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Health Care in Canada



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About the Canadian Institute for Health Information

Since 1994, the Canadian Institute for Health Information (CIHI), a national, independent, not-for-profit organization, has been working to improve the health of Canadians and the health system by providing quality, reliable health information. The Institute's mandate, as established by Canada's health ministers, is to develop and maintain an integrated approach to health information in this country. To this end, CIHI provides information to advance Canada's health policies, improve the health of the population, strengthen our health care system and assist leaders in our health sector to make informed decisions.

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About Statistics Canada

Statistics Canada is authorized under the Statistics Act to collect, compile, analyze, abstract, and publish statistics related to the health and well-being of Canadians. The Health Statistics Division's primary objective is to provide statistical information and analyses about the health of the population, determinants of health, and the scope and utilization of Canada's health care sector.

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- **Dr. John Millar** (Co Vice-Chair), V.P. Research and Population Health, CIHI
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- **Ms. Jennifer Zelmer**, Director, Health Reports and Analysis, CIHI

It should be noted that the analyses and conclusions in this report do not necessarily reflect those of the individual members of the Expert Group or their affiliated organizations.

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Highlights

A Portrait of Canada's Health Care System

What we know

- The 20th Century saw dramatic gains in life expectancy in Canada and around the world. From 59 years in the early 1920s, our life expectancy at birth rose to 69 years in the 1950s and 79 years by 1997. Recent research also suggests that, compared to 20 years ago, older adults can expect better quality, as well as greater quantity, of life.
- Public opinion polls offer a perspective on how Canadians' attitudes towards health care have changed over the last decade. For example, in 1988 Angus Reid polls, health care didn't register when Canadians were asked for their opinions on the top national issue. By 2000, over half of respondents said that it should be the highest priority.
- Local, national, and international surveys have asked people to rate their overall impression of the health care system as well as the care they or their family members have received. Consistently, these surveys find that respondents give higher ratings to the care they or their family members receive, rather than to the health care system in general.

What we don't know

- How has the overall performance of the system changed as health care reform has been introduced?
- How have access to care, costs, patient outcomes after discharge, the impact on family and friends who act as caregivers, and patient and family satisfaction changed during and after health care reform?
- How do patient or public expectations influence reported satisfaction with care?
- How does patient satisfaction with particular types of care vary across the country?

Promotion, Prevention, and Primary Care: A Snapshot

What we know

- Promoting health and preventing illness are central functions of our health care system. Activities range from immunization for children and others at risk to prenatal or parenting classes and campaigns to promote healthy eating or to reduce drinking and driving.
- Many provinces/territories have introduced broad-based influenza programs in an effort to reduce illness as well as stress on the health care system. In some cases, programs are expanding. For example, some now offer free influenza shots to *all* residents.
- Telephone triage services are spreading across the country. These services are generally available 24-hours a day, 7-days a week. They supply answers to health-related questions and advise callers about how to handle non-urgent medical conditions.
- Eighty-five percent of women and 72% of men reported having contact with a general practitioner or family physician in 1998/99. Contacts were about equally likely for Canadians of all income levels but did vary by age. Older adults were more likely to have visited a general practitioner.
- Canada's First Ministers agreed to continue to make primary care reform a high priority in September 2000. Already, pilots of various options are taking place across the country and more are planned.
- For the second year, CIHI has found wide variations in regional rates of ambulatory care sensitive hospitalizations (also known as preventable admissions). For

example, 11 of Canada's largest regions had preventable admission rates under 300 per 100,000 population in 1998/99. But a number of areas had rates that were much higher—up to 1,069 per 100,000 residents.

- Many Canadians regularly use prescription and over-the-counter drugs. In 1998/99, commonly used medications included, pain relievers (65% of adults had taken them in the last month), antibiotics (8%), and remedies for colds (20%), stomach problems (10%), blood pressure (10%), allergies (9%), and asthma (6%).
- Use of complementary and alternative therapies among Canadians is increasing. Recent polls suggest 60 to 70% of Canadians have used some form of complementary therapy such as vitamins, mineral supplements, and herbs in the past 6 months.

What we don't know

- How many Canadian children receive all recommended immunizations on schedule?
- What services are delivered by physicians who are not paid on a fee-for-service basis and by other primary care providers? How do patterns of care or health outcomes differ based on who delivers services?
- What impact would different types of primary care reform have on costs, outcomes, and access to services?
- How safe and effective are various complementary and alternative medicines being used today?

Canada's Acute Care Hospitals: A Snapshot

What we know

- For more than a decade, Canada's inpatient hospital sector has been shrinking. Fewer patients are hospitalized overnight each year. And, those that are admitted stay, on average, for shorter periods of time.
- In the last five years, more than 275 hospitals have closed, merged, or been converted to another type of facility.
- Many more people are being cared for in hospital day surgery programs.
- Researchers continue to monitor and evaluate the impact of hospital closures and health system reform on the health of Canadians. Early results are already in for many parts of the country including British Columbia, Saskatchewan, Manitoba, and Montreal.
- There's no such thing as a Canada-wide waiting list for surgery. Nevertheless, there are pockets of information, collected in a variety of ways, about who is waiting for what and for how long.
- Pregnancy and childbirth are the leading reasons why women of childbearing years are hospitalized in Canada. A significant portion of births occur by caesarean section. Rates vary widely across Canada from under 15% to over 25% for some regions.

What we don't know

- What types of services do hospital emergency departments and outpatient clinics provide? How well is the changing mix of hospital services meeting the needs of the community?
- How do wait times compare across the country? What percentage of wait times fall within recommended guidelines for

most treatments? What is the emotional and physical impact of waiting for most treatments?

- To what extent are patients and their families across the country satisfied with the hospital care they receive?
- How do most types of patients fare after they leave hospital?

