

National Health Expenditure Database

The Impact of Regionalization on National Health Expenditures

Feasibility Study



Canadian Institute
for Health Information

The Impact of Regionalization on National Health Expenditures

by

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Executive Summary

This study was undertaken as part of the CIHI Roadmap Initiative. Its purpose was to study the effects of regionalization in Canada on the National Health Expenditures (NHEX) database. Specific objectives of the study were:

To determine the effects of regionalization in Canada on present health expenditure estimates and data collection methods.

1. To examine the feasibility and advisability of reporting health expenditures by region in NHEX.
2. Regional expenditure data are considered in terms of (i) comprehensive health expenditure estimates per capita within health regions and (ii) expenditures by regional boards.

The study first documents the scope of regional health administration in each province and territory. Secondly, it analyzes financial arrangements between provinces and regional administrations. Data sources for regional expenditures are then discussed.

All provinces and territories except Ontario, Yukon and, recently, Nova Scotia have regional health boards that administer and fund certain programs. Regional geographical boundaries can vary for different programs within a province, however, and in some cases there are separate administrative authorities for different programs or institutions.

Most regional boards have responsibility for hospitals within their health regions and community-based substitutes for hospital care. Provincial insurance programs for physicians' services, other providers and prescription drugs are not regionalized in any province. There is considerable diversity among provinces in the extent of regional responsibility for programs such as public health, mental health and long term care.

Provincial governments are the main source of funds for regional boards. Funding methods include historical global budgets in most jurisdictions and population-based funding in two provinces. Regional boards do not raise revenue through taxation or premiums. Several provinces allow regions to move funds between programs, provided they do not increase acute care funding.

Conclusions

Objective 1: The study concludes that expenditures by regional boards are presently reported by provincial/territorial data sources. Consequently, the comprehensiveness of health expenditure data in NHEX, and the level of detail by category of service, have not been adversely affected by the devolution of responsibility for health expenditures to regional boards.

Objective 2: There are no systematic breakdowns of health spending by region of residence for most provincial programs. Manitoba has produced the most comprehensive estimates in a special study that was able to allocate 79% of provincial expenditure to region of residence. There are no estimates for health expenditures by other public sectors

(federal direct, municipal governments and workers compensation) nor for the private sector. In order to collect data by region of residence, revised reporting protocols would be required as well as more detailed, or specially designed, surveys of household expenditure. The resources required to collect and maintain expenditure data at the regional level would be very great and the effort would require a commitment by many stakeholders.

Four criteria were used to evaluate the possibility of creating an additional sub-sector in NHEX to report health expenditures by regional health boards, either separately or in aggregate. Regional boards are responsible for health spending decisions within their jurisdiction, an important criterion for the allocation of spending among existing public sectors. Regional boards do not exist in Ontario, Nova Scotia and Yukon, however, and they are not defined consistently in other jurisdictions. Regional boards do not have responsibility for raising public revenues and there is no independent source for estimates of regional health spending.

The study recognizes the importance of health expenditure data to studies of regionalization. Given the diversity of responsibilities within existing regional boards and the differences in programs administered, regional expenditure data will be most useful when collected for specific health programs and within a consistent framework of definitions. This approach would allow expenditure data to be compared with information on health resources and utilization.

Recommendations

The study makes the following recommendations for the National Health Expenditure database:

1. The development of comprehensive health expenditure estimates for health regions is not feasible within the limits imposed by present sources of data and data collection systems.
2. A separate sub-sector in NHEX to report regional expenditures is neither feasible nor advisable, at this time.
3. CIHI should monitor provincial and regional health expenditures on an ongoing basis to ensure that the comprehensiveness and the level of detail of provincial expenditure estimates are maintained.
4. CIHI should monitor regional financial responsibilities and sources of data and re-evaluate recommendations 1 and 2 as appropriate.

Definitions

Health Region. A geographic sub-division of a province created by the provincial government for purposes of delivering health services. Region is also used in some instances to refer to the catchment area for a specific institution or program.

Regional Health Board. A body responsible for administering designated health services within a health region. Regional boards are referred to as Regional Health Authorities or District Health Authorities in some jurisdictions.

Health Program. An organized activity meant to preserve or improve health (e.g. public health activities) or a type of insured health service (e.g. physicians' services or prescription drugs).

Health Expenditures. Expenditures for which the primary objective is to improve or prevent the deterioration of health status. The phrase '*primary objective*' is interpreted in terms of normal usage, not personal motivation, which may change according to circumstance.

Sector of Finance. In the National Health Expenditure series the term, sector, refers to the sources of health finance. The public sector is broken down into federal direct, provincial, municipal and Workers' Compensation Board. The private sector is broken down into insurance and household out-of-pocket.

Foreword

This paper is one in a series of feasibility studies that explores various topics associated with the National Health Expenditure (NHEX) Database administered by the Canadian Institute for Health Information (CIHI). The studies are part of the NHEX portion of the CIHI Roadmap Initiative--a national vision and four-year action plan to modernize Canada's health information system. (See Appendix B for a description of the NHEX Database and NHEX Roadmap project.)

Introduction

Regional administration has been an important vehicle to implement two key objectives of health reform: to move services out of institutions and into communities; and to provide a greater role for communities and consumers in planning health services. The planning role, in particular, has fostered an organizational model in which regional or community groups assume responsibility for planning and/or delivering all health services. Concepts such as the continuum of care, empowerment and community ownership of health programs are used frequently in planning documents, and have reinforced the perception of regions as fundamental units in health care systems.

