

National Health Expenditure Database

Long Term Residential Care in National Health Expenditures

Feasibility Study



Canadian Institute
for Health Information

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Long Term Residential Care in National Health Expenditures

by

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Executive Summary

This paper was prepared to summarize the results of a study undertaken in June 2001 under the National Health Expenditure (NHEX) Roadmap project. The study examined the Other Institutions category of NHEX in light of recent evolutions in long term care in Canada. The objectives of the study were to:

- examine sources of information for Other Institutions expenditure;
- recommend revisions to expenditure estimates where appropriate; and
- clarify the distinction between long term residential care and home care in the NHEX database.

The feasibility study recommends a modified definition of Other Institutions in NHEX in order to clarify the nature of services and the types of institution that are considered to be included in the definition. The new definition is conceptually consistent with home health care in the Home Care estimates in the NHEX database. The new definition is:

Other Institutions include residential health care in long term care institutions (such as nursing homes), which are normally licensed, approved or funded by provincial or territorial departments of health and/or social services. Residential health care in this definition normally involves care by recognized health professionals, such as nursing staff, employed or contracted by the institution. Services or facilities solely of a domiciliary or custodial nature are excluded.

The study included a detailed analysis of the *Residential Care Facilities (RCF) Survey* over three years. As a result, it was possible to revise the categories of institution considered to provide long term health care consistent with the NHEX definition for comparisons between NHEX public sector funding and the RCF survey.

Type II care in the RCF survey is considered to be comparable to the definition of health care used in NHEX expenditure estimates. RCF survey data show that approximately 86% of long term care is reported as Type II care and this percentage is consistent for both public and private sector income. Institutions that provide care of the aged account for over 90% of long term care expenditure.

Public sector estimates of expenditure for Other Institutions are obtained from Public Accounts. This data source is considered superior to survey data based on completeness and consistency in audited provincial accounts.

The importance of private sector income in Other Institutions varies across provinces, ranging from a high of over 35% in Ontario to levels of 20% to 23% in Newfoundland and Nova Scotia. Private sector expenditures in NHEX are estimated from the RCF survey. Their accuracy will be improved by adopting methodologies for estimating non-reported data developed during this study and by limiting the estimates to Type II care.

Municipal sector estimates have been obtained from the RCF survey in the past. This study found that municipal expenditures are already included in estimates for institutional expenditure provided by the Public Institutions Division of Statistics Canada. Municipal funding for long term care is believed to have diminished with the advent of long term care programs and regional administrations.

Recommendations

1. The modified definition of Other Institutions health expenditure developed during this study should be adopted for future NHEX estimates. Revisions of the historical series for private expenditure should be undertaken to the extent possible with existing data.
2. Public accounts should continue to be used as a source of public sector expenditure for Other Institutions. The RCF survey may be used to augment estimates as appropriate.
3. The RCF survey should be used as a source for private sector expenditure, using the estimation methodology developed for this study.
4. Private sector estimates should be limited to Type II care.
5. Municipal estimates for Other Institutions should be discontinued and methodological notes in the NHEX documentation modified to explain that municipal funding of Other Institutions is included in the Hospitals category due to limitations of the data.
6. Issues of care in unlicensed institutions and functional classification of care in hospitals should be monitored. Expenditure estimates could be enhanced in future if it becomes possible to recognize these dimensions of long term residential care.

Definitions

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.

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).

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 social security funds. The private sector is broken down into insurance, household out-of-pocket and non-consumption expenditure.

Category of Expenditure. The classification of health expenditures based on type of service or commodity purchased.

Continuing Care. Services provided by long term care, home care and home support programs.

Long Term Residential Care. Health care provided by provincially licensed or approved institutions to persons who reside in the institutions.

Other Institutions. The category in the National Health Expenditure Database that contains estimates of expenditure for long term residential care (see Executive Summary for complete definition).

Home Care. Care provided in the home by members of health occupations or through organized health programs supported by governments at the provincial, regional or community level (present definition in the National Health Expenditure Database).

Home Health Care. Services provided in the home by health care professionals (e.g. nurses, physiotherapists).

Home Support. Includes homemaker services, assistance with daily living, and minor home maintenance.

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 A for a description of the NHEX Database and NHEX Roadmap project.)

Introduction

In current usage, the term *long term care* is either synonymous with, or a component of, *continuing care*. Continuing care typically refers to a broad range of services in a variety of settings, including home care. In past, long term care was usually associated with *long term residential care* in facilities that offer a combination of nursing care and residential services (room and board and assistance with daily living). Care in community or home settings generally served a different group of clients who required special assistance such as periodic nursing care, or other treatments that could be delivered more efficiently outside an institutional setting.