Providing Special Care: A Snapshot

What we know

- Many Canadians report being in good to excellent mental health. But others experience depression, schizophrenia, or other mental health and addiction problems. For example, about 4% of Canadians aged 12 and over reported symptoms suggesting that they had had at least one major depressive episode during the past year on the 1998/99 [National Population Health Survey](#) (NPHS).
- Many of those who report having symptoms of depression do not receive treatment for their condition. Under half (43%) of those who reported symptoms suggesting a major depressive episode in the 1994/95 NPHS said that they had talked to a health professional about their emotional or mental health in the past year.
- In 1996/97, nearly 185,000 seniors and 35,000 younger Canadians lived in nursing homes and other health care institutions.
- A recent Statistics Canada study followed 2,300 people who were living in health institutions across the country in 1994/95 for four years. About 50% died over this period. Of those still alive in 1998/99, 3 out of 5 said their health was as good as or better than it was in 1994/95.

- Home care services covered under publicly funded programs vary across the country. About 12% of Canadian seniors reported receiving publicly-funded home care services in 1998/99. According to results from CIHI's home care pilot project, home care clients often need help with activities such as meal preparation, bathing, and shopping. They are more independent with respect to eating, drinking, and dressing.
- New technologies, collectively known as telehealth, are beginning to offer innovative ways of delivering health care services and information over short and long distances. Many early evaluation results are positive; others identify on-going challenges.

What we don't know

- Who is seeking and paying for public and private mental health, rehabilitation, continuing care, and home care services? Who is providing this type of care? How is it monitored for quality? How satisfied are patients?
- How do home care outcomes compare with those in institutions? How do costs to the public sector, patients, and families differ depending on where patients receive services? How do effects on patients and their friends and family vary depending on where care is delivered?
- Are there people who could benefit from services outside of hospitals who aren't receiving them? For example, are there patients in hospitals who would be as well or better off at home, with the appropriate help, or in other types of health care facilities?
- How can e-technology most effectively be used in health care? What differences in access to and use of e-health exist across different groups?

Providers of Care

What we know

- About one in ten employed Canadians worked in health care in 1999. Many more Canadians helped to care for their friends and family members or volunteered with health organizations.
- The health care team continues to evolve. The numbers and roles of health care professionals continue to change. So does the range of regulated professions.
- In 1999, over 228,000 RNs were employed in nursing across the country. This is about the same as in 1998 but about 2.5% lower than five years earlier. However, preliminary estimates for 2000 suggest a slight increase in the number of RNs employed in nursing across the country over 1999.
- For the past 10 years, RNs have been more likely to miss work due to any illness or disability than other types of shift-work occupations (e.g. police officers, fire-fighters, and machine operators). They also tended to be away from work for longer.
- The overall number of physicians per Canadian is about the same as at the beginning of the decade, but the mix has changed. There are fewer family doctors per person and more specialists. The percentage of physicians who are female is also up.
- Data from a 1997 national survey on volunteering show a substantial increase (71%) over the past decade in the number of health care organizations with which Canadians volunteer.

What we don't know

- What are the age, sex, and working patterns of health care providers and managers other than physicians and nurses? How quickly is their age distribution changing?

- How many nurses and other health care providers (other than physicians) leave Canada each year? How many return?
 - Do the numbers and types of services provided by fee-for-service physicians differ from those provided by salaried or sessional physicians? If so, what impact does this have on the provision of care to the population?
 - How will changes in the supply and distribution of health professionals affect access to care in the future?
 - How are employment and practice patterns changing over time? How many health care workers prefer to work full-time or less than full-time? How do differences in labour arrangements affect the health care system's ability to respond to changing needs?
 - Which strategies will prove most effective at attracting, recruiting, and retaining health professionals in the long-term?
- survival excluding the very young and very old). Relative survival for the other cancers ranged from 15% for men diagnosed with lung cancer to over 80% for those with prostate cancer.
- At least three out of four people who received a kidney, heart, or liver transplant between 1992 and 1998 were likely to still be alive five years later. Chances of surviving following transplant appears to vary little across the country. Canadian estimates are also relatively similar to those in the United States, Australia, and New Zealand.
 - Research in Canada, the United States, and overseas has shown that for many different types of care and for many different surgeries, patients treated in hospitals with higher numbers of cases are less likely to have complications or to die after surgery. However, some argue that there are trade-offs to centralizing care, especially in rural areas where access to and continuity of care may be an issue.
 - In Canada, the extent to which surgical procedures are centralized varies across the country. For example, in 1998/99, 96% of bypass surgeries in Ontario took place in hospitals where more than 500 procedures are performed each year. This compares with 84% in British Columbia, 77% in the Atlantic provinces, 65% in the Prairie provinces and 53% in Quebec. United States researchers recently found that patients treated at centres performing fewer than 500 bypass surgeries were 39% more likely to die before leaving hospital than those cared for in higher volume hospitals.

Outcomes of Care

What we know

- In-hospital death rates within 30 days of initial hospitalization for heart attack appear to be slowly but steadily falling. In 1998/99, the overall rate, excluding Quebec and British Columbia, was 12.65%. After adjusting for differences in age, sex and comorbidity, most regions with a population of 100,000 or more had similar rates. But some regions were significantly below the overall rate; others were above it.
- A person's chances of surviving for five years after being diagnosed with cancer in 1992 varied dramatically depending on the type of cancer. New Statistics Canada data show relative survival rates for breast, colorectal, prostate, and lung cancer. Among women, survival rates were best for those with breast cancer (better than 80% five-year relative

What we don't know

- How healthy are patients 3, 6, and 12 months after most surgeries?
- What is the relationship between how much we spend on particular interventions and the health benefits they provide?

- For which, if any, surgeries do hospitals performing low numbers of operations place Canadian patients at higher risk of complications and death? For these procedures, what is the optimal number of cases a hospital should perform to provide safe and effective care?
- How many deaths could potentially be prevented by ensuring that surgery is provided at high volume centres?
- Drug costs now account for over 15% of total spending. They are expected to have climbed to \$14.7 billion in 2000, up 9% from the year before. The percent growth in drug spending between 1985 and 1998 was more than twice as high as for overall health expenditure.
- Spending on physician services grew relatively rapidly through the mid-1980s, then slowed during the 1990s. In 2000, CIHI projects growth of just under 5%. Physician services now cost almost \$13 billion, 13.5% of total expenditure.
- Most physicians are paid on a fee-for-service basis by provincial and territorial insurance plans. Some are partially or fully paid in other ways. Their ranks are growing in some parts of the country.
- More than half of all Canadians (52%) donated to one or more health organizations in 1997.

