

Refining Estimates of Public Health Spending as Measured in National Health Expenditure Accounts: The Canadian Experience

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The recent focus on public health stemming from, among other things, severe acute respiratory syndrome and avian flu has created an imperative to refine health-spending estimates in the Canadian Health Accounts. This article presents the Canadian experience in attempting to address the challenges associated with developing the needed taxonomies for systematically capturing, measuring, and analyzing the national investment in the Canadian public health system. The first phase of this process was completed in 2005, which was a 2-year project to estimate public health spending based on a more classic definition by removing the administration component of the previously combined public health and administration category. Comparing the refined public health estimate with recent data from the Organization for Economic Cooperation and Development still positions Canada with the highest share of total health expenditure devoted to public health than any other country reporting. The article also provides an analysis of the comparability of public health estimates across jurisdictions within Canada as well as a discussion of the recommendations for ongoing improvement of public health spending estimates. The Canadian Institute for Health Information is an independent, not-for-profit organization that provides Canadians with essential statistics and analysis on the performance of the Canadian health system, the delivery of healthcare, and the health status of Canadians. The Canadian Institute for Health Information administers more than 20 databases and registries, including Canada's Health Accounts, which tracks historically 40 categories of health spending by 5 sources of finance for 13 provincial and territorial jurisdictions. Until 2005, expenditure on public health services in the Canadian Health Accounts included

measures to prevent the spread of communicable disease, food and drug safety, health inspections, health promotion, community mental health programs, public health nursing, as well as all the costs for the general administration of government health departments.

KEY WORDS: Canadian Institute for Health Information, healthcare spending, health expenditure, public health

In Canada, as elsewhere, recent events such as emerging and reemerging infectious diseases associated with increased globalization; breakdowns in the infrastructure that protect the food, water, and blood supplies; and increased awareness of the downstream effects of unhealthy lifestyle choices have focused attention on the investments made by governments and government agencies on public health. Policy makers and researchers who need to track the level and change in investments in public health often look to a country's National Health Expenditure Accounts as a source of this information. With the emergence of public health, and more specifically, of prevention, as an increasingly important function of healthcare, national health expenditure accountants have been faced with the challenge of updating the definition of public health to reflect current concepts and develop data sources that support them. Although public health professionals may understand the concept of public health there is not a generally accepted concept used by those who account for public health programs in Canada and the

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concepts that are used are evolving. In Canada, this issue is being addressed through a consensus-based approach to refining the definition of public health used to collect expenditure data in the National Health Expenditure Accounts that is broad enough to be supported by the available data and still provide meaningful insights into the trends of expenditure on public health.

This article describes the recent experience in Canada of refining estimates of public health in the Canadian Health Accounts. It is a cautionary tale that illustrates that the process is not straightforward and requires substantial consultation, resources, and lead time to implement. The article provides a brief description of Canada's healthcare system including the contribution of public health and how refining that definition impacted other categories of expenditure and the historical consistency of the overall expenditure estimates.

● Public Health in the Canadian Healthcare System

Canada is a federation of 10 provincial and 3 northern territorial governments, which are largely responsible for the management and organization of health services within their jurisdictions'. The Canadian healthcare system is the consolidation of these 13 separate healthcare systems that adhere to national principles as set up by federal legislation known as the Canada Health Act. The federal government administers a system of sizeable cash contributions or transfers that are paid to provincial and territorial governments on the condition that their health insurance schemes conform with principles and regulations in the Canada Health Act to ensure common features and basic standards of publicly insured, medically necessary, healthcare services across the country. Provincial and territorial governments are responsible for the financing of about 65 percent¹ of Canadian healthcare services including most public health services. In comparison, the federal and local governments provide a relatively small amount of direct healthcare services—about 5 percent of total expenditure. Most of the direct healthcare services financed by the federal government are targeted at constitutionally specified populations such as Indians and the Inuit, the military, correctional inmates, and the Royal Canadian Mounted Police. The federal government's broad health portfolio also includes regulatory functions to ensure the safety of consumer products, drugs, and food and health research and disease surveillance. In 2004, in the aftermath of Canada's experience with severe acute respiratory syndrome, the federal government created the Public Health Agency of Canada that consolidated, in the new agency, activi-

ties that were formerly part of the federal department of health and that are associated with the prevention of injuries and chronic diseases, public health emergencies, and infectious disease outbreaks.

Private health insurance firms and households fund the remaining 30 percent of total healthcare expenditure in Canada. Supplemental health insurance coverage is frequently provided as a benefit of employment and covers most of the cost of certain professional services and goods such as dental care and prescribed drugs for employees and their dependents. Deductibles and co-payments or goods and services not covered by public or private insurance are funded out of the pockets of households.