Continuing care has been given considerable attention in Canada as a component of health system reform. Provincial continuing care programs usually seek to create a coordinated approach to a broad spectrum of services, with a single entry point for client assessment to determine eligibility for benefits and define the appropriate mix of services to be provided. Continuing care has been defined as including:

'All the services provided by Long Term Care, Home Care and Home Support. This term reflects within it two complementary concepts: that care may 'continue' over a long period of time, and that an integrated program of care 'continues' across service components'.¹

The National Health Expenditure Database organizes data by source of funding and type of provider or type of commodity. Continuing care programs in NHEX are classified as either *home care* or *other institutions* (i.e. long term residential care).

The study examined the Other Institutions category of NHEX in light of recent evolutions in long term care in Canada. The objectives of the study were to:

- examine sources of information for Other Institutions expenditure;
- recommend revisions to expenditure estimates where appropriate; and
- clarify the distinction between long term residential care and home care in the NHEX database.

Home Care in NHEX

CIHI completed a feasibility study on the way home care is reported in NHEX in July 2001². Home care services can be categorized as either home health care or home support. Home health care follows the conventional definition of health care adopted by NHEX and by the Organization for Economic Cooperation and Development (OECD), in that it includes services of health professionals. Home support includes services such as assistance with domestic chores, provision of meals or other services that do not have maintenance of health as their primary objective but which can delay or substitute for institutionalisation. After considering conceptual issues and issues of data availability, CIHI and the NHEX Expert Group concluded that it is not feasible to incorporate separate estimates of home care and home support in NHEX at this time. Home health care will continue to be included in NHEX estimates and CIHI will develop separate series for home health and home support as resources permit.

Section 1. Long Term Residential Care in NHEX

Long term residential care in NHEX is reported under the expenditure category, *Other Institutions*. A revised definition of this category is recommended as a result of this feasibility study. The recommended definition is:

Other Institutions include residential health care in long term care institutions (such as nursing homes), which are normally licensed, approved or funded by provincial or territorial departments of health and/or social services. Residential health care in this definition normally involves care by recognized health professionals, such as nursing staff, employed or contracted by the institution. Services or facilities solely of a domiciliary or custodial nature are excluded.

In this definition the concept of residential health care is conceptually consistent with the concept of home health care in the sense that clients require services due to their present state of health and that the health services are provided by recognized health professionals.

Categories of Licensed Institutions and Types of Care

Provincial governments designate institutions as hospitals or residential care facilities. In the case of extended or psychiatric care, the designation may differ between provinces or within a province over time. In effect, there is a continuum between hospitals and other institutions such that the boundaries are not always clearly drawn. In Newfoundland, for example, a committee consisting of administrators of acute, long term and community care programs deals with patient issues in all three sectors. Funding arrangements there have facilitated the establishment of long term care units within certain hospitals.³

In addition to institutions offering health care, provincially licensed residential care facilities include facilities that provide custodial or social services, such as institutions for delinquents and transients. Other types of institution, such as facilities for the developmentally delayed and facilities for emotionally disturbed children, may focus on education or social support.

All licensed institutions are surveyed annually by Statistics Canada. The *Residential Care Facilities⁴ (RCF) Survey* includes data on types of residents, type of care and source of income. Many licensed residential care facilities include a mix of clients, most of whom require medical care but some of whom are independent and receive only room and board. Types of care reported in the RCF are classified according to the following categories (abridged definitions from the survey):

- Room and board only—no care required.
- Room and board with guidance/counselling.
- Room and board with custodial care and/or special school, sheltered workshop, etc.
- **Type 1 care**—care required by a person who is ambulant but who has decreased physical and/or mental faculties, and who requires primarily supervision and/or assistance with activities of daily living.
- **Type II care**—care required by a person with a relatively stabilized (physical or mental) chronic disease or functional disability, who requires availability of personal care, with medical and professional nursing supervision and provision for meeting psycho-social needs.
- **Type III care**—care required by a person who is chronically ill and/or has a functional disability (physical and mental), who requires a range of therapeutic services, medical management and skilled nursing care plus provision for meeting psycho-social needs.
- **Higher type care**—involves more nursing and/or medical care than Type III. Care above Type III is usually provided in a hospital setting.

Other Institutions Estimates by Sector of Finance

Public Sector

Public sector expenditures reported in NHEX consist of expenditures by Ministries of Health (MOH) or health-related expenditures by combined ministries of health and social services. These expenditures are extracted from provincial public accounts. All expenditures of institutional continuing care programs funded through MOH are included in NHEX. Most provincial continuing care programs limit long term residential care to persons who require the availability of nursing care on a 24 hour basis or otherwise require more care than can be provided in a home or community setting⁵. This definition would be consistent with Type II or higher levels of care in the RCF survey.

Health-related expenditures by ministries of social services for Other Institutions would generally be consistent with Type II and higher levels of care. Many institutions provide a mix of care. For example, institutions for the aged had approximately \$4.8 billion income in 1998/1999. Institutions for the aged providing only Type II care received 68% of this income while institutions providing mixed types of care received 27% and institutions providing only Type I or lower levels of care accounted for 5%. Institutions providing mixed types of care do not break down income in the RCF survey according to the type of care received.