As resource allocation decisions have shifted to regional bodies, there has been increased interest in understanding the dynamics of spending within provincial health regions. A study of regionalization and its effects on estimates in the NHEX database was designed in June, 1999 in consultation with the expert group that advises CIHI on issues affecting NHEX. Subsequently, the advisory committee for the CIHI Roadmap Health Indicators Project identified regional health expenditures per capita as a valuable indicator to assist in managing the health system at the regional level. The study has been expanded to consider this possibility.

The National Health Expenditure Database does not currently have a regional structure. This study was conducted with two objectives:

1. To determine the effects of regionalization in Canada on present health expenditure estimates and data collection methods.
2. To examine the feasibility and advisability of reporting health expenditures by region in NHEX.

The study was carried out using the following approach:

- Document the scope of regional health administration in each province, including programs administered, authority to reallocate resources and relationships with community health agencies.
- Document financial arrangements between provinces and regional administrations, including the nature of provincial funding, ability to raise revenue and responsibility for allocating funding between programs or sectors.

- Assess effects of fiscal arrangements on NHEX expenditure estimates in terms of the comprehensiveness of expenditure estimates and level of detail by category.
- Develop recommendations on:
 - the possibility of collecting data on health expenditures per capita within regions, including expenditures by both the public and private sectors.
 - the advisability of creating an additional public sub-sector to report expenditures by regional health administrations.

Section 1 describes the current NHEX database structure and defines criteria to be used in assessing the potential for changes to the structure. The second section summarizes regional structures, programs administered and financial arrangements between provinces and regions. The third section discusses the current and potential data sources for developing estimates. Recommendations are contained in the fourth section. The appendices contain detailed notes for each province and territory, and information on the Roadmap Initiative.

Section 1. Current Status and Assessment Criteria

At present, the NHEX database contains comprehensive health care spending estimates along three dimensions:

Geographic: Estimates are compiled for Canada and each of the 13 provinces and territories.

Sector of Finance: Estimates include expenditure by both public and private sectors. The public sector is broken down further into federal direct, provincial governments, municipal governments and workers' compensation. The private sector is broken down into insurance and household out-of-pocket expenditure. Health expenditures are allocated to the public and private sub-sectors based on the principle of *responsibility of payment for health services*, which in the public sector involves responsibility for resource allocation decisions. Federal transfers to the provinces, in particular, are included in the provincial government sector since it is the responsibility of provincial governments to determine how the federal transfers are spent on health and other social services.

Category of Expenditure: Estimates are compiled by province/territory and by sector for seven major categories of expenditure (hospitals, other institutions, physicians, other providers, drugs, capital and other expenditures). Some of the major categories are broken down further into sub-categories (e.g. drugs are broken down into prescribed and non-prescribed drugs and personal health supplies).

The potential to collect comprehensive data on health expenditures per capita within regions depends on the availability of data at the regional level. CIHI is not the primary source of data for most estimates. Most data in Nhex are obtained from governments and

public agencies, Statistics Canada, the insurance industry and other sources¹. In all, there are 110 separate sources of data, and a major strength of the Nhex information system is its ability to combine data from multiple sources to produce a comprehensive report of health expenditures. These circumstances also pose constraints on CIHI's ability to develop expenditure estimates in areas where data are not collected at present.

The advisability of creating an additional public sub-sector to report expenditures by regional health administrations will be considered in the context of four criteria that characterize the existing breakdown of the public sector.

1. Inclusion of the sector will add to the comprehensiveness of the database, i.e. some regional expenditures would not be accounted for in the current database structure.
2. The sector should be defined consistently in all provinces and territories with respect to the types of health programs for which it is responsible.
3. The sector should follow the principle of *responsibility of payment for health services*, that is used in allocating expenditures to sub-sectors.
4. The sector raises revenues through taxation or social security premiums and there is an independent source of expenditure data.

Section 2. Scope of Regional Health Administration

i. Overall Description

Regionalization was a major component of health reform initiatives by provincial governments in the 1990s. Quebec was the first province to introduce regional health program administration, in 1991. In 1992, New Brunswick introduced its regional model, followed in 1993 by Newfoundland and Prince Edward Island. Alberta and Nova Scotia established health regions in 1994 (Nova Scotia regional boards were abolished in 1999, however). British Columbia established regional boards in 1995, and legislation recognizing the present regional structure was passed in 1997. Legislation establishing Regional Health Authorities in Manitoba was proclaimed in 1997, the same year that the Northwest Territories regionalized.

Regional geographical boundaries can vary for different programs within a province. In some cases there are separate administrative authorities for different programs or institutions. Representatives or proponents of the programs can correctly state that they function within regional models. If the models are not consistent in terms of governance, funding methods and geographic boundaries, however, it will be difficult or perhaps impossible to develop an operational concept of regions for purposes of reporting health expenditures. Examples of overlapping jurisdictional boundaries include:

¹ CIHI is the primary source of estimates of hospital private revenues, through the Annual Hospital Survey.

- In Quebec, Regional Health Boards allocate hospital funding within their regions, but individual boards manage the hospitals. At the community level, separate boards exist for Local Community Service Centres (CLSCs) and long-term care institutions in many communities; in other communities CLSCs, hospitals and/or long-term care institutions may be amalgamated.
- In Ontario, District Health Councils function in an advisory (planning) role, while major decisions are made by the Ministry of Health or provincial bodies such as the Health Services Restructuring Commission. At the local level, public health services are provided by 42 Local Boards of Health, 27 of which serve more than one municipality. Home care and community-based long term care are coordinated by Community Care Access Centres (43).
- In Saskatchewan there are 32 district health authorities (DHA), and 10 service areas for certain programs. The service areas are said to be managed by DHAs, but the management structure and scope of DHA authority are not clear.
- In Alberta, regional authorities in Edmonton and Calgary provide province-wide tertiary care services and receive funding separate from the population-based formula that is used to fund regional boards. Separate authorities exist for cancer care and mental health.
- In British Columbia, 34 community health councils are responsible for hospital and residential care in rural areas, while seven community health service societies are responsible for community-based care and public health.

ii. Programs Administered

Policy documents from provinces with regional structures sometimes imply that regions are responsible for virtually all disease prevention, health promotion and delivery of care. In fact, most boards appear to have major responsibility for hospital care and varying degrees of responsibility for community-based services that substitute for hospital care.