● The Evolution of Public Health Estimates in the National Health Expenditure Accounts

The Canadian Institute for Health Information (CIHI) is an independent not-for-profit organization created and funded by the federal, provincial, and territorial governments. CIHI's mandate is to provide Canadians with essential statistics and analysis on the performance of the Canadian healthcare system, the delivery of healthcare, and the health status of Canadians. Canada's National Health Expenditure Accounts are contained in the National Health Expenditure Database, 1 of more than 20 databases and registries administered by the CIHI. This database contains healthcare spending data on up to 40 categories of healthcare, by province and territory, by 5 primary sources of finance, over the past 45 years. The classification structure used to compile national health expenditure data is generally consistent with that of the Organization for Economic Cooperation and Development's (OECD's) International Classification of Health Accounts—a tri-axial scheme of classification according to health function, provider, and sources of funding.²

Healthcare expenditure data by the public sector (governments and government agencies) are gathered from federal, provincial, and territorial government financial documents. Data are also collected from each of the 12 Workers' Compensation Boards across the country, which fund medical services to workers injured on the job. Local government expenditure estimates are provided by Canada's federal statistical agency, Statistics Canada. Private sector expenditures are gathered from administrative data from the commercial and non-profit health insurance industry and from survey data that capture the out-of-pocket component of the private sector.

As data are collected, they are classified according to the type of good or service provided and then

aggregated and reported as nine broad categories of health expenditure. The nine categories include hospitals, physicians, drugs, other institutions, other professionals, capital, administration, a residual category, and public health.

Until recently, the definition of public health in the Canadian National Health Expenditure Accounts included measures to prevent the spread of communicable disease, food and drug safety, health inspections, health promotion, community mental health programs, public health nursing, and the general administration of health departments. The combined category had been in use in the accounts for more than 40 years, but the recent focus on public health made it increasingly important to refine the estimates by isolating and removing expenditures not related to activities that are part of a more contemporary definition of public health.

In the late 1990s, the CIHI undertook a series of projects to improve and modernize Canada's health information systems and infrastructure. Some of these projects focused on expanding the quality, scope, and level of detail of health expenditure estimates to provide more relevant information with regard to new and emerging policy or research issues. As part of this work, a series of feasibility studies were prepared, including one that examined the advisability and feasibility of breaking out in the National Health Expenditure Accounts, the combined category that included expenditures for both public health and health department administration into two new separate and redefined categories of public health and administration.³ The separation of public health from administration was considered essential in view of public policy recognizing the importance of health promotion, lifestyle choices, and disease prevention and the desirability of being able to study trends in expenditure for these activities. Following an extensive consultation process with academic experts, the recommendations in the public health feasibility study were adopted and implemented.

● Revision of the Estimates

Separating public health from the administration component of the combined category had implications on the treatment of both public health expenditures and administration expenditures as well as on other categories of expenditure. For example, all identifiable administrative costs, except the costs of administering programs covered under the Canada Health Act, were reported within the public health and government administration cost category. However, in some jurisdictions, the administrative costs of programs such as pub-

lic health are identifiable in the source data, while in others they are subsumed in the overall estimate of the cost of the program. Recommendations from the feasibility study included that a consistent approach be adopted in which administrative costs of specific programs would be grouped with their associated program costs. This approach would lead to more consistency in reporting total program costs, since the administrative component would be treated the same regardless of whether or not it was identified explicitly in program estimates by federal, provincial, and territorial governments. This approach also tended to create greater consistency between cost estimates for publicly provided and privately provided services since the administrative costs of private or autonomous providers would normally be part of the contractual price or fee-for-service paid to the provider.

In the initial phase of the revisions, some administrative cost estimates were revised downward after allocating program administrative costs to the government-provided program in which they were incurred. This turned out to be a significant revision of the public health and of the administration subcategories. The revision also affected the public health subcategory in some jurisdictions where the administrative costs of public health programs were transferred from the government administrative costs subcategory to the public health subcategory. In other instances, items that were now considered to be public health (eg, blood services) were separated from other category estimates (eg, hospitals), leading to a substantial increase in the estimate for the public health subcategory.

The next phase of the process was completed in 2005, which was the historical separation of the combined public health and administration category into its two major components. During this process, a complete review of provincial and territorial estimates was undertaken that identified factors that limited the degree of comparability of estimates from provincial and territorial government public accounts, the primary source of government healthcare spending data. Some factors were found to be responsible for significant variation between the estimates of some provinces and territories. For example, the degree of provincial detail for certain items in the public health subcategory was quite variable across the country. While some provinces reported separate estimates for community-based mental health services, provincial laboratory services, and blood services, other provinces reported some or all of these items aggregated into larger categories that could not be broken down into finer levels of detail.