Spending on Health Care

What we know

- Estimates of public and private spending on health care topped \$95 billion in 2000, 6.9% more than the previous year. That works out to over \$3,000 per Canadian, up almost \$175 from 1999. Even after adjusting for inflation and population growth, there was a 4.1% real increase in spending between 1999 and 2000. Early budget announcements suggest that public sector spending increases may continue in 2001, at least in some parts of the country.
- Seven out of every ten dollars spent on health care comes from the public purse. The public share rose slightly in 2000.
- In 1998, Canada ranked 3rd among G-7 countries in terms of expenditure per person, behind the United States and Germany.
- With almost one-third of the total, hospitals represent the largest category of health expenditure. In 2000, hospital costs are expected to have risen more than 5% over the previous year. Nevertheless, their share of total expenditure continues to slip.

What we don't know

- How do changes in health care expenditure affect the health of Canadians?
- How does health care spending vary from community to community across the country?
- How much do Canadians spend on complementary and alternative medicines such as massage therapy, homeopathy, and herbal remedies?
- How much do rehabilitation, health promotion, and community-based services cost?
- How much does it cost, in total, to have a hip replacement, deliver a baby, or receive other types of care?

Introduction

What factors affect the health of Canadians? Are we living longer? How long can we expect to live without an illness or disability? What's happening in our health care system? How do services compare across the country? What about wait times? How much are we spending on health care? What do we know about the supply and distribution of health professionals?

The Canadian Institute for Health Information (CIHI) and Statistics Canada are committed to improving our ability to answer these questions. Our goal is to work towards improving the health of Canadians and the health care system by providing quality and timely health information. In doing so, we hope to support advances in the development of Canada's health policies, improvements in the health of the population, a strengthened health care system, and better informed debates and decisions about health and health care.

As part of this commitment, CIHI has once again joined forces with Statistics Canada to report on the health of Canadians and on the health of our health care system. This report, *Health Care in Canada 2001*, focuses on the health care system. Its companion report, *How healthy are Canadians 2001?* focuses on the health status of Canadians and the factors affecting their health.

These reports build on what we learned from the release of the first annual reports last year. We tracked the distribution of the reports, consulted with our Expert Group, and carefully considered the feedback we received from the reports' evaluation forms. In addition, CIHI commissioned an independent research group to conduct cross-Canada focus groups on the health care system report. These groups included health professionals, members of the general public, and the media. In general, participants indicated the report contained interesting, clearly presented, and accessible information.

And they wanted more. Focus group participants asked for additional information on a wide range of topics, including:

- the continuum of care
- health outcomes
- prevention and promotion
- mental health services
- the health care team
- health care expenditures
- wait times

This year's report draws on new data and analyses from CIHI and Statistics Canada, as well as research produced at local, regional, provincial, national, and international levels to address these and many other important issues. But we can only include what exists—information gaps remain in many important areas. We plan to continue to work with our partners across the country to fill these gaps and provide updates on the results of our progress in future reports.

About This Report

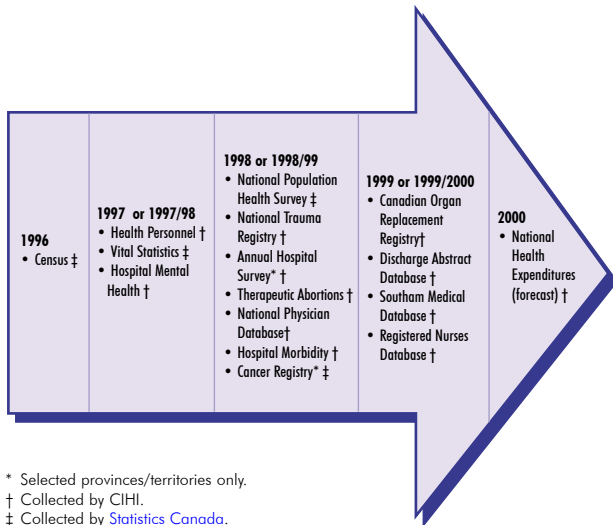
The report is divided into three parts:

- **Part A: A Portrait of Canada's Health Care System** provides an overview of what we know and don't know about the complex mix of health services that make up the health care system in Canada and how they—and the public's perceptions of them—are changing.
- **Part B: In-Depth Reports: The People, The Care, The Cost** offers more detail on the changing mix of health care providers, the outcomes of care in Canada's hospitals, and the cost of health care. Each section includes new data and analyses along with recent research findings and long-term trends.
- **Part C: Future Directions** highlights recent developments and suggests what needs to be done to provide a more complete picture of overall performance in subsequent reporting on Canada's health care system.

Where the Data Come From

1

Most recent completed data year for pan-Canadian health data holdings at CIHI and [Statistics Canada](#) (as of April 2001). Data from previous years are also generally available.



The report also includes the insert "Health Indicators 2001". This reference piece provides updated comparative data on a range of health and health system indicators for Canada's largest health regions (accounting for over 90% of the total population) and the provinces and territories. Whenever the icon which is shown on the right appears in the main report text, it is an indication that related regional or provincial/territorial data can be found in the insert.



For More Information

Highlights and the full text of this report are available free of charge on the CIHI web site at www.cihi.ca. To order additional print copies of the report (a nominal charge applies to cover printing, shipping, and handling costs), please contact:

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The companion document *How healthy are Canadians 2001?* can be downloaded or ordered through Statistics Canada's web site at www.statcan.ca. A summary of that report is also available on the web site.

We welcome comments and suggestions on this report and on how to make future reports more useful and informative. For your convenience, a feedback sheet "It's Your Turn" is provided at the end of this report. You can also email your comments to healthreports@cihi.ca.

There's More on the Web

The print-version of this report is only part of what is available to you. On the day of release, and in the subsequent weeks and months, CIHI will be adding a wealth of related information to its web site (www.cihi.ca). For example, you will be able to:

- Download free copies of the report and insert in English or French.
- Read an overview of the report in a plain language brochure.
- Sign-up to receive regular updates to the report via e-mail.
- View a presentation of the report's highlights.
- Access some of the documents and data used in preparing the report.
- Test your knowledge of Canada's health care system with our on-line quiz.