Regionalization has resulted in a centralization of administrative responsibilities formerly held by individual hospital boards. This centralization has strengthened the management functions of regional boards, but it also has raised concerns about the opportunities for communities to participate in service planning (NS, 1999).

There is considerable diversity among provinces in the ambulatory care and illness prevention programs that are administered by boards. Virtually all health programs are defined by provincial policy. The amount and type of authority that has been devolved from provincial governments to regions varies considerably across the country. The extent of autonomy that regions have to determine the scope of programs in their jurisdictions also varies.

The structure and responsibilities of regional health boards have developed rapidly and results are largely unevaluated in public policy. As a result, the future evolution of regional boards in Canada is not clear. Table 1 summarizes regional health administrative structures, as of fall 1999. The following generalizations apply to most health regions, although there are many exceptions.

Most consistent across provinces and territories are the programs not funded regionally. **Physicians services** are not administered nor funded by regional boards (there are some exceptions such as salaried physicians in Québec CLSCs). Public insurance programs for **dental care** and **other providers** also are funded provincially. **Prescription drug plans** are funded and administered by provincial governments. Physicians services and pharmaceutical budgets accounted for 28.1% (\$14 billion) of provincial government expenditures in 1997 (CIHI, 1999) and the lions share of primary care resources. Policy analysts have noted that the exemption of these services from regional health administration seriously hampers effective horizontal integration of community-based services (Lomas, 1999).

Public health is usually listed as a regional responsibility. For the purposes of this report, public health includes activities for health promotion, disease surveillance, disease prevention (including immunizations), occupational health regulation and environmental risk reduction. Provincial departments of health also have public health departments, and their programs typically involve a network of branch sites throughout a province. Documents reviewed to date do not make clear where the boundaries between regional and provincial activities are drawn. The range of possibilities for devolution from province to regions can involve a complete transfer of provincial employees and assets located in each region to the regional boards, or a consultative process between regional boards and provincial offices located in the regions.

Home care and Community-based services are the responsibility of regional boards in many, but not all, provinces. These programs have become an important alternative to hospitalization, although they tend to represent a relatively small share of provincial health budgets. The extent of services covered under programs described as 'home care', 'continuing care', 'community care', 'alcohol and drug dependency' varies dramatically among jurisdictions, and at times, within jurisdictions.

Mental health services are regionalized in most provinces. Mental health funding tends to be allocated mainly to institutions at present, although there is a policy commitment to move services (or, at least, patients) out of institutions and into communities. De-institutionalization of persons with mental illness began in Canada many years prior to health system reform, and present policies may represent a continuation of trends that have resulted from treatment philosophies and drug therapy. The autonomy of regions in structuring mental health services varies across provinces and territories. In some provinces, administrative policy is established provincially.

Long-term care institutions are the responsibility of regional boards in most provinces, although the degree of governance and financial management varies. In some provinces long term care institutions are operated by the private sector (not-for-profit or for-profit) and the public sector subsidizes care for residents based on degree of disability or income.

Hospitals are governed or funded by regional administrations except in Ontario, Nova Scotia and the Yukon. In Québec, hospitals have individual boards but they are funded by the regional authorities; and hospitals in Manitoba have the option of maintaining individual boards.

Table 1: Regionalization—Administrative Structure

Prov	Regional Administration		Programs Administered			
	Regions	Community Role	Hospitals	Long Term Care	Home Care	Other Programs
NF	6 health regions. 4 have separate Institutional Boards and Community Health Boards.	No	Yes	Yes, Nursing homes	Yes	Public Health; Mental Health; Alcohol & Drugs; Some Social Services
PE	5 Regional health boards	No	Yes	Partial (see notes Appendix A)	Partial (see notes Appendix A)	Mental health; Public health; Social Services
NS	4 Regional Health Boards have been disbanded. 4 non-designated organizations 9 District Health Associations to be established in future.	Advisory	Yes under previous structure, except tertiary care.	No	No	Mental Health; Drug Dependency; Public Health
NB	7 Health Regions; 8 Regional Hospital Corporations	No	Yes	No	Yes, Extra Mural Hospital	Public health; mental health; alcohol & drug dependency
PQ	18 Health & Social Service Regions.	Yes, 2,000 Community Agencies	Funded by regions; governed by Hospital boards.	Regional oversight; governed by L.T. Care Boards	Regional oversight; governed by Community Agencies; CLSC	CLSC provide rehab care, public & occupational health and social services.
ON	No regional governance structure. 16 District health councils have advisory roles.	No				42 Local Boards of health are responsible for public health.
MB	13 Regional Health Authorities.	Yes, Advisory	Yes, can be either part of the RHA or be governed by hospital board	Yes, can be either part of the RHA or be governed by a separate board	Yes	Mental health; Ambulance; Salaried physicians; Provincial laboratories

Table 1: Regionalization—Administrative Structure

Prov	Regional Administration		Programs Administered			
	Regions	Community Role	Hospitals	Long Term Care	Home Care	Other Programs
SK	32 Health Districts 10 service areas for certain services	Yes, Districts are community based.	Yes	Yes	Yes	Local ambulance; Mental health and rehabilitation services; Alcohol & drug services
AB	17 Regional Authorities; 2 provincial boards for Mental Health & Cancer.	Yes, Advisory	Yes	Yes	Yes	Community care; Promotion, Prevention & Protection.
BC	Urban: 11 Regional Boards Rural: 34 Community Health Councils & 7 Community Health Service Societies	No	Yes	Yes	Yes	Community health societies are responsible for mental health & public health.
YT	Not regionalized					
NWT Nun	12 Health & Social Services Boards (9 in NWT, 3 in Nunavut)	Yes, Some boards are community based	(see notes Appendix A)	No, (see notes Appendix A)	Yes	Medical travel plan. Social services.