In another example, community-based mental health was combined with institutional mental health in some provinces and classified as hospital care in the National Health Expenditure estimates. In other

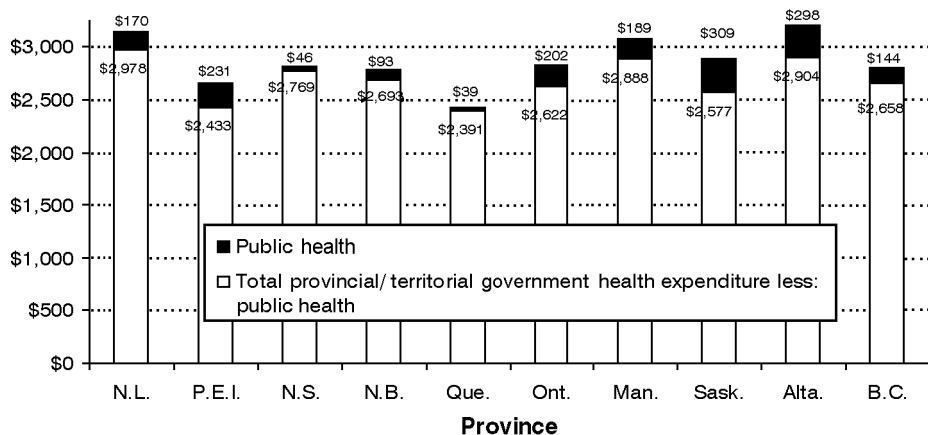


FIGURE 1. Per capita public health and total health expenditure by provincial governments, by province, 2005. (Data from Canadian Institute of Health Information.)

jurisdictions, community-based mental health services were identified separately or as part of a public health program. The review concluded that the strength of public health estimates could be increased considerably if it were possible to separate and isolate mental health expenditures into community-based and institutional services in all provinces. Issues of comparability in the source data are illustrated in Figure 1, which shows the wide variation in per capita expenditure estimates of public health among the 10 provinces in 2005. Estimates of public health expenditure per capita ranged from a low of \$39 per person in the province of Quebec to a high of \$309 in the province of Saskatchewan—an eightfold difference. The low level of public health expenditure in Quebec is thought to be the result of challenges associated with allocating the financial data from Quebec to public health. This is currently being investigated with the help of officials in the Quebec Ministry of Health and Social Services. It is expected that the outcome of this investigation will lead to a higher estimate of per capita public health expenditure in that province.

In the absence of a consistent framework for reporting expenditures on public health by provincial and territorial governments, there are limits to the ability to produce consistent interprovincial comparisons. This problem exists throughout the expenditure categories used in the Canadian National Health Expenditure Accounts. Hospital expenditures, for example, will tend to be higher in provinces that do not break out community-based mental health services, but such differences are less prominent in large categories of expenditure than in relatively small categories, such as public health. This circumstance places limits on the degree to which categories in the National Health Expenditure Accounts can be broken down, and results in a trade-off in which the value of finer detail must be weighed against the decrease in provincial comparability of detailed data.

● Trends in Provincial and Territorial Government Public Health Expenditure From 1975 to 2005

Despite certain inconsistencies in interprovincial comparative reporting of public health in a given year, over time these inconsistencies tend to remain relatively stable offering an opportunity to examine broad trends in public health spending in Canada. According to the revised estimates, public health spending in Canada by all provincial and territorial governments grew at roughly the same rate as total healthcare spending from 1975 to 1992 (Figure 2). The period from 1992 to approximately 1996 was marked by spending restraint by all levels of government in Canada, and total expenditures subsequently leveled off. In fact, after adjusting for inflation and population growth, total healthcare expenditures in Canada during this period actually declined. By comparison, public health expenditures continued to grow seemingly unaffected by spending constraint except in 1997 when public health spending declined in contrast to the renewed upward trend in growth of other categories of spending. Beginning in 1998 until 2001, the growth in spending on public health was higher than for all other provincial and territorial government health expenditures except for drugs, which has been the fastest growing category of expenditure.