Part A: A Portrait of Canada's Health Care System

Each of us is unique. A wide variety of influences—smoking, unemployment, air quality, and exercise, to name just a few—affect our health and well-being. Over time, we may develop diseases, injuries, or other health problems. And we may experience impairments, limitations of activities, or barriers to our ability to participate in life situations.

At different times, in different ways, these health issues may cause us to come into contact with Canada's large and complex health care system. It can touch our lives in schools, physicians' offices, pharmacies, community health centres,

hospitals, home care, nursing homes, and many other places. Ideally, it shouldn't matter where we enter the system. The various providers and organizations should work together to provide a continuum of high quality care from health promotion and disease prevention, through to curative treatments, rehabilitation, and other services.

Like many other countries, Canada has seen profound changes in health and health care over the last fifty years. What have the impacts of these changes been? Who provides care today? How do they do it? How do they work together? The answers are complex and continually evolving. What follows is an overview of the health care system and a brief 'snapshot' of some of its components and the impact that they have on the health of Canadians. It is intended to complement the picture that we began to build in last year's report: *Health Care in Canada 2000* (available for free from www.cihi.ca).

Bringing Together Health and Health Care

2

People are at the centre of the model of health and health services shown below. Also identified in the model are issues or factors that can be associated with how we develop health problems; that relate to diseases, illnesses, injuries, and other health problems; and that are pertinent to the consequences of diseases.



Source: CIHI

1. Portrait of a Changing System

24 hours a day, 7 days a week, a Canadian computer stands guard. The [Global Public Health Information Network \(GPHIN\)](#) is an early warning system. It scans the web for news of disease outbreaks around the globe and sends them to the [World Health Organization](#) for verification and follow-up. A figment of the imagination only a few years ago, GPHIN is but one example of the profound changes in health care we have witnessed in Canada and around the world in recent years.

The 1990's brought significant changes to how care is organized and delivered in most parts of the country. In the last decade, most provinces have made major structural changes in their health care systems. The pace of change has differed across the country, but the driving forces have been similar. One key factor was the fiscal pressures facing governments across the land. Another was a growing understanding of population health and the broad set of factors that influence it. Plans tended to emphasize alternatives to hospital care and many provinces sought to use savings from hospital bed closures to fund community-based services, such as home care. Most provinces also reorganized their health care services.

This chapter provides an overview of how Canada's health care system is changing and what we know about the impact of the changes.

The Health of Canadians

Health care is usually a means to an end: better health. A recent controversial report from the [World Health Organization](#) tried to quantify how well health systems around the world were meeting their goals.¹ But many factors beyond the formal health care system also affect our health, as well as how health and illness are distributed among the population.

How healthy are Canadians? The 20th Century saw dramatic gains in life expectancy in Canada and around the world. From 59 years in the early 1920s, life expectancy at birth rose to 69 years in the 1950s and 79 years by 1997. And recent research suggests that, compared to 20 years ago, older adults can expect better quality, as well as greater quantity, of life.²

Compared with other nationalities, Canadians tend to live long lives—according to [United Nations](#) statistics, we were second in the world along with Iceland in 1998, behind Japan. In fact, Canada has been near the top of the international life expectancy rankings for several decades. Beginning in the early 1970s and continuing to the late 1990s, our gains in life expectancy for both men and women have been about average among OECD countries (twelfth out of the 29 countries).

Even within countries, not everyone has the same chance of a long and healthy life. For example, life expectancy for Canadian women was 81 years in 1997, compared to almost 76 years for men. Gender gaps also occur in rates of disease. In 1998/99, females 12 or older were more likely than men to report having been diagnosed with such things as high blood pressure, migraine, asthma, and bronchitis. Gender gaps for asthma, arthritis, back problems, and migraine increase for people who have low incomes.

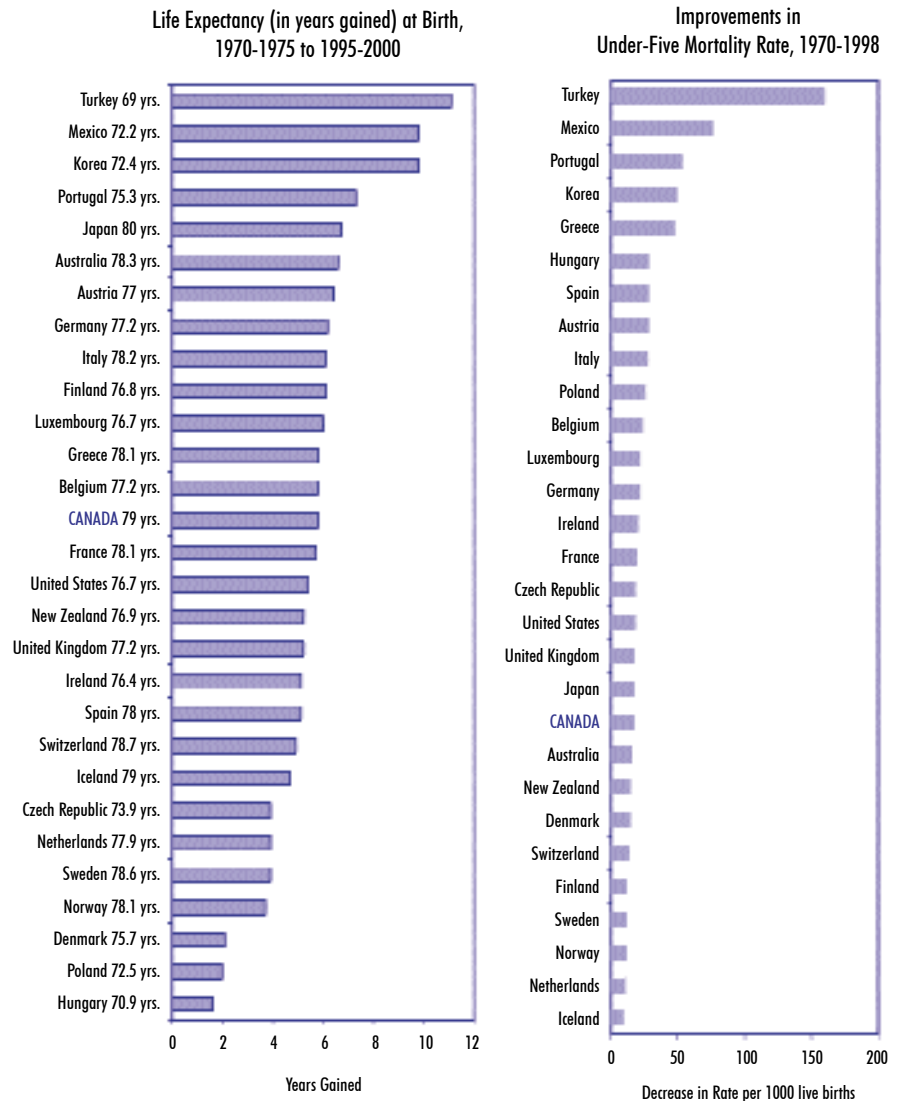
Significant gaps also occur from region to region across the country and between different population groups. For example, life expectancy in 1996 within most provinces differed by upwards of 4 years depending on where you live. In Quebec, there was over a 10 year difference in life expectancy from region to region within the province.³