Eligibility for continuing care programs is assessed on an individual basis and it would not be reasonable to expect to find a complete match between expenditure reported by provincial long term residential care programs and estimates of income from Type II or higher care in the survey of residential care facilities. For example, some Type I facilities have residents who receive services through provincial home care programs or other special arrangements. There would also be a margin of error in reporting types of care in the survey.

Funding by ministries of social services is provided for a variety of institutional care, including educational services and domiciliary care not related to health. Only health-related care is included in NHEX where it is possible to distinguish between health and other social services. This distinction is often problematic in view of the levels of detail in Public Accounts. One of the issues in this study was to determine if the RCF survey could be used to validate estimates from Public Accounts of spending by ministries of social service, or combined ministries of health and social services.

Private Sector

Private sector expenditures are estimated from the RCF survey. Private expenditures include resident co-payments, which apply in most jurisdictions and are often based on the value of hotel services. In the Atlantic provinces, clients of provincial continuing care plans are means-tested and must pay the full cost of long term residential care if they can afford to do so⁶. Private sector expenditure for care below the level of Type II would often include hotel services for seniors who have chosen to reside in licensed residential care facilities (i.e. 'old age homes') rather than to remain at home or reside in unlicensed facilities. These expenditures are not considered to be health care.

Section 2. Analysis of RCF Survey Data

A major part of this project consisted of an analysis of the RCF survey over three fiscal years with a view to comparing survey data with expenditures reported in NHEX.

Objectives of the analysis included:

1. Develop criteria to assist in deciding which types of institution provide long term care in the definition used for NHEX.
2. Analyze the RCF income by source of funding and type of care.
3. Compare total income reported in the RCF survey by long term care institutions to total expenditure for Other Institutions in NHEX.
4. Compare provincial income reported in the RCF survey to provincial expenditure for Other Institutions in NHEX.
5. Re-develop methodology for estimating private sector expenditure for Other Institutions.

The study resulted in three background papers that are summarized in this section⁷.

Completeness and Consistency of RCF Data

The RCF survey is sent to all licensed institutions annually. It is a self-completed survey and some institutions either do not report or report only certain variables. Methods were developed for this comparative study to impute missing variables and extrapolate data to the universe of facilities in each category of facility in the nine provincesⁱ. Financial reporting was the most important type of data for this comparison. The six categories of facility analyzed had a rated bed capacity of approximately 168,000 in 1998/1999. Beds in facilities that reported any data represented 79.7% of total rated beds while beds in facilities that reported financial data represented 76.5% of total beds. As a result it was necessary to estimate income, by source, for almost one-quarter of rated beds.

It was also necessary to allocate income in mixed facilities between levels of care. This allocation was made, for each source of finance, according to the following method. When a facility reported mixed types of care, income from a particular source per resident with Type I and/or lower care in that facility is taken to be the same as income per resident in facilities with the same principal characteristic, within the same province, that reported only Type I and/or lower care. All remaining income from the particular source in that facility is considered to be for Type II and/or higher care.

Income is reported in the survey for five public sector sourcesⁱⁱ. Private income is broken down into three categories (co-pay or self-pay, preferred accommodation and sundry). Validity checks of the data found that some institutions did not provide consistent coding from year-to-year, while others appeared to break down income incorrectly between public sources. As a result, while the financial data appeared to be consistent in terms of total public and private sector income, a higher margin of error can be expected in the distributions of income within sectors.

Comparisons are also limited by respondents' interpretations of the definitions used in the survey and by the accuracy of classification systems within institutions (e.g. a recent Nova Scotia study expressed concern about errors in the classification of beds by type of care)⁸.

In NHEX, public sector data are subject to varying degrees of uncertainty depending on their source and the degree of ambiguity in accounting concepts used by different jurisdictions. While all of these factors limit the comparability of data, a comparison of NHEX public sector data to the RCF survey nonetheless provides an opportunity to validate estimates from different sources and to explore differences with a view to establishing if there are special circumstances that would explain the discrepancy, or if estimates might require revision.

ⁱQuebec and the Territories were not included in the comparisons for technical reasons.

ⁱⁱPublic sector income is broken-down by provincial ministries of health, social services, other provincial ministry, municipalities or district administration, and other public (federal, DVA, WCB and grants).

Categories of Long Term Care Institutions

After compiling and analyzing data for six categories of institution that were previously thought to provide health services, three variables appeared to be indicators of whether income for the institution type would be considered as equivalent to long term care health expenditures for purposes of comparing RCF income to NHEX public sector expenditure. These variables were (1) type of care provided, (2) ministry of health income as a percent of public sector income, (3) hours of care by health personnel as a percent of total paid hoursⁱⁱⁱ. The first two indicators are shown for each type of institution in Table 1. Income from Ministries of Health was not considered to be a limiting criterion for defining health expenditure. It was nonetheless included in this section for purposes of identifying institutions to be included in comparisons of the RCF to the public sector of NHEX, in which provincial ministries of health are the main source of funding.