Public health’s share of total provincial and territorial government healthcare spending followed a slight downward trend from the late 1970s to 1991 when the public health share reached only 3.4 percent of total provincial and territorial government expenditure before the government’s spending restraint of the mid-1990s (Figure 3). The flattened growth in total expenditure coupled with the much faster growth in public health in the ensuing years resulted in an increasing public health share of total expenditure from 1991 to 2001, when it increased by 2.5 percentage points to

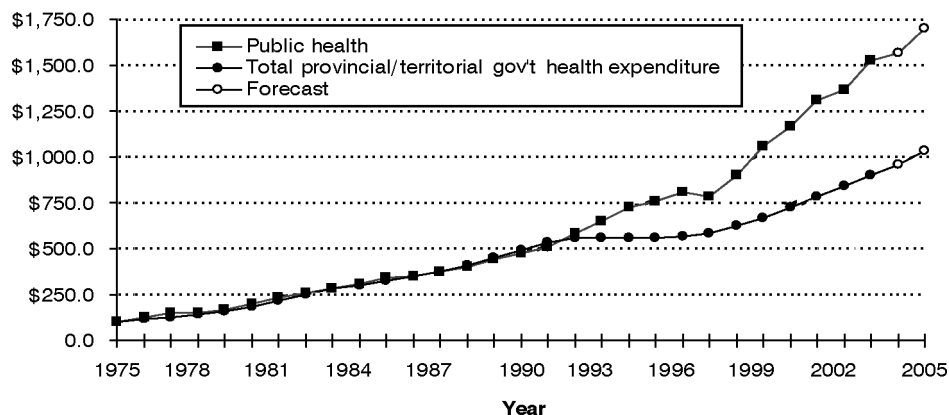


FIGURE 2. Provincial and territorial government, current dollar indices (1975 = 100), total vs public health expenditure, Canada, 1975–2005 (Data from Canadian Institute of Health Information.)

5.9 percent. According to provincial and territorial budget documents that are used to project public health data from the last available figures reported in the public accounts, it appears that public health remained at just under 6.0 percent of total provincial and territorial expenditure in 2004 and 2005.

● **Future Reporting**

Each year, the CIHI releases an annual report with the updated Canadian health expenditure data to policy makers, researchers, the public, and the media. In the 2004 annual report, the separated public health series was released in a section of the report that described the project as a data development proposal to gauge general acceptance of the concepts and the approach. Based on support from various commentators, the public health series was released in 2005 as a separate category in the overall expenditure series. According to the 2005 data, public health accounted for 5.5 percent of total healthcare expenditures in Canada, the highest proportion of public health spending among OECD

member countries reporting estimates of public health. The OECD average is about 3 percent.⁴

The CIHI will continue to collaborate with its stakeholders, including the OECD, public health professionals, the Public Health Agency of Canada, and provincial and territorial government departments responsible for health, to refine the definition of public health and improve the detail and quality of the data reported. Initial efforts will focus on addressing inconsistencies in reporting the components included in the current definition and in particular the issues associated with the inclusion of certain programs such as community mental health discussed previously. As the estimates of public health in the National Health Expenditure Accounts are refined, intertemporal, interprovincial, and international comparisons of public health expenditure will become increasingly meaningful and useful. Readers who would like more information on Canada’s National Health Expenditure Accounts or estimates of public health expenditure may contact the National Health Expenditure section of the Canadian Institute for Health Information by telephone, (613) 241-7860, or by e-mail: nhex@cihi.ca.

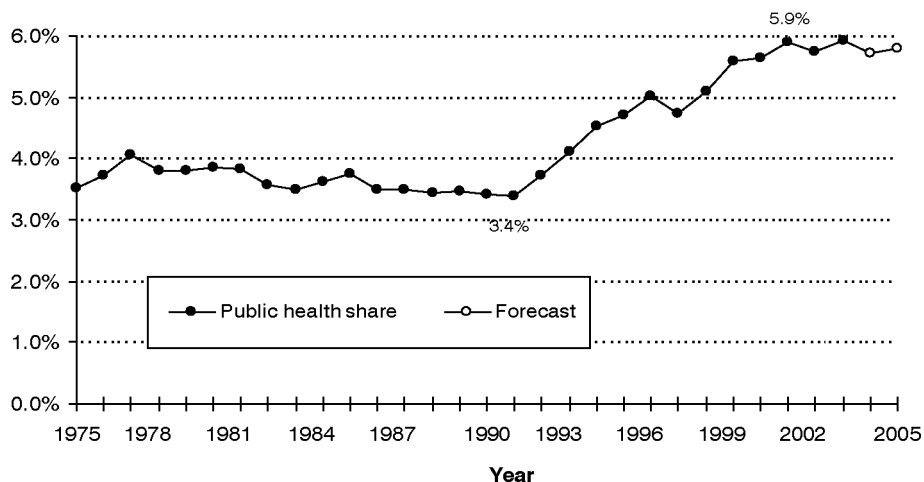


FIGURE 3. Public health’s share of total provincial and territorial government health expenditure, Canada, from 1976 to 2005 (Data from Canadian Institute of Health Information.)

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