What causes these differences? Health is influenced by many factors—only some of which are well understood today.⁴ What we eat, whether we smoke, and how much we exercise matter. Our income and education levels; our home, school, and work environments; and our opportunities for childhood development, among other factors, also play a role.

Life Expectancy and Under-Five Mortality Rate: Comparisons Over Time

3

According to the data collected by the United Nations Development Programme, life expectancy has increased from the 1970s for all OECD countries. Mortality rates for those under the age of five have decreased. The graphs below show the change in life expectancy (in years gained) from 1970-75 to 1995-2000 and the decrease in under-five mortality rates from 1970 to 1998 for OECD countries. In general, the largest gains occurred in countries with lower life expectancy in the 1970s.



Note: Years shown represent 1995-2000 life expectancies.

Source: 2000 Human Development Report, United Nations Development Programme

Canada's Health Care System: The Basics

The cornerstone of Canada's health care system is public funding of virtually the entire cost of medically necessary physician and hospital services. What we usually call "Medicare" is a series of interlocking public health care insurance plans. It began in 1947 with Saskatchewan becoming the first Canadian province to introduce a publicly funded, universal hospital insurance program. Saskatchewan was also the first province to insure physician services, in 1962. By 1972, all provinces and territories had followed suit. Today, all administer insurance plans guided by common pan-Canadian principles. The federal government is also directly responsible for some health care services for specific groups, including the [Royal Canadian Mounted Police](#), members of the armed forces, veterans, status Indians and Inuit, and inmates in federal jails.

Canadians also use other types of health care. Drugs, home care, nursing homes, dental care, physiotherapy, alternative therapies, and other supplementary services are funded through a complex mix of public and private insurance and out-of-pocket payments.

Reforming the System

How can we best improve Canadians' health? How can we make our health care system more responsive and accountable to the people it serves? How can we make sure that the right services are efficiently and effectively delivered, at the right time, to the right people? Is there a role for the private sector in improving the delivery of health care services in Canada?

These and other questions about how best to fund, organize, and deliver health care services have long been debated around the world. Canada is no exception.

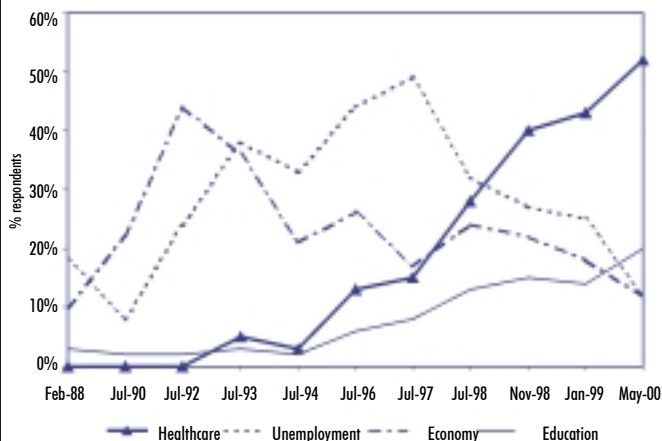
Over the past several decades, we have seen overlapping generations of reform. The latest wave of reforms swept across the country in the 1990s. It took place during a period of concern about fiscal deficits and of growing awareness of the range of factors outside the health care system that affect our health.

As part of these reforms, many provincial and territorial governments created health regions and assigned them responsibility for the day-to-day operation of the health care system. Goals varied. But most jurisdictions aimed to streamline health care services and to bring their planning and delivery closer to local residents.⁵ Other common goals included increasing the focus on health promotion and committing more resources to community-based services.

A Priority for Canadians

4

If you were to think of all the issues presently confronting Canada, which one do you feel should receive the greatest attention from Canada's leaders? Angus Reid polls have asked Canadians this question for more than a decade. Since 1998, health care has been identified as the top national issue. In May 2000, over half of those surveyed listed health care as the highest priority, more than twice as many as for the next most common choice.



Source: Northcott, H.C. and Northcott, J.L. (2000) The 2000 Survey About Health and the Health System in Alberta, Population Research Laboratory: University of Alberta.

The objectives may have been similar, but the size, responsibilities, authorities, and structure of regions differ from coast to coast. Typically, provincial governments delegate authority to regional health authorities through legislation. These authorities are then expected to operate within provincial principles, policy guidelines, and directives. Their boards are responsible for a range of health care services provided in a specified geographic area. This usually includes hospital care, long-term care, community health services, some mental health services, and public health programs. In most cases, funding for physician services, cancer care, prescription drugs, and some specialized services remains with the province or territory.

Measuring Satisfaction with Care

The 1990s were a turbulent decade. Throughout, care providers sought to meet the expectations of the patients and communities they serve. This included ensuring that patients were satisfied with the care they received and that the public as a whole believed that the health care system was working well.

A recent review commissioned by CIHI found that some type of patient or public satisfaction measurement is underway in most parts of the country. Many initiatives are taking place locally within individual health regions or hospitals. Broad-based polls of the general public are also conducted periodically.