Note: Public health in this table is a broad classification of programs for health promotion, public health education, disease prevention surveillance, environmental risk reduction

iii. Funding Arrangements

Table 2 describes the funding arrangements between provinces and territories and their regional health boards. There is diversity among the provinces, ranging from global funding arrangements in most provinces to population-based funding in Saskatchewan and Alberta. Several provinces allow regions to move funds between programs, provided they do not increase acute care funding. Most, if not all, provinces have programs that benefit all residents, but are delivered in one or a few regions (e.g. tertiary care). Funding for these programs varies from jurisdiction to jurisdiction.

An important characteristic of the present public sectors in NHEX is that each sub-sector has its own source of tax revenue or social security premiums². This is an important consideration for the comprehensiveness of NHEX estimates as expenditure from independently raised revenues would not be reported by other levels of government and would possibly be unreported without inclusion of the sub-sector.

Health regions do not have the ability to raise revenues through taxation or social security premiums. They do, however, receive revenues from other levels of government, and from the private sector in the form of charges for uninsured services, preferred accommodation in hospitals and co-payments; and hospitals administered by regions receive donations, revenues for ancillary services and investment income. In NHEX, payments to regions by senior levels of government normally would be counted as expenditures by those levels of government; patient charges are classified as private sector expenditure.

² WCB premiums paid by employers are considered to be social security premiums within the framework of definitions agreed to by OECD member countries for purposes of reporting health care revenues and expenditures.

Table 2: Provincial/Territorial Funding Arrangements to Health Regions

NF	Historical global funding arrangements. Details not available. Boards are not required to spend according to funding allocations.
PE	Historical global funding arrangements. Details not available.
NS	Global funding of regions. No set formula to determine allocation. Formula funding for operating rooms and obstetrics based on service volumes.
NB	Funding formula for hospitals based on population served, case mix and resource intensity weights. Budgets for other programs are designated by province.
PQ	Historical global funding arrangements for regions. Details not available. Regional Boards fund institutions and provide grants to community agencies. Program budgets set by Ministry.
ON	No health regions (Funding formula for hospitals based on weighted service volumes and a number of adjustments [Ontario Cost Distribution Methodology].)
MB	Historical global funding arrangements. Regions do needs assessment and submit health plans annually. Some programs have protected budgets within RHAs. Regions can shift money across sectors (acute care, long term care, and community-based services) provided they advise the ministry, as part of their health plan.
SK	Population needs-based formula. Separate indicators for hospitals (standardized mortality rates, low birth rates and fertility) and community or home based services (proportion of dependent persons and persons living alone).
AB	Population-based formula (age, sex categories) used to distribute funds for programs administered by RHAs. Province funds other programs directly. Regional programs are divided into 7 funding pools. Population based rates are calculated for each pool on the basis of prior years costs and available budget. A Region can shift money across funding pools, provided they do not increase spending for acute services.
BC	A combination of historical budgets plus a non-tertiary acute care funding model (Hospital Funding Allocation Model—HFAM). The acute care model allocates funding on the basis of age-specific utilization rates for each hospital's catchment area. Needs based funding model is planned. A Region can shift money across funding pools, provided they do not increase spending for acute services.
YT	No health region, there is one hospital funded on historical budget basis.
NWT	Historical global funding arrangements. Details not available.

Note: As of Fall, 1999

Section 3. Data Sources for Regional Expenditure

Health expenditures by regional boards are presently reported in public documents by all provinces. These expenditures are consolidated with provincial expenditures by most provinces. Over the last three years, during the validation process of the annual NHEX estimates no significant amounts of unreported regional expenditure were discovered.

Regional health expenditures could be reported on the basis of expenditures by each regional board, combined expenditure by all regional boards within a province or according to the distribution of expenditure by the regions in which people live (by region of residence). A discussion follows on the availability of data sources required to develop estimates for both perspectives, in the public and private sectors.

Expenditure by Regional Boards

In theory, all regions are required to report to their province/territory on an annual basis. A provincially-defined chart of accounts, based on the Guidelines for Management Information Systems in Canadian Health Service Organizations (MIS Guidelines) is used in all jurisdictions except Quebec and Saskatchewan. In Ontario and the Yukon, which are not regionalized, hospital reporting is based on the Guidelines. The degree to which reporting actually occurs varies from province to province.³

At a recent meeting sponsored by CIHI, ministry and field representatives agreed that reporting according to MIS Guidelines should be implemented across the continuum of service delivery settings within the next three years. If this implementation is completed as planned, operational data collected under the MIS Guidelines will be a potential source of expenditure data for services provided by regional health boards.

Provincially based programs such as physicians' services, pharmacare and home care will not be included in this reporting system, however. As well, a complete reconciliation process would need to occur prior to using this data, to remove double-counting and any inconsistencies that might exist between the regional reports and the provincial public accounts, which are the main source of data on provincial expenditures.