Table 1. Health Care Indicators by Category of Institution

Category of Institution	Percent of Income for Type II and Higher Care			MOH as a Percent of Public Sector Income		
	1996/97	1997/98	1998/99	1996/97	1997/98	1998/99
Aged	90%	91%	91%	82%	84%	83%
Physically Disabled	42%	58%	46%	50%	57%	55%
Psychiatric Disability	54%	54%	53%	60%	53%	58%
Alcohol-drug Addiction	8%	5%	5%	41%	42%	54%
Emotionally Dist. Children	3%	5%	2%	6%	6%	6%
Developmentally Delayed	35%	23%	24%	3%	2%	2%

The first three categories tend to have over 50% of care at Type II or higher levels. Aged, which accounts for the largest expenditure, reported over 90% of income from Type II or higher care. Institutions in these three categories report 50% or more of public sector income from ministries of health (82% to 84% in institutions for aged persons). The other three categories report relatively low levels of Type II or higher care.

ⁱⁱⁱHealth personnel were considered to be registered nurses, registered qualified nursing assistants/licensed practical nurses, physiotherapists, occupational therapists, other therapists.

Alcohol-drug addiction appears to be an ambiguous category, with over 90% of care at Type I or lower levels, but with substantial amounts of MOH funding. The type of care provided in these institutions frequently involves counselling. Addiction counsellors are a relatively new category of health professional. They are recognized as health professionals in the *Guidelines for Management Information Systems in Canadian Health Service Organizations (MIS Guidelines)*^{iv}, but not by the Organization for Economic Cooperation and Development (OECD), which maintains international standards for health accounts. Alcohol and drug addiction programs are normally considered health care when identified in the Public Accounts. For these reasons, it was considered appropriate to continue to include this category in the RCF as institutions providing long term care and to include them in the comparisons to NHEX. CIHI has contacted the OECD to suggest it consider the issues of including addiction counsellors among its list of recognized health professionals and expanding its definition of long-term nursing care to include institutions that provide rehabilitation services to persons with alcohol and drug addictions. A response from the OECD indicated preliminary agreement and the issue will be discussed further at an OECD experts' meeting in October 2002.

The third variable, hours of health professionals, varied predictably with type of care. Institutions providing Type II or higher levels of care (including those reporting a mixture of higher and lower levels of care) reported approximately 32% of paid hours as earned by health professionals. Institutions providing only Type I and lower levels of care reported only 9% of hours as earned by health professionals—26% in the aged category, 12% in the psychiatric disability category and less than 5% for each of the other categories.

As a result of this review, the last two categories in Table 1 were not included in comparisons of RCF public sector income to the Other Institutions category of NHEX. Summary totals for categories included in the comparisons are shown in Table 2. Institutions for aged persons account for \$4.8 billion, over 90% of the total.

**Table 2. Summary of RCF Income for Selected Categories of Institution Nine Provinces
Fiscal 1998/1999 (\$ 000)**

Type of Institution	MOH	Total Public	Private	Total
Aged	2,694,458	3,256,298	1,585,877	4,842,175
Physical Disability	45,481	82,705	10,273	92,978
Psychiatric Disability	112,764	194,908	30,100	225,008
Alcohol—Drug Addiction	91,056	168,890	11,867	180,757
Total	2,943,758	3,702,802	1,638,117	5,340,919

Source: Statistics Canada RCF survey with imputation for missing values and extrapolation of totals by CIHI.

^{iv} The *MIS Guidelines* is the financial and statistical data standard, developed and maintained by CIHI, and used by the majority of health service organizations across Canada.

Section 3. Comparisons of RCF and NHEX Other Institutions Expenditure

Comparisons of RCF income and NHEX expenditure in the nine provinces included in this study are shown in Table 3. The greatest difference is evident for the provincial sector. Differences are smallest in the private sector. The RCF is presently used to estimate private sector expenditures in NHEX and differences in Table 3 result from the methodology used to estimate private expenditure, which are also discussed in a later section.

There are a number of reasons that could contribute to the fact that public sector expenditures in NHEX exceed income reported in the RCF. These include:

- Ministry of health expenditures for long term care would often be made outside the boundaries of institutional categories used in this study. In addition to the \$3.7 billion public funding shown in Table 3, \$226 million in Type II care was reported by the two institution categories discussed in the previous section that were not included in these comparisons. Other examples include special arrangements for clients in unlicensed settings or in institutions that normally offer only hotel-type services.
- Expenditures reported in Public Accounts might not always distinguish between long term care in hospitals and long term care in licensed residential care facilities. In order to test this proposition, expenditures in the Hospitals and Other Institutions category of NHEX were compared to combined income reported in the RCF (for the four institution types discussed here) and income reported in CIHI's *Canadian MIS Database (CMDB)*^v. The combined categories showed a difference of less than two percent when compared to survey data (extrapolated to adjust for non-reporting)—considerably less than the difference for either Hospitals or Other Institutions.
- Expenditures reported by long term care programs could include non-institutional expenditures, such as administration, client registration and continuing care expenses that would be ambiguous with respect to type or location of service.