Research shows that measuring satisfaction is a complex issue, partly because it can be affected by a wide range of factors. Some of these factors are related to the tools used to measure satisfaction. For example, how and what questions are asked may affect respondents' opinions. But different types of people also tend to respond differently, even when asked exactly the same questions. In addition, many surveys have found that respondents give higher ratings to the care they or their families received, than to the health care system in general.

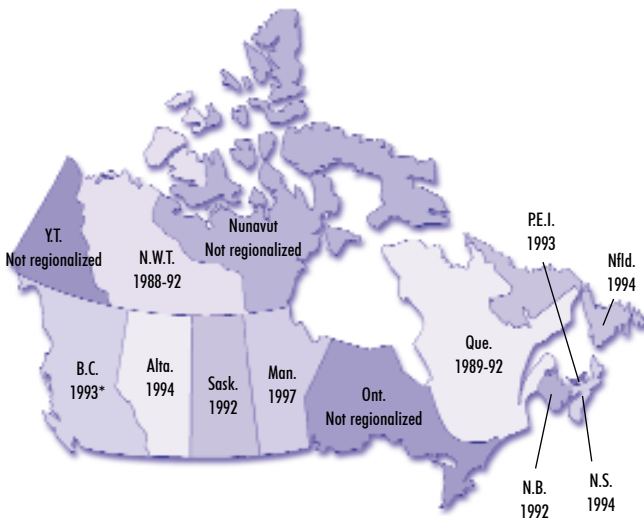
What Pan-Canadian Polls Say

Politicians, governments, the news media, advocacy groups—many groups regularly commission public opinion polls on a wide variety of subjects. The Conference Board of Canada recently collated the results of health-related national polls conducted between the late 1980s and August 2000.⁶ The researchers recognized that "there are inherent limitations in public opinion surveys and dangers in comparing survey results from different sources because questions

Regionalization in Canada

5

The pace of regionalization varied across the country. The map below shows when changes began in each province/territory. And changes are continuing. For example, former regional health boards in Nova Scotia are being reformed, and those in Nunavut were phased out.



* The British Columbia Health Authorities Act was first introduced in 1993 as part of "New Directions". The Health Authorities Act was amended in 1997. Funding and legal responsibility for delivering services was transferred to BC health authorities in 1997.

Source: HEALNet Regionalization Research Centre, Saskatoon

sometimes differ and current events can alter responses over time." Nevertheless, polls offer some types of information not available through other means.

For example, a series of Angus Reid polls offers a perspective on how Canadians' overall assessment of the health care system has changed over the last decade. The latest poll (January 2000) found that about one-quarter of respondents rated the system as excellent or very good. The remainder were about evenly split between good and fair/poor/very poor ratings.

A 1999 Merck Frosst/Coalition of National Voluntary Organizations/Pollara National Survey of Health Care Providers and Users breaks satisfaction levels down. It found that almost 80% of respondents were very or somewhat satisfied with the ability of the health care system to meet their or their family's needs. But only 62% were satisfied with the system's ability to meet the needs of all residents of the province.

Also revealed by the polling data is an indication of the media's influence on public opinion of the system. In 1999, Angus Reid asked Canadians what they based their opinions of the health system on. 62% of those who said they felt the system had gotten worse over the past five years had based their opinions on personal experience, 37% had indicated their opinions were based on what they had seen, read, or heard in the media.⁷

Results from Two Recent Provincial Surveys

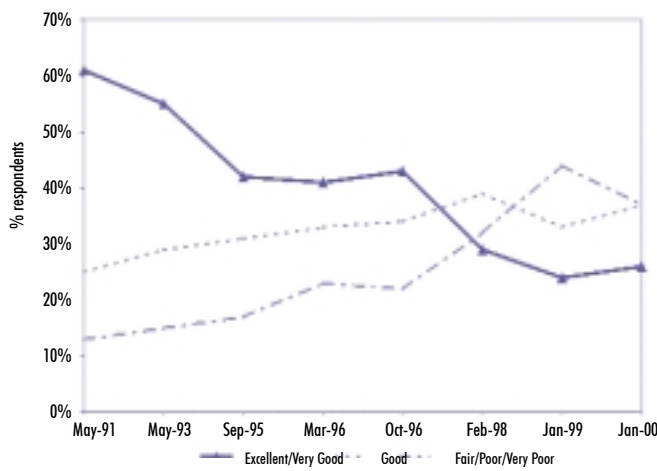
Alberta Health and Wellness has conducted annual surveys on health and satisfaction with the health care system since 1995. In 2000, almost two-thirds of Albertans (63%) rated the quality of care available in their community as good or excellent.⁸ This was down from 75% in 1999. But more—86% in 2000—said that the care they personally received in the last year was good or excellent. This was up from 79% the year before. A deeper look into the survey results suggests that respondents' ratings were directly related to how they perceived their health status and need for care. Those rating their health as excellent were more likely to say the health care system was good or excellent. Respondents in poorer health were more apt to say it was fair or poor.

In 1999, hospital patients across **Ontario** generally gave high marks to the care they received.⁹ These results came from a survey conducted by **The University of Toronto**, with support from the Ontario Hospital Association. Of the more than 26,000 people who responded, over 81% were satisfied with the outcome of their hospital stay. They said that they would return to the hospital where they were treated for care and would recommend it to friends or relatives. In particular, respondents gave high ratings to the care they received from

How Canadians Rated Our Health Care System

6

Most respondents to Angus Reid polls throughout the last decade rated the health care system as good or better. But the proportion of respondents saying the system was excellent or very good has declined from just over 60% in 1991 to about one-quarter today. Note: The results are considered accurate to within 2.5 percentage points, 19 times out of 20.



Source: Conference Board of Canada (2000). Canadians' Values and Attitudes on Canada's Health Care System: A Synthesis of Survey Results. Ottawa: The Conference Board of Canada

doctors and nurses. Over 50% said their nursing (53.2%) and physician care (54.6%) was excellent. Almost another 30% rated these services as good. Scores for support services—like food and housekeeping—were somewhat lower, with only 21% rating these services as excellent.