Comparisons of expenditure by individual health boards will be most useful in the context of specific programs that are common to all the boards being compared. Reports based on MIS Guidelines will allow comparison of physical and human resources as well as expenditures used in the delivery of specific health programs.

Alberta, Saskatchewan and PEI currently include their regional health authorities' financial statements in public documents. The financial statements report each region's expenditures by type of service, and the region's total revenue, broken down by source of revenue. Although provincial contributions are the main source of regions' revenues, fees

³ Provincial implementation activities which commenced during the 1990's were stalled or delayed in some provinces in light of the major restructuring activities associated with health reform. For further detail, see *"The Annual Hospital Survey and MIS Guidelines: Challenges in Achieving the Vision"*, a white paper prepared for the CIHI Board of Directors, October 1998.

and contributions are also received from other public sources and from patient charges for certain services. As a result, the financial statements of regions contain both public and private sector expenditures.

Comprehensive Expenditure Estimates by Region

Estimates of expenditure per capita require that expenditures be allocated to the regions in which people reside. There are no comprehensive estimates of health expenditures by region of residence within provinces at the present time. The Manitoba Centre for Health Policy Evaluation has developed a methodology for measuring most provincial government expenditure in Manitoba's 13 regions, based on area of residence (MCHPE, 1997). The methodology is able to account for 79% of provincial government health expenditure. MCHPE claims its report may be the most comprehensive regional accounting in North America. The MCHPE project was a special study and there is no intent to maintain estimates on an on-going basis.

Alberta has a population-based funding formula for programs administered by regional authorities, which includes approximately 40% of provincial government health expenditures⁴. The formula does not include province-wide tertiary care and provincially administered programs. The formula provides adjustments for services received in other areas, resulting in a hybrid model (for regional accounting) that is based on both region of residence and region of delivery.

British Columbia is beginning a project to account for all provincial government expenditures by region. The methodology being used will result in a mixture of region of expenditure and region of residence (e.g. grants to hospitals would be based on location of hospital and grants to individuals would be estimated by provincial population distributions). The project was scheduled to start in Sept 1999 and collect data in a five-year time series.

There are no existing sources for federal direct, municipal, WCB or private sector expenditures by either region of residence or by the regions in which expenditures occurred. Federal direct expenditures are obtained from a number of sources in the federal government. Municipal expenditures are obtained from Statistics Canada's Financial Management System (FMS)⁵. WCB expenditures are obtained from each province's Workers' Compensation Board.

Private sector expenditures by health region would require household expenditure surveys and a revised system of reporting by private insurance firms. The Statistics Canada Household Expenditure Survey is the main source of out-of-pocket health expenditures. The survey has recently been expanded with a view to accurately measuring provincial expenditure, but there are no plans to measure expenditure by sub-provincial regions.

⁴ Based on \$1,878 million in population based funding in 1997/98 and provincial health expenditure of \$4,563 million in 1997 (NHEx). The Alberta Health budget for 1997/98 was \$4,093.6 million.

⁵ The FMS is an analytical framework designed to produce a statistical series on all financial transactions of the public sector in Canada, including health. Expenditure data are reported for provincial and municipal governments in aggregate, but not for health regions.

Statistics Canada's Canadian Community Health Survey could be a potential future source of household out-of-pocket health expenditure data at the regional level, although expenditure-related questions would have to be added to the survey for this purpose.

Insurance firms are not known to systematically report data by region of residence—their focus is on insured groups, for understandable business reasons⁶. Consequently, the tools are not currently in place to measure health expenditures by residents of provincial health regions in the comprehensive way that NHEX measures expenditure by province and territory.

Ironically, it may be easier to develop health status indicators for health regions than to develop accurate estimates of health expenditure for the regions, especially in provinces where jurisdictional boundaries vary among programs. Health status can be measured through properly designed surveys of the population in each region, whereas public expenditures would have to be obtained from the administrative records of many public programs and private expenditures would require new or revised data collection methods. Many stakeholders would be required to cooperate in the data collection effort. In regions where population size is relatively small the potential for errors of estimation to distort per capita estimates is magnified.

Section 4. Conclusions and Recommendations

Objective 1: The first objective of this study was to determine the effects of regionalization on the present health expenditure estimates and data collection methods. The availability of regional expenditure data by category of service and the sources of regional expenditure data were of special concern. The study and the annual validation of NHEX data have confirmed that the comprehensiveness of health expenditure data and the level of detail by category of service have not been adversely affected by the devolution of responsibility for health expenditures to regional boards.

Objective 2: The feasibility and advisability of reporting health expenditures by region in NHEX has been considered in the context of two possibilities:

- Comprehensive data on health expenditures per capita within each health regions
- An additional public sector to report expenditures by regional administrations.

There are no systematic regional breakdowns by area of residence for spending by regional boards in many provinces nor for most provincial programs. Breakdowns of expenditure by region are not available for other public sectors nor for private sector expenditure by households and by insurance firms. In order to collect data by area of residence, revised reporting protocols would be required as well as more detailed, or specially designed, surveys of household expenditure. While population-based expenditure data would be a gold standard for comparisons of regional health expenditure, the resource requirement to

⁶ The possibility of preparing regional estimates from insurance claims databases would require further investigation.

collect and maintain data at this level would be very great and would require a commitment by many stakeholders.

Four criteria were used to evaluate the possibility of creating an additional sub-sector to report health expenditures by regional health boards, either separately or in aggregate.