As a result of these considerations it was decided that the definition of the Other Institutions category in NHEX should not be linked to specific categories of institution reporting to the RCF survey, as was the case in past. Instead, the definition should be based on health care as defined for purposes of the NHEX estimates, recognizing that some long term health care would be provided outside institutions included in the RCF survey and that institutions reporting to the survey could vary through time with respect to the balance between health and social, educational or domiciliary services they provide.

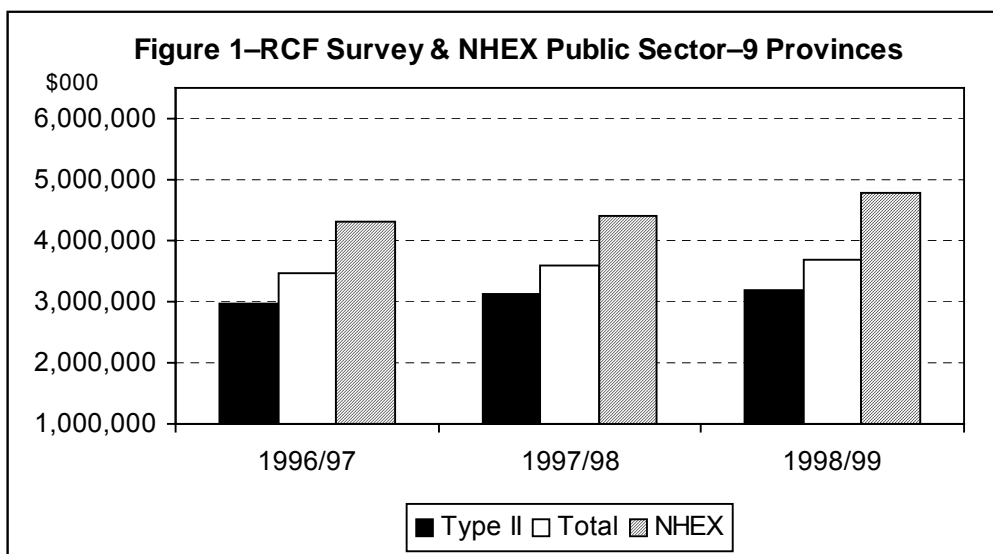
^v The *Canadian MIS Database* contains financial and statistical data relating to Canadian hospitals.

**Table 3. Comparison of RCF Income and NHEX Expenditure for Selected Institutions
Fiscal 1998-99 (\$000)**

Type of Care	Provincial	Total Public	Private	Total
Type I & Lower	445,927	530,006	233,522	763,528
Type II & Higher	2,858,876	3,172,796	1,404,595	4,577,391
Total	3,304,803	3,702,802	1,638,117	5,340,919
NHEX	4,540,697	4,795,258	1,543,283	6,338,541
NHEX/RCF Total	1.373	1.295	.942	1.187

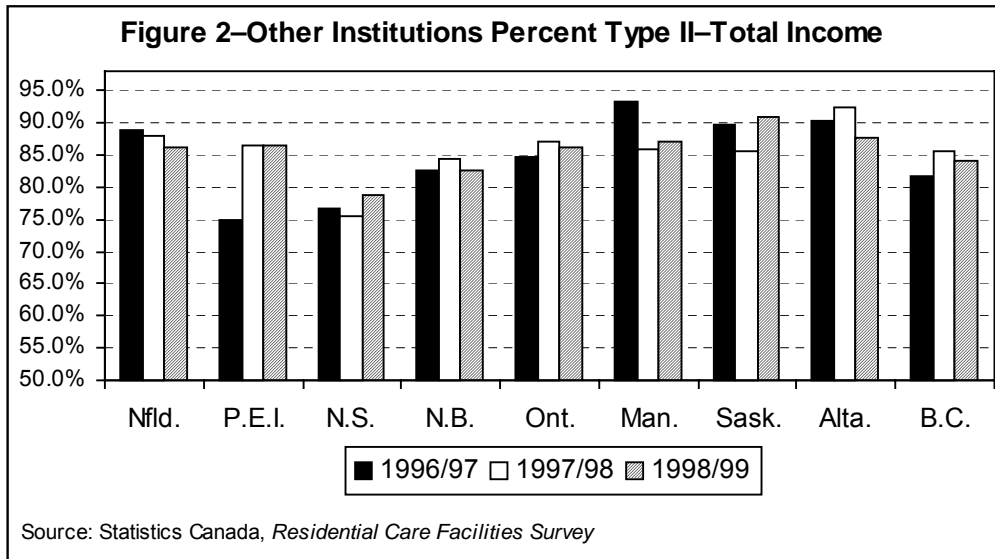
Source: Statistics Canada RCF survey with imputation for missing values and extrapolation of totals by CIHI.