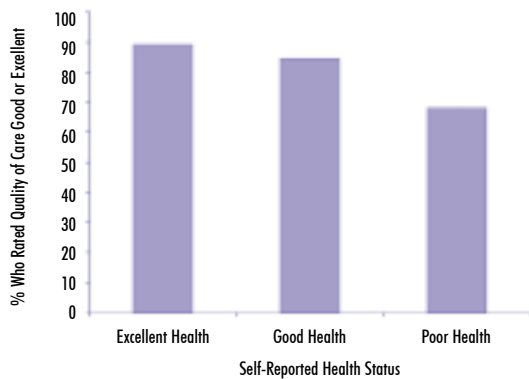
Will results change in subsequent years? Ontario hospitals plan to repeat satisfaction surveys each year. Watch for the next results in the summer of 2001.

How Canada Compares

In the Americas, Asia, Europe, and elsewhere, health care systems are also in flux. A series of recent surveys sponsored by the Commonwealth Fund provide glimpses of how satisfaction in several countries is changing. For example, a 1999 survey¹⁰ found that Canadian seniors tended to be more positive about the health care system than in the previous year. But they were less likely to rate the quality of care they received as excellent than their peers in several other countries.

Healthy Albertans Give Higher Marks 7

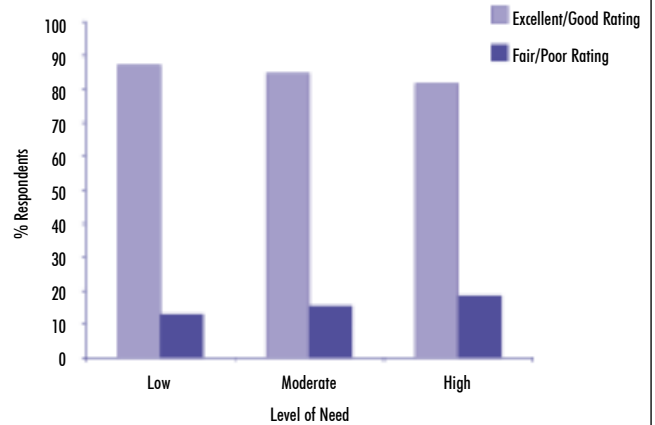
In the 2000 Alberta Survey, respondents who said they were in excellent health tended to rate the health care system more favorably than those in poorer health.



Source: Northcott, H.C. and Northcott, J.L. (2000) *The 2000 Survey About Health and the Health System in Alberta*, Population Research Laboratory: University of Alberta.

Satisfaction Related to Perceived Need for Care 8

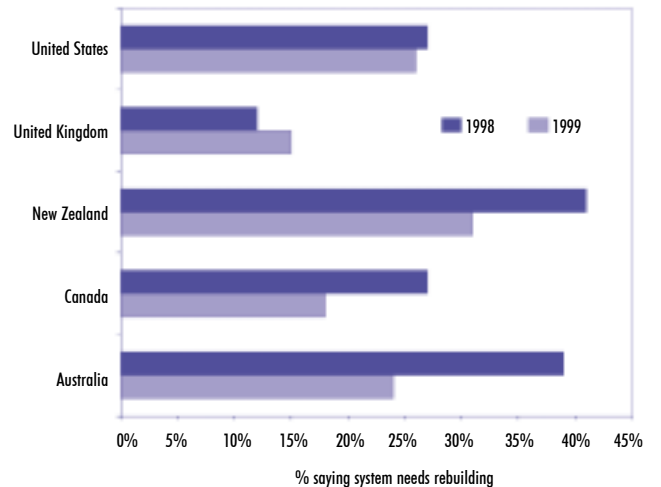
Over 80% of Albertans in 2000—regardless of their need for care—said that the health care they had received in the past 12 months was good or excellent. But those who said they had a high need for care were more likely to give fair or poor ratings to the care they received.



Source: Northcott, H.C. and Northcott, J.L. (2000) *The 2000 Survey About Health and the Health System in Alberta*, Population Research Laboratory: University of Alberta.

Fewer Seniors Say System Needs To Be Rebuilt 9

Seniors in many countries appeared to have had a brighter view of their health care systems in 1999. In 1998, more than one in four (27%) Canadian seniors living at home said that the health care system needed to be completely rebuilt. A year later, only 18% agreed.



Source: The Commonwealth Fund 1998 and 1999 International Health Policy Surveys

The Next Round?

A series of Royal Commission and Task Force reports ushered in health care reform across Canada in the 1980s. In some parts of the country, broad re-examinations of health care are underway again.

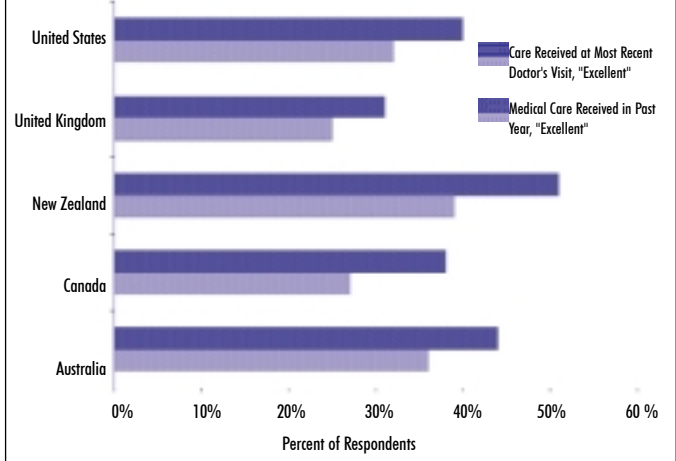
For example, in January 2001, only seven months after it was formed, the *Commission d'étude sur les services de santé et les services sociaux* (the Clair Commission) in Quebec issued a report. It offered 95 recommendations for improving health and social services in the province. The Commission's recipe for change includes encouraging family doctors to join together into group practices to offer 24-hour, 7-day a week care for their patients. It also suggested a new insurance scheme to cover long term care needs, options for involving the private sector, a renewed focus on preventing illness, and much more. For more information, see the full 400-page report at www.cessss.gouv.qc.ca.

