Factor Surveillance System (RRFSS) is regularly used to gather this type of information.

Similarly, the evaluation of specific programs often includes client or community input and measures of satisfaction and acceptability. Future assessment of community engagement for performance evaluation should incorporate these experiences. There are challenges to quantifying community engagement, as previous assessments have often emphasized a detailed qualitative process to develop program or resource allocation priorities but have rarely quantified the level of need. Regardless, without support for public and population health concepts, health care delivery will continue to be based primarily on public perception and demand (e.g. emergency room crises, radiation therapy waiting lists).

Reflecting past issues and experience, a public health report should consider indicators that reflect four concepts of community engagement and integration.

1. Similar to other health system reports, there should be measures of client satisfaction with programs delivered by the public health program to individuals.
2. There should be measures of satisfaction with programs that are delivered to populations. These measures can include the views of the public and of agencies that work or liaise with Public Health.

3. For example, indicators could reflect the views of school principals and superintendents for programs targeted towards schools and students.
4. The knowledge and understanding of, and support for, public health in the community should be measured, including the views of the public as well as health care policy makers, managers and providers. It is also important to assess how decision makers respond to public pressure to implement services or to the public's understanding of population health ideas. In light of public health's legislated responsibilities, interpreting public views and allocating resources based on these views may pose a challenge.
5. It may be possible to integrate the process of community health needs assessment or the ongoing participation of the community and agencies in public health planning into the development of indicators in this quadrant.

As was the case with hospitals and other health care sectors, little of this information is available. However, the ongoing development and expansion of Ontario's RRFSS is encouraging and provides a possible avenue for data collection. Other possibilities include population-based health surveys, such as the Canadian Community Health Survey, and the development of new data collection tools.

Resources and services

Understanding the amount of resources and services delivered is a cornerstone of a performance report for all health sectors. The Auditor General of Ontario noted in the Office's 2003 report that there has not been an analysis of the extent to which individuals receive different levels of public health services, despite recommendations in the Office's 1997 report to do these analyses.⁵⁵ The *Report of the Walkerton Inquiry* also noted a wide variation in the extent to which local health units provided infection control services.⁵⁶ The services provided by public health units across Canada vary greatly.²⁸

Despite demonstrable interest in reporting on public health resources, there is little information publicly available in an organized fashion for performance reporting at a system or local level. Examination of resources by the National Advisory Committee on SARS and the Institute of Population and Public Health, and consultation during this study identified several barriers including:^{29,28,57}

- Lack of clearly defined public health functions;
- Limitations of data systems and data collection; and,
- Concern by some public health staff that a wide variation of service delivery may undermine or reflect poorly on the performance of public health.

Estimates of total resources for health care sectors released by CIHI for public health have included community mental health programs as well as the administrative costs of managing health systems.⁵⁸ In Ontario, estimates of provincial public health spending can be obtained from the provincial government budget but these estimates do not include federal or municipal funds to local health units. Despite concern about performance reporting by some public health staff, a recent study of six eastern Ontario health units found that costs of program per client were considered a useful measure within a balanced scorecard for public health.⁵⁹

The types of indicators that are reported in this quadrant appear in performance reports for other health sectors. Most common are indicators of financial resources used by health agencies, in terms of per capita and total costs; the number of services delivered; and the capacity of systems in terms of availability of services (i.e. number of available beds, diagnostic equipment, or waiting lists) or human resources (number of nurses or physicians). The *Hospital Report Series* measures financial performance using such indicators as the proportion of a hospital budget that goes to corporate services and capital expenditures, or how much nursing time goes towards patient care.⁹

Performance reports also include contextual information such as effectiveness of organizations in maintaining a competent workforce. Indicators of this type include staff recruitment and retention, staff and agency competencies and skills, application and effectiveness of information technology and the

proportion of resources allocated to administration. It also is important to understand employee perception of these items as well as their satisfaction with the work environment.

Broadly, issues for measuring resources and services in other health sectors are similar for public health. Recent and historical public health inquiries were concerned about the level of public health resources, frequently emphasizing the capacity of public health units in relationship to population health needs and the ability to respond to public health emergencies, the availability of trained public health staff, such as medical officers of health and epidemiologists, or the availability of integrated disease surveillance systems.^{28,29,56,57} For this reason, a public health report card should consider several different measures of resources, in terms of finances and human and agency resources, services and contextual organizational factors.