The differences between NHEX and the RCF survey tend to be quite consistent across the three years in which data were examined, as shown in Figure 1. The trend was also consistent across provinces, with only Prince Edward Island showing a different pattern (NHEX expenditures in Prince Edward Island were below RCF income in two of the three years).



Income From Type II and Higher Care

Care at Type II or higher levels in the RCF survey is considered to correspond most closely to health care in the NHEX definition. This section discusses the share of Type II and higher care in total income reported by the four categories of institution across the nine provinces. The median share for Type II and higher was 86.2% in 1998/1999, 86% in the previous year and 84.6% in 1996–97. Provincial values for Type II as a percent of total income tended to be lowest in Nova Scotia and highest in Saskatchewan and Alberta (Figure 2). The percentages within each province tended to be quite stable in each of the three years.



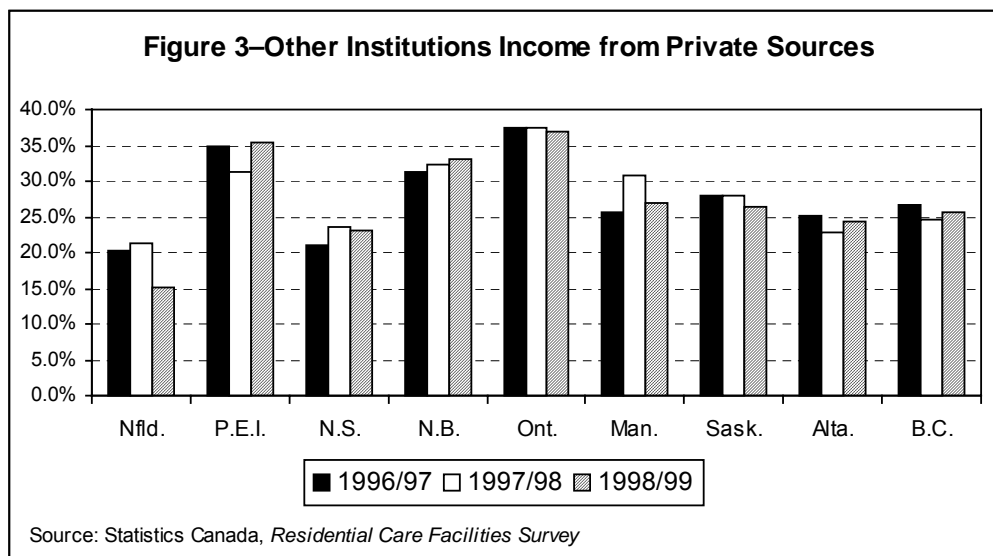
Private Sector Income of Residential Care Facilities

The median for Type II and higher income as a percent of total private sector income among the nine provinces was approximately 86% in each of the three years, almost identical to the percentage in the comparisons of Type II to total income.

The extent to which total RCF income is derived from the private sector provides an interesting view of RCF finance. Continuing care programs insure residential care, usually with co-payment for hotel type services, in all provinces except the Atlantic provinces. In the Atlantic provinces provincial governments subsidize only the costs that cannot be met by residents' incomes or by proceeds from divestment of their assets. One might expect to find private payments representing a higher percentage of total income in provinces where care is not insured, but that is not the case. Private income is highest in Ontario, where it represents over 35% of total income. New Brunswick and Prince Edward Island rank second and third, with 30% to 35% over the three years examined. The Western provinces tend to be similar to each other, with annual averages clustered around 25%. Newfoundland and Nova Scotia have the lowest levels of private funding, in the range of 20% to 23.5%^{vi}. Possible explanations for relatively low percentages of private finance in

^{vi}An analysis of Nova Scotia data by institution found 25% of income from the private sector in institutions listed as nursing homes or homes for the aged by the provincial long term care program. A provincial study estimated the private percentage as 39% (reference in endnote 8).

Newfoundland and Nova Scotia are: (1) persons who require long term care might resist entering a residential care facility in provinces where they must pay the full cost; (2) persons of modest means see their discretionary incomes and their assets quickly exhausted after admission to a residential care facility.



Section 4. Private Sector Estimates in NHEX

Private sector expenditure for Other Institutions in NHEX is estimated from the RCF survey. One of the issues considered in this feasibility study is whether to use only income for Type II and higher care in NHEX private sector estimates for Other Institutions. Definitions of types of care indicate that Type II and higher would be the appropriate threshold to define health care. Homes for the aged in the past frequently offered accommodation to private paying residents who did not require nursing care. With the advent of provincial continuing care programs, there is a trend to limit admissions to persons who qualify for the provincial program. This fact leads to two observations about public and private sector income in the RCF survey:

1. Public sector subsidies for Type I care could be provided for vulnerable clients who are expected to progress to higher levels of care in the near future, or through special arrangements in which nursing care is provided on a contract basis.
2. Private sector income for Type I care could contain a mixture of self-pay clients who entered the institution before assessment by continuing care programs became a condition of admission, and co-payments by persons in Type I care who are subsidized by continuing care programs (the RCF survey does not distinguish between self-pay and co-payments).