1. Inclusion of a regional sub-sector would not add to the comprehensiveness of the NHEX database, as regional expenditures are presently included in expenditures reported by provincial government sources.
2. Health regions are not defined consistently in all provinces. Ontario, Canada's largest province, does not have a system of regional responsibility for health expenditure. Regions vary significantly in terms of governance and funding methods. In some provinces the catchment areas for regionalized programs vary from program to program. These dissimilarities prevent the development of an operational concept for the reporting of regional health expenditures.
3. Health regions meet the criterion of responsibility for payment since they make allocation decisions for funding transferred from provincial governments. Allocation decisions are constrained by provincial public policy, however.
4. Health regions do not raise revenues through taxation or social security premiums. There is not an independent source of data on regional expenditures and only three provinces provide expenditure summaries by regions outside the provincial public accounts reporting structure.

These observations lead to the following recommendations:

- 1. The development of comprehensive health expenditure estimates for health regions is not feasible within the limits imposed by present sources of data and data collection systems.**
- 2. A separate sub-sector in NHEX to report regional expenditures is neither feasible nor advisable, at this time.**
- 3. CIHI should monitor provincial and regional health expenditures on an ongoing basis to ensure that the comprehensiveness and the level of detail of provincial expenditure estimates are maintained.**
- 4. CIHI should monitor regional financial responsibilities and sources of data and re-evaluate recommendations 1 and 2 as appropriate.**

Regional expenditure data will be important to evaluations of regionalization. Given the diversity of responsibilities within existing regional boards and the differences in programs administered, regional expenditure data will be most useful when collected for specific health programs and within a consistent framework of definitions. Expenditure reporting by regional boards using the MIS Guidelines is targeted for implementation within the next three years in most provinces. Data collected under these standardized reporting protocols

will allow comparisons of the distribution of spending by regional boards within the programs they administer. These data can be especially useful if they are combined with data on physical resources and utilization collected using similar and consistent definitions.

The NHEX database does not have a regional structure. This is quite consistent with its business mandate, since the greatest client interest, historically, has been in aggregate health expenditures. There is a large international and national interest in health expenditure, and a smaller national clientele for provincial data. It will be in the best interests of CIHI and its clients to use resources presently available to NHEX to maintain high quality data at the national and provincial/territorial levels.

Appendix A
Provincial Notes

Administrative Structure and Financial Arrangements

Newfoundland

There are 6 health regions. Community health boards and institutional boards function separately in 4 regions. Northern Newfoundland and Labrador regions have integrated boards. Two of the regions that do not have integrated governance have 2 institutions boards each (accounting for 6 separate institutions boards in all). There is also a St. John's Nursing Home Board. Institutional boards are responsible for hospitals and nursing homes (except in St. John's), while community health boards are responsible for public health, home care and home support, continuing care, mental health and addictions, as well as child welfare, family rehabilitation and youth corrections.

Prince Edward Island

Prince Edward Island has five regional boards. The boards are active in planning and providing health and social services. PEI has a population of approximately 130,000, with regional populations ranging from 7,600 to 62,800 in 1995. Specialist care for the entire province is provided in East Prince and Queens regions, and a significant proportion of tertiary care is provided in New Brunswick and Nova Scotia. The two major hospitals and other facilities must have capacity to serve residents from other regions and this implies a strong provincial presence in planning and resource allocation.

Regionally operated facilities and private nursing homes provide nursing homes and other residential care facilities. The province subsidizes 90% of beds in the public facilities and 50% of beds in private facilities. A Seniors Assessment Program (provincially operated) determines admissions to the facilities.

There is a provincially funded home care program. Regional boards are responsible for financial management and operations of the program, and can tailor program content to meet regional needs. Ambulance services are a provincial government responsibility. The provincial government also operates programs to insure seniors' drugs and children's dental care. Dental public health is a provincial responsibility.

Nova Scotia

From 1995 to 1999, four RHBs were responsible for primary and secondary level hospital services. Tertiary care is provided by four hospitals responsible to the Department of Health (DOH). RHBs were also responsible for mental health (institutions and clinics), drug dependency and public health. These services were organized on a regional basis before the formation of RHBs, but were subject to overall administration by DOH.

A new government cancelled the regional boards in the fall of 1999. Regional administrations continued to function, but they now report to the Deputy Minister of Health. A new regional structure is being developed. A senior DOH official described the future structure as comprising nine District Health Associations (DHA) with geographical boundaries defined by the catchment areas of regional hospitals. The DHAs will be responsible for hospital services. In future, DOH may devolve responsibility for other

services to DHAs. The Cape Breton Regional Hospital, which was formerly outside the regional board structure, will be the nucleus of one of the DHAs.

DOH is responsible for insured programs and the provincial home care program. Responsibility for long term care is shared between DOH, which funds and regulates nursing homes and homes for the aged (operated by municipalities or the private sector); and Community Services, which is responsible for licensed homes for special care (e.g. adult residential centres, residential care facilities, group homes).

Thirty-eight community boards are planned. They are supposed to develop community health plans to be incorporated into regional plans. The boards were established by RHBs. They do not employ any health professional staff. Many communities in the province complain they have lost the control they previously had over local health care institutions as a result of the centralization of hospital governance in the RHBs and the closing or downsizing of community hospitals. The future role of community boards is not clear.

New Brunswick

New Brunswick has seven health regions and eight regional hospital corporations (RHC)—one region has separate French and English corporations. The RHCs are responsible for hospital care, mental health (including psychiatric institutions), alcohol and drug abuse and family services. Each region also operates an Extra Mural Hospital program. The Extra Mural program offers acute and continuing care at home or in residential facilities separate from hospitals. The Extra Mural program will be responsible in future for all rehabilitation services previously provided in residential facilities, schools or at home (HC). In the areas of public health and mental health there is a sharing of responsibilities between RHCs and the province (there is a provincial epidemiological service under the Public Health and Medical Services Division, and a separate Mental Health Services Division). The province or RHCs also operate multi-disciplinary community health centres under the public health envelope. One centre was operational and three additional ones planned as of 1997.