One potential difference between the public health sector compared to other health sectors is the emphasis on the planning for services based on population health needs, as opposed to individual health care demands.²¹ If, for example, there is increasing demand for knee replacement surgery that exceeds the capacity to perform that service, waiting lists will increase. By contrast, public health needs may increase, but the same pressure does not exist for individual services. For example, teen smoking may increase, with a resulting increased need for preventive services, but most adverse health outcomes from this population health need will not be apparent for decades. For this reason, it may be helpful to provide clear linkages between the quadrant on health outcomes (representing health burden) to health resources or demonstrate how public health resources are allocated among its programs, as recommended in the 2003 report of the Office of the Ontario Auditor General.⁵⁵ Alternatively, resources could be compared to benchmarks, when these are available, such as the recommended per capita spending on tobacco control.⁶⁰

Much of this information is not readily available for analysis and application. While the MOHLTC's annual Mandatory Program Indicator Questionnaire (MPIQ) could potentially provide some of the information for resources and services in Ontario, this tool will require validation to assure that consistent and comparable data are collected.⁵⁵ It is expected that other data collection processes will need to be developed.

System integration and responsiveness

As discussed previously, public health exists to address the health of a population or community and its needs. Because community needs and health status are influenced by many factors and agencies, public health requires a structural capacity that will keep it well integrated into the associated health care system and other relevant community agencies. Such integration will allow public health to build and facilitate key relationships, helping it keep in touch with the community and quickly respond to its changing needs and emerging issues.

Many public health programs do not deliver services to individual clients but seek to raise the capacity of organizations or change policy to address community needs. For example, public health seeks to introduce school programs that address smoking, drugs, injuries and healthy sexuality, and it is an important factor in the development of healthy public policy such as smoke-free restaurants and tobacco control strategy. A number of countries have identified inter-sectoral partnerships as a key to improving public health systems.²⁸

Integration is also essential for public health to respond quickly and effectively to emerging health issues. As Walkerton and SARS have shown, coordinated efforts among many government agencies and health care providers are needed to control infectious disease outbreaks or other emergencies. Recent reviews of public health in the United States stressed collaboration and partnerships, and the need to bring public health and the personal health care delivery system together to respond more quickly and appropriately to threats to the public's health and safety.^{15,61,16} This applies not only to infectious diseases, but also to public health issues such as childhood obesity. Addressing obesity will require increased efforts by public health and the personal medical and education professions. For example, Alberta has recently introduced legislation to increase physical activity in all of its public schools. In the absence of a crisis, decision

makers have shown a lack of interest in public health infrastructure as evidenced by diminishing resources. Public health remains largely unnoticed by other health care sectors and received little attention from the recent report from the Romanow Commission.⁶³ Its future success will depend upon the system's ability to continually transform services and programs to effectively meet evolving population health needs.³⁹

Within the MHPSG, the MOHLTC indicates that public health shall liaise with numerous stakeholders to gain access to relevant data.³¹ Similarly, OCCHA assesses public health unit communication with other community agencies.⁵² However, greater integration is required if public health wishes to raise its profile within other health care organizations. Studies of local health units in the United States have found they were not fulfilling this core public health function and that there is a need for measurement initiatives to examine planning processes.³⁹ The United States Department of Health and Human Services has placed greater emphasis on this aspect of public health performance and has identified numerous specific measures to address partnerships, collaboration, and coordination with other health care and community agencies.¹³

Similar to the previous quadrant, information on the functioning of Canada's or Ontario's public health system is scarce. It is proposed that public health's capacity to identify and respond to change and emerging health issues be examined. Key components include public health's level of integration into the community, ability to work with other health care sectors and community agencies, commitment to research and development, including staff learning and growth, and emergency preparedness. Although there is little information available regarding the evaluation of public health policy, there is considerable understanding of how organizational characteristics affect quality and many of these principles could be applied to the organizational environment of public health.^{63,64}

Similar to the *Ontario Hospital Report* and consistent with previous quadrants, much of this information has not been readily available. However, information is now gathered to measure many aspects of a hospital's organizational structure and functioning, such as information use and technology, coordination and continuity of care of care, development and use of standardized protocols, and staff support. The MOHLTC's annual Mandatory Program Indicator Questionnaire could be an avenue for collecting similar information, though additional sources of information will likely need to be developed in the areas of health care and health information. The exact nature of this information, however, will depend on which areas of public health are considered to best represent its key strategies.

Principles for Performance Report Development

The key principle for developing and selecting indicators is the reflection of the overall framework, while addressing the needs and purpose of the report audience. Indicator development or selection is often guided by a process that uses expert or advisory panels, informed by a literature review of indicators and predefined criteria of the properties of a relevant indicator. Because a public health report card is potentially distinct from other health sector reports in terms of the purpose and from the principles of public health delivery, it is helpful to consider three key issues when developing the report:

1. Purpose and audience;
2. Public health functions; and,
3. Relationships between population health and public health reporting.