After reviewing concepts and data it was decided to include all private income for Type II care reported in the RCF by the six categories of institution identified in Table 1 as private sector health expenditure. Table 4 shows the breakdown of private sector income in the 1998/1999 RCF survey by category of institution and type of care. Institutions for the aged account for \$1.5 billion in private income, 94% of the total. In institutions for the aged, Type I and lower care represents only 17% of total income and private income represents over 45% of total income for Type I or lower care (total income for Type I care in institutions for the aged was \$436 million in 1998/1999). The predominance of private income in Type I care together with the definition of Type I and lower as requiring only assistance with daily living argues for excluding Type I income from the private sector estimates of health expenditure in institutions for the aged.

Table 4. Private Sector Income Reported in RCF survey, Fiscal 1998/1999 (\$000)

Type of Institution	Type I	Type II	Total
Aged	200,277	1,385,600	1,585,877
Physical Disability	2,556	7,717	10,273
Psychiatric Disability	18,822	11,278	30,100
Alcohol – Drug Addiction	11,867	0	11,867
Developmentally Delayed	39,554	6,722	46,276
Total	273,076	1,411,298	1,684,374

Source: Statistics Canada RCF survey with imputation for missing values and extrapolation of totals by CIHI.

Income for Type I and lower care is the only type of private income in institutions for alcohol-drug addiction, reflecting the predominance of Type I care in these institutions. Type I income was split almost evenly between self-care/co-payments and sundry (non-patient) earnings. As discussed in a previous section, the Type II and higher designation may not be an appropriate indicator of health care due to the fact that addiction counselling is not considered to be included in Type II. The sixth category included in Table 1, Emotionally Disturbed Children, also did not report private sector income for Type II care.

As a result of these considerations, it seems appropriate to exclude private income for care below Type II from the NHEX estimates, except possibly in the case of institutions for alcohol-drug addiction.

Private Sector Estimation Methodology

Two different methods have been used to estimate private income from the RCF survey. Both methods extrapolate reported data to derive totals:

- The method developed for this study calculated separate estimates for each institution category, sector of finance and type of care. Private income in reporting institutions was multiplied by the ratio of rated bed capacity in all institutions to beds reporting any income.
- The method previously used multiplied reported private income by the ratio of total beds in all reporting institutions to beds reporting private income.

The methodology used in this study is considered to be superior to the methodology previously used because (1) it allows for situations in which an institution may have only public income and (2) it extrapolates income for institutions that do not report any data to the RCF survey. This methodology is recommended for adoption in NHEX. A comparison of estimates is shown in Table 5. The use of the recommended method leads to a 9.4% increase over the previous method when the same institutional base is used (i.e. the six categories of institution identified in Table 1). The estimate is subsequently reduced by limiting the estimates to Type II and higher care. The combined effect is to reduce the NHEX 1998/1999 estimate by 8.6% over its present level.

Table 5. NHEX Other Institutions Private Sector Estimate 1998/1999

Estimation Criteria	Estimate (\$000)
Present Estimate in NHEX	1,543,283
New Methodology with same institutional base	1,689,236
New methodology, same institutional base and Type II or higher care	1,411,298

Section 5. Municipal Sector Estimates

The RCF survey has been used as a source of estimates for the NHEX municipal sector. The survey was used because the normal source of municipal expenditure estimates, the Public Institutions Division of Statistics Canada, does not show estimates for Other Institutions. Discussions with the Public Institutions Division have clarified the fact that any municipal funding for long term care institutions would be included in the data provided to CIHI but that this funding was not distinguishable from funding for hospitals.

In past, a number of municipalities were responsible for institutions for the aged within their borders. While many of these municipalities still own such institutions, their role in funding them is believed to have diminished as provincial long term care programs assumed responsibility for elderly clients who require health care. Regional administrations in most provinces now have responsibility for long term care. Consequently, the role of municipalities in funding long term institutional health care has diminished.

Section 6. Other Issues in Long Term Care

Two other issues in long term care were also considered during the course of this feasibility study. They are discussed below. At this time there appears to be no way to modify estimates in NHEX to inform these issues.

Unlicensed Institutions

Many persons reside in unlicensed facilities, sometimes under arrangements referred to as 'assisted living'. They may enter these arrangements requiring the equivalent of less than Type II care, but subsequently require increasing amounts of care as they grow older. The institutional and financial arrangements for providing care in these venues are not well defined at present, but they are a recognized issue for public policy⁹.