Saskatchewan was next in line. The Fyke Commission on Medicare reported in mid-April 2001. For more information, see www.medicare-commission.com. And the federal government recently announced a new Commission on the Future of Health Care in Canada, headed by Roy Romanow. It is due to report by November 2002.

Canadian Seniors Less Likely to Report "Excellent" Care

10

The percentage of seniors who rated the medical care they received in the past year and the care received at their most recent doctor visit as excellent was lower in Canada than in other countries surveyed except the United Kingdom.



Source: The Commonwealth Fund 1999 International Health Policy Survey

Tracking Changes in Health Care

11

As the next wave of reforms unfold, Canadians may have access to a new tool to track changes in health care. When Canada's First Ministers met in the fall of 2000, they agreed to provide comprehensive and regular reports on health programs and services, including fourteen specific indicators (listed below). Some are already available; others will require significant development. Reporting is scheduled to begin in 2002.

- | | |
|--|---|
| 1. Life expectancy | 9. Patient satisfaction |
| 2. Infant mortality | 10. Readmissions |
| 3. Low birth weight | 11. Access to 24-hour, 7-day a week first contact health services |
| 4. Self-reported health | 12. Home and community care services |
| 5. Changes in life expectancy | 13. Adequacy of public health surveillance |
| 6. Improved quality of life | 14. Adequacy of health protection/promotion |
| 7. Reduced burden of disease and illness | |
| 8. Waiting times | |

Source: Communiqué from the First Ministers Meeting, September 2000. www.scics.gc.ca/cinfo00/800038004_e.html

Information Gaps

What We Know

- In the 1990s, there have been significant changes, such as regionalization and bed closures in the health care system in most parts of the country.
- The health status of Canadians, as measured by life expectancy and self-reported health, continued to improve (life expectancy) or remained stable (self-reported health) during the period of health reform.
- Survey respondents tend to rate the care that they personally receive more positively than the health care system overall. According to opinion poll data, a significant percentage of the public and health care providers express concern about the quality of care and access to care.

What We Don't Know

- Do the findings about the impact of reform from studies and opinion polls in specific areas apply to other parts of the country? What have the other impacts of reform been?
- How has the overall performance of the system changed as health care system reform has been introduced?
- Have there been changes in quality of life after discharge, levels of satisfaction and stress on family and friends who act as caregivers, and patient satisfaction with the changes that have accompanied health care reform?
- How do patient or public expectations influence reported satisfaction with care?

What's Happening

- Researchers, managers, and policy-makers in several parts of the country continue to identify indicators and use existing indicators to track the immediate and long-term implications of health care reform.
- In the fall of 2000, First Ministers identified patient satisfaction as one of fourteen indicators to be tracked across the country by 2002.
- A first set of comparable indicators of health status, determinants of health, and health system performance and characteristics were recently published for regions across Canada.



For More Information

¹ The World Health Organization (2000). *The World Health Report 2000, Health Systems: Improving Performance*. www.who.int/whr/2000/en/report.htm

² Statistics Canada (1999). Health in mid-life. *Health Reports*, 11 (3), 35-46.

³ Statistics Canada (2001). How healthy are Canadians 2001? *Health Reports*, 12 (3).

⁴ Federal, Provincial, Territorial Advisory Committee on Population Health (1999). *Towards a Healthy Future: Second Report on the Health of Canadians*. Ottawa: Health Canada.

⁵ Lomas, J., Woods, J., and Veenstra, G. (1997). Devolving authority for health care in Canada's provinces: An introduction to the issues. *Canadian Medical Association Journal*, 156 (3), 371-7.

⁶ The Conference Board of Canada (2000). *Canadians' Values and Attitudes on Canada's Health Care System: A Synthesis of Survey Results*. Ottawa: The Conference Board of Canada.

⁷ Angus Reid Group, Inc. (1999). National Angus Reid Poll #53. Health Care Section.

⁸ Northcott, H.C. and Northcott, J.L. (2000). *The 2000 Survey About Health and the Health System in Alberta*. Edmonton Population Research Laboratory, University of Alberta.

⁹ Baker, G.R., Anderson, G.M., Brown, A.D., McKillop, I., Montgomery, C., Murray, M.A., and Pink, G.H. (1999). *The Hospital Report '99: A Balanced Scorecard for Ontario Acute Hospitals*. Toronto: Ontario Hospital Association.

¹⁰ Schoen, C., Strumpf, E., Davis, K., Osborn, R., Donelan, K., and Blendon, R.J. (2000). *The Elderly's Experiences with Health Care in Five Nations: Findings from the Commonwealth Fund 1999 International Health Policy Survey*. www.cmwf.org

2. Promotion, Prevention, and Primary Care: A Snapshot

Promoting Health, Preventing Illness

Promoting health and preventing illness are central functions of our health care system. Activities include immunization for children and others at-risk; prenatal and parenting classes; campaigns to promote healthy eating, physical activity, and safe sex; monitoring the safety of water and food; by-laws to prevent smoking in public places; media campaigns to reduce drinking and driving; and much more.

Many partners are involved, both within and outside the traditional health care sector. For example, public and community health departments often work with community health centres, voluntary health organizations, community and faith groups, and others to respond to community needs. Many advances have been gained through these and other efforts. Yet much more remains to be done.

Canadian Children Weigh In

Public health programs address a wide range of target groups with different needs. A recent study points to overweight and obesity as increasingly important issues for Canada's children.¹ Children and adolescents with excessive body mass are more likely to experience health problems as adults. Researchers found that the body mass index of Canadian children between the ages of seven and 13 has increased in recent years. In 1981, 15% of boys and girls were overweight. This grew to almost 29% of boys and 23% of girls in 1996. Childhood obesity more than doubled over the same period. The authors suggest that this is a concern because of research suggesting that "excessive body mass during childhood and adolescence is associated with an increased risk of becoming overweight in adulthood and with higher morbidity and mortality rates in adulthood."

Flu Shots: A New Push

Vaccinations are one of the greatest public health achievements of the last century. For example, immunization helped to defeat smallpox. The world-wide eradication of polio and Canada-wide elimination of measles are also in sight. And new vaccines—such as one to protect children from chicken pox—are being introduced.