Purpose and audience

Regular and consistent reporting of health care performance measures can serve a variety of purposes and audiences as outlined in the introduction. In other health sectors, a first report card is typically created at the system level for a general audience. Such a report is often of interest to a variety of individuals and agencies as it provides an overall view of the health sector under study. This initial report also serves as the reference point for future improvements and enhancements. The report is then recreated or subsequent reports are developed to address a wider range of audience, including provincial-level funders and local program managers, and purposes such as accountability and quality improvement.

Public health functions

The first ICES health care atlas produced in 1994, succinctly stated that it reported “actual health care delivered” as opposed to “what ought to be delivered”.⁶⁵ The emphasis on reporting services delivered, as opposed to defining performance goals or core functions, continues to be a feature of performance report cards in most health sectors, although this perspective is changing (personal communication, Adalsteinn Brown, 2003). Defining goals and essential programs is the first step of many public health performance evaluation discussions. This emphasis in public health compared to other health sectors is likely a result of differences in the planning process, the accountability structure and the manner in which programs are delivered to address population needs.

A national working group examining the future of public health in Canada recently published its list of five essential public health functions, along with examples of associated programs.²⁸ (see Table 1, next page.)

Table 1. Five essential public health functions, Canadian Institutes of Health Research

Function	Program Examples
Population Health Assessment	Population/community health needs assessment Health status report, system report card
Health Surveillance	Periodic health surveys Cancer and other disease registries Communicable disease reporting Ongoing analysis of data to identify trends or emerging problems Report to practitioners of increasing threat, what to look for, and required intervention
Health Promotion	Intersectoral community partnerships to solve health problems Advocacy for health public policies Improving personal skills Creating physical and social environments to support health
Disease and Injury Prevention	Immunizations Investigation and outbreak control Encouraging healthy behaviours Early detection of cancers
Health Protection	Restaurant inspections Child care facility inspections Water treatment monitoring Air quality monitoring/enforcement

The task of defining public health functions is often met with mixed results, which in turn can act as a barrier for performance reporting.⁶⁶ The well-defined MHPSG in Ontario provide an opportunity for public health reporting of specific programs and defined functions at the provincial and local level that is not available to other health sectors. The MOHLTC uses the MHPSG to direct public health to provide programs in the areas of disease prevention, health promotion and health protection with proposed standards for:

- Equal access
- Health hazard investigation
- Program planning and evaluation
- Chronic diseases and injuries
- Family health
- Infectious diseases.³¹

In the development of a public health report card, consideration will need to be given to the extent to which the indicators reflect defined public health goals and programs. Because report cards in other health sectors have been successfully created without defining goals, this should be viewed as an option, rather than an essential component of a public health report card. The process of developing and reporting on performance may actually serve to refine and improve the perceived objectives of public health.

Relationships between population health and public health performance reporting

Population health concepts, such as the focus on improving the health of populations and reducing health inequalities, provide the foundation for public health strategies and programs. As stated by Dr. Christina Mills, president of the Canadian Public Health Association, “population health is how we think, public health is what we do”. The World Health Organization’s *2002 World Health Report* proposed that health care system performance be evaluated from a population health perspective.²²

Considering the population focus as well as the local and provincial nature of public health in Ontario and the various potential purposes and audiences of a public health performance report, it becomes evident

that multiple levels of measurement and reporting should be considered. Multilevel reporting will help identify aspects of the public health system that fall solely within the public health realm at a local or provincial level and aspects of public health with external influence. For example, reporting at the local health unit level could include issues that are addressed:

- Solely within the domain of public health;
- By health units through liaison or cooperation with other local health agencies (e.g. hospitals and Community Care Access Centres);
- By health units through liaison or cooperation with other local government agencies (e.g. school boards and social services agencies);
- With the provincial government;
- Solely by the provincial government;
- With non-government organizations (e.g. businesses).

However, the extent to which a public health report captures a population health perspective or activities that only partially relate to activities of the public health staff should be carefully considered. While public health may be well positioned to lead a population health report, a broadened population health perspective will substantially increase the scope of the report and the effort required to develop and estimate measures. In addition, the interpretation of the report has the potential to change from evaluating public health performance to include the evaluation of population health from the perspective of a society.

Public Health Report Card Development Process

The objective of this project is the development of a framework for a process to develop a balanced scorecard for public health. To improve the content and applicability of the report, more than 30 consultations were held with individuals and agencies associated with public health in Ontario. In addition, an advisory committee that included experts in performance measures from aLPHA, OCCHA, OPHA, APHEO, PHRED, MOHLTC, Local Health Units, and the University of Toronto provided structured comments.