Functional Classifications of Long Term Institutional and Home Care

Clients of continuing care programs can be grouped into those who receive *acute care*, *rehabilitative care* or *long term care*. These functional classifications are based on the length of time during which a client is expected to require care through the program. Acute and rehabilitative care are typically provided in home or community settings. Services may be provided to assist recovery after discharge from hospital or to substitute for hospital treatment (e.g. home dialysis). Long-term care in the functional classifications can be sub-divided into long term residential care (*Other Institutions* in NHEX) and long term care at home.

The distinction between acute & rehabilitative care and long term care also is relevant in hospital care programs. Recent CIHI estimates based on the *Canadian MIS Database* indicate that 13.6% of hospital expenditure in 1996 was for long term nursing care¹⁰.

Present data sources do not permit a clear distinction between expenditure for acute and rehabilitative and long term care in hospital and home care programs. CIHI plans to place this issue before an advisory committee for the *MIS Guidelines* with a view to obtaining expert advice on the desirability and feasibility of providing these functional distinctions in future reports of institutional and regional program expenditure.

Conclusions and Recommendations

The definition of Other Institutions developed during the course of this study provides a greater consistency between the concepts used in compiling NHEX data and the subset of institutions in the *Residential Care Facilities (RCF) Survey* considered to be providing health care.

It is unrealistic to expect an exact 'fit' between public sector funding for institutional long term care and institutional types in the RCF survey. Public funding often includes special arrangements to address client needs in a variety of circumstances. The Public Accounts are considered superior to the RCF survey as a source of data on public expenditures, based on completeness and consistency in audited provincial accounts.

Private sector estimates in NHEX are estimated from the RCF survey. Their accuracy will be improved by adopting methodologies for estimating non-reported data and by limiting the estimates to Type II care. The new methodology and Type II criteria will reduce the NHEX private sector estimate for Other Institutions by approximately 9% in 1998/1999.

Municipal estimates should no longer be estimated from the RCF survey. The Public Institutions Division of Statistics Canada, which is the source of municipal estimates in NHEX, has confirmed that funding for other institutions will be included in the estimates of municipal expenditure for hospitals. The advent of regional administrations in most provinces and the tendency to include long term care among their responsibilities indicate that municipal administrative bodies now have less involvement in funding long term health care than may have been the case in the past.

Recommendations

1. The modified definition of Other Institutions health expenditure developed during this study should be adopted for future NHEX estimates. Revisions of the historical series should be undertaken to the extent possible with existing data.
2. Public accounts should continue to be used as a source of public sector expenditure for Other Institutions. The RCF survey may be used to augment estimates as appropriate.
3. The RCF survey should be used as a source for private sector expenditure, using the estimation methodology developed for this study.
4. Private sector estimates should be limited to Type II care.
5. Municipal estimates for Other Institutions should be discontinued and methodological notes in the NHEX documentation modified to explain that municipal funding of Other Institutions is included in the Hospitals category due to limitations of the data.
6. Issues of care in unlicensed institutions and functional classification of care in hospitals should be monitored. Expenditure estimates could be enhanced in future if possible to recognize these dimensions of long term residential care.

Appendix A

National Health Expenditure Database Roadmap Initiative

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 Accounts^{vii}. 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; and
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.

^{vii}*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.

References

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- ² *Home Care Estimates In Canada's National Health Expenditures*. CIHI, July 2001.
- ³ Hollander, M, Deber R, Jacobs P, Lawrence W. *The Identification and Analysis of Incentives and Disincentives and Cost-Effectiveness of Various Funding Approaches for Continuing Care: Technical Report 1 – Key Concepts, Literature and Findings for Canada*. Report to the F/P/T Advisory Committee on Health Services Working Group on Continuing Care. May 2000.
- ⁴ *Residential Care Facilities*. Statistics Canada catalogue 83-237. Statistics Canada, Ottawa.
- ⁵ *The Identification and Analysis of Incentives and Disincentives and Cost-Effectiveness of Various Funding Approaches for Continuing Care: Technical Report 5—An Overview of Continuing Care Services in Canada*. May 2000.
- ⁶ Ibid.
- ⁷ The following background papers were produced in this project. Contents of the second have been revised in this report:
- Estimate Of Income In Other Institutions By Source Of Finance And Type Of Care*, Gilles Fortin, November 27, 2001.
- Comparison of the Residential Care Facilities Survey With Other Institutions Expenditure Estimates in NHEX*, Vern Hicks & Gilles Fortin, January 29, 2002.
- Health Care in Residential Care Facilities*, Gilles Fortin, March 1, 2002.
- ⁸ *A Review of the Utilization of Nursing Home Beds*. Nova Scotia Dept. of Health, February 2000; <http://www.gov.ns.ca/health/facilities/default.htm>
- ⁹ *The Identification and Analysis of Incentives and Disincentives and Cost-Effectiveness of Various Funding Approaches for Continuing Care: Final Report*. Hollander Analytic Services, May 2000.
- ¹⁰ *OECD SHA Pilot: Canada's Experience*. CIHI presentation to OECD, May 2001.