Long term home support services are provided through the Family and Community Services Division of the Dept. of Health and Community Services. Clients share the costs of these services based on ability to pay. Long term institutional care is provided in private sector (not-for-profit) institutions and is subsidized for low income clients.

RHCs are funded for hospital services through a formula based on case mix, resource intensity weights, and population served. The Extra Mural Program budget is separate from hospital funding and each RHC administers a provincially designated budget for its region.

Québec

Regional health and social services boards oversee activities of institutional boards that govern institutions and Local Community Service Centres (CLSC). Institutions include hospitals, rehabilitation centres, long term care centres and child and youth protection centres. The CLSCs (151 as of 1997) provide primary medical care, pregnancy care, public health (monitoring infectious diseases, vaccinations, dental hygiene), social services (youth clinics, family counseling and support for vulnerable women), and occupational health. CLSCs also provide home care, home support, physiotherapy and equipment rental; and

act as gateways to residential facilities for the elderly. Home support services are partially subsidized, with clients paying the remainder.

There are separate boards of directors for CLSCs, hospitals and long-term care institutions. The Ministry of Health and Social Services (MOHSS) is encouraging amalgamation, and 61% of CLSC boards were combined with another institution in 1997. Regional agencies allocate budgets to institutions and provide grants to community agencies.

There are 2,000 community agencies. The Québec MOH website lists their responsibilities as home care for the elderly, social reintegration of psychiatric patients and health promotion. Twenty percent of the positions on regional boards are filled by members of community agencies (HC, 1997).

Regional boards have public health directorates. MOHSS has a Public Health Branch. Mental health services are being reorganized, with a goal of 60% of public funding for community-based services and 40% for institutional care by 2002 (HC, Que., pg. 18).

Physicians services are administered and financed by the Health Insurance Board—Régie d'assurance Maladie de Québec (RAMQ). Since Jan. 1997 Quebec has had universal drug coverage through a combination of mandatory social insurance for persons under 65 who are able to obtain group insurance and coverage by the RAMQ for others. MOHSS also operates a children's dental plan.

Ontario

Sixteen District Health Councils (DHC) have an advisory role in planning and resource allocation, but they do not manage or fund services. Major reorganization of the hospital system is being carried out at present by a provincially appointed Health Services Restructuring Commission.

Local Boards of Health (42) became responsible for public health beginning Jan. 1998. Boards are funded jointly by the MOH (75%) and the municipalities in which they operate (25%). There are a total of 42 Boards, 27 of which cover more than one municipality.

The province funds acute care and programs for long term care, home care and emergency health services. Long term care and home care is now coordinated by Community Care Access Centres (CCACs), which contract with non-profit and for-profit service providers. HC reports there were 43 CCACs in 1997, and they acted as an entry point for access to over 1,200 agencies providing long term care, home care and home support (HC, Ont. pg. 17). CCACs are also expected to take on responsibility for care moved to community settings as a result of institutional restructuring.

Mental health services are funded provincially but organized on a regional basis. Like most provinces, Ontario mental health funding appears to be centered on psychiatric institutions. There is a move at present to reduce institutional beds and reallocate funding to provide more services in community settings.

Manitoba

Manitoba has 11 rural and 2 urban Regional Health Authorities (RHA). The 11 rural RHAs have responsibility for hospitals, other health care institutions and core services. Winnipeg has two separate authorities: one responsible for hospitals and the other responsible for community and long term care. RHAs may each appoint up to four District Health Advisory Councils to obtain community input.

Existing hospital boards have the prerogative to decide whether to join amalgamated boards or operate independently. If they operate independently, funding is provided by the RHA on a contract basis, and the hospital board is responsible for any deficits incurred.

RHAs are responsible for core services which encompass the full continuum of care, including acute care, public health, home care, mental health, addictions, long-term care, and emergency medical services. Some core services continue to remain provincial responsibilities (e.g. dialysis, oncology).

Saskatchewan

Saskatchewan has 32 District Health Authorities (DHA). The DHAs are community based and two-thirds of their members are elected at the time of municipal elections. The province also has 10 service areas, and some programs are administered on the basis of service area rather than district.

DHAs are responsible for core services, including hospital acute care, long-term institutional care, home care, rehabilitative care and emergency medical services. DHAs are responsible for public health services at district level (e.g. public health nurses, inspectors, and nutritionists) while Saskatchewan Health is responsible for province-wide services. Insured programs for physicians' services, children's dental care, optometry and chiropractic are provincial responsibilities. The province also operates the air ambulance program.

Mental health is organized through the ten health service areas (mental health regions), although they are considered to be a DHA responsibility (HC, 1997). Mental health includes both in-patient and community based services.

Population-based funding accounts for approximately 80% of DHA funding based on the age, gender distribution of the population and indicators of need. (Standardized mortality rates, low birth weight and fertility are indicators for hospital funding. Proportion of dependent elderly persons and persons living alone are used as indicators for home care and other support services.) Adjustments to the funding formula are made for services obtained in other districts. Mental health, public health and addiction services are funded separately, using historical funding patterns as the basis for allocations.

Alberta

Alberta has 17 Regional Authorities and 2 provincial boards for Mental Health and Cancer. The mandate of the mental health board was changed from program delivery to advisory status in 1996, when mental health programs were devolved to Regional Health Authorities (RHA). Regional boards are responsible for hospital care, long term (continuing) care, mental health, home care and home support, mental health and public health. RHAs have appointed community health councils (CHC) to provide local input in planning. The number of CHCs and their specific roles are determined by the RHAs.