As has been the case with other health sector report cards, developing a public health report card will need to be an incremental process, requiring regular ongoing attention and support. Over time, the report can evolve to include a variety of measures and formats designed to serve a number of different purposes and audiences. After considering the three key principles, several conclusions were reached:

- The first public health report card should have a system level focus, similar to the initial approach of other health sectors.
- The first public health report card should focus on activities that involve public health, either by itself at the local or provincial level or with other organizations; striving to measure the performance of the health system overall with respect to population health is too great an initial task.
- The content of the first report should incorporate parts of the MHSPG as these essentially represent the objectives of public health in Ontario and summarize the services common to the majority of Ontario health units. Such a focus may also serve to refine and improve the MHSPG.
- The eventual inclusion of performance reporting for specific programs will be of interest to provincial payers, who are interested in ensuring accountability that local services are provided, and to an audience that is interested in monitoring public health program activity. However, such detailed measurement and reporting for all quadrants should not be the focus of a first report. For example, in the initial report the degree to which services in the MHSPG are provided could be incorporated into the Service and Resources Quadrant for the accountability needs of provincial funders, but omitted from the quadrants on Community Engagement and System Integration and Change.
- The first system level report, essentially a report describing the “health of public health” will be of interest to a variety of audiences but will be of limited depth. For example, it should be of interest to policy makers, program planners, and the public but it may not be a very useful tool for evaluating specific public health programs. It will be important to continue to enhance the report to expand the purpose and audience. Thus, the report will become more complex and detailed over time.

The task of measuring and reporting on public health performance should be shared by a number of agencies (Table 2), and the project should be sponsored by three of these agencies, aLPHA, OPHA, and MOHLTC. An additional sponsor could be the proposed Ontario Health Protection and Promotion Agency and provincial health quality council, if this council’s mandate and interest includes public health.³⁰ The lead coordinating agencies should be independent from public health funders and decision makers.

For this reason, the OPHA should be a lead agency, as it is funded by its members and is seen to represent public health values. The project leader for the reporting process should also be independent. The model for the Ontario Hospital Association (OHA) *Hospital Report Series* is a principal investigator and team based at University of Toronto, with an advisory committee comprised of the OHA and the MOHLTC, and a multi-year funding commitment from the MOHLTC. Principal authors based in university or research institutions are contracted to create components of the reports. The Expert Panel on SARS and Infectious Disease Control had the same recommendations.³⁰

In some cases, new data sets will need to be created for public health reporting. For other indicators, existing data collection processes such as the MPIQ and RRFSS are potentially useful, but would require additional development if used for performance reporting. The principal investigators would be

responsible for administering contracts to develop data and indicators as well as establishing and administering an experienced project team, an advisory committee and various expert panels. All of these components are required for development, collection and reporting public health performance measures for the four quadrants. Funds should be provided largely by the MOHLTC along with a mandate that facilitates the independent development of performance measures and reporting, and a goal to produce the first report by the end of 2005.

This structure is a departure from the previous practice of public health reporting. To date, few reports have been independently created. The MHPSG indicate that local Health Units are responsible for monitoring health status and assessing community health needs, which has resulted in local Health Units creating these reports, either individually or with consortiums of Health Units organized with the Health Intelligence Units or DHCs. Program-specific evaluation has typically been restricted to evaluation by and for individual Health Units. The proposed approach will result in regular reporting on the overall performance of public health provincially and, given time, locally.

Table 2. Participant agencies in the development a public health performance report

Agency	Participate	Sponsor
Association of Local Public Health Agencies	Yes	Yes
Ontario Public Health Association	Yes	Yes
Ontario Ministry of Health and Long-Term Care	Yes	Yes
Ontario Council on Community Health Accreditation	Yes	No
Public Health Research, Education, and Development Program	Yes	No
Universities	Yes	No
Private Independent Consultants	Yes	No
Association of Municipalities of Ontario	Yes	No
Canadian Institutes of Health Research	Yes	No
Canadian Institute for Health Information	Yes	No
Local Health Units	Yes	No
Association of Public Health Epidemiologists in Ontario	Yes	No
District Health Councils	Yes	No

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Glossary of Abbreviations

aLPHa	Association of Local Public Health Agencies
APHEO	Association of Public Health Epidemiologists in Ontario
BSC	Balanced Score Card
CIHI	Canadian Institute for Health Information
DHC	District Health Council
MOHLTC	Ministry of Health and Long-Term Care
MPHSG	Mandatory Health Program and Service Guidelines
MPIQ	Mandatory Program Indicator Questionnaire
OCCHA	Ontario Council on Community Health Accreditation
OPHA	Ontario Public Health Association
PHRED	Public Health Research, Education and Development Program
RRFSS	Rapid Risk Factor Surveillance System
SARS	Severe Acute Respiratory Syndrome