Alberta Health provides population-based funding for RHAs through a well documented formula. Additional funding is provided to Calgary and Edmonton RHAs for province-wide tertiary care services. The mental health and cancer boards have separate funding. Alberta Health is responsible for physicians' services, drug insurance and other providers. Ambulance services are the responsibility of municipalities, except for inter-hospital transfers (RHAs) and air ambulance (a provincial responsibility).

British Columbia

British Columbia has a unique regional model. Administration is the responsibility of 11 regional health boards (RHB) (mainly in major urban areas) and 34 community health councils (CHC) in rural areas. RHBs are responsible for acute and continuing care facilities, community health programs, rehabilitation, mental health and public health. CHCs are responsible for hospitals and long term (continuing) care in residential facilities.

There are also seven health service societies in rural areas; they are responsible for public health, adult mental health and community-based continuing care. Home care and home support are included in community-based services.

The province is responsible for insured programs for physicians, other providers, children's dental care and prescription drugs. The province also operates the air ambulance service. A province wide Emergency Health Services Commission is responsible for other ambulance services.

Yukon

The Yukon does not have a regional health care structure. One hospital in Whitehorse serves the entire territory.

Territories

There are 9 Health and Social Service Boards in the Western NWT and three in Nunavut. Most boards are made up of several communities, although four boards serve only one community. One hospital board in Yellowknife (Stanton Regional Health Board) serves all communities of Western NWT.

Primary health care and public health services are provided through health centres located in most communities. Health centres are staffed by nurse practitioners who receive advice from physicians in Yellowknife. Some larger communities have private practice physicians. In addition to the referral hospital in Yellowknife, there are four other hospitals in Western

NWT and one in Nunavut. Many hospital services are provided in Alberta, Manitoba or Quebec. In 1995/96 medical travel accounted for 10% of the NWT health and social services budget. The boards have responsibility for the medical travel program (HC, NWT, pg. 24, 3, 29).

The boards provide home care. Long term care is provided in a limited number of institutions and the degree of involvement of regional boards in managing long term care varies. Boards also have responsibility for social services.

Boards are funded according to historical funding patterns, with some programs funded on a per capita basis. As of 1997, the Territorial Government was working with boards to develop a needs-based funding formula for 80% of board funding.

Appendix B

National Health Expenditure Database Roadmap Initiative

Background

The National Health Expenditure (NHEX) database is the authoritative source of information about health expenditures and health expenditure trends in Canada. The database is compiled with aggregate expenditure information from 110 different sources. It is updated continuously by a process that includes data collection and consultations with data suppliers.

The NHEX database presently includes health expenditure estimates from 1960 to 1997 and projections for 1998 and 1999. Estimates by source of funds are available at the national level for four sub-divisions of the public sector and for three sub-divisions of the private sector. Estimates by use of funds are available for all sectors within seven major categories, which are subdivided into greater detail in the database.

Definition of Health Expenditures

Health expenditures are defined as "*expenditures for which the primary objective is to improve or prevent the deterioration of health status*". The phrase '*primary objective*' is interpreted in terms of normal usage, not personal motivation, which may change according to circumstance. The measurement of health expenditure is conceptually similar to the expenditure-based National Income and Expenditure Accounts⁷. Health expenditures are the final value of goods and services, capital investment, research and administrative costs in the public and private sectors of the economy. Estimates are available in both current dollars and constant prices. The objectives of the health expenditure series are:

1. To support the development and evaluation of health programs in Canada by all levels of government, and within the private sector.
2. To compile information on health expenditures that will accurately portray the importance of health care as a component of national expenditure.

Features that increase the usefulness of the expenditure estimates include:

Comprehensiveness: All health expenditures in Canada are included in the estimates.

Consistency: Annual estimates from reliable sources are available for all data elements.

Definitions and methods of organizing data are the same from year-to-year. Historical estimates are revised when definitions or data collection methodologies change.

Data Standards: Expenditure estimates meet standards for national health accounts developed by the Organization for Economic Cooperation and Development. Data concepts conform to definitions used in reporting systems for health care institutions, health human resources and, at highly aggregate levels, population utilization of health services.

⁷ *Gross Domestic Product, by income and expenditure*. Canadian Economic Observer, Periodical. Statistics Canada, Ottawa.

NHEX Vision

The vision for the NHEX database is that it will be a strong, well-defined component of a Canadian health information system. The NHEX database will focus on health expenditures and will use classification systems that are relevant to the needs of health care stakeholders and the public. The health information system will allow information on health expenditures to be integrated with information about resource availability, resource usage and health outcomes produced from other databases or research projects.

Project Scope

The scope of the NHEX roadmap project includes an assessment of the existing database, including data quality and level of detail, in light of current and emerging user needs. Emerging issues and data quality improvements will be prioritized according to their importance to national and provincial health policy.

A series of feasibility studies will be conducted on priority issue areas. After each study, decisions will be taken about the advisability and possibility of expanding estimates in the NHEX database to include data on the topic studied. This process will guide required modifications to the database.

Project Goal and Objectives

The goal of the NHEX roadmap project is to make enhancements to the NHEX database to ensure its continued relevance and usefulness in supporting accurate macro level analysis of Canadian health spending. Specific objectives include:

- To identify current and emerging issues
- To assess the relative importance of identified issues to the National Health Expenditure database
- To reconcile differences in the classification of health expenditures
- To identify data quality issues in current database, prioritize required changes and implement, where possible; and
- Where required, to implement modifications to the database.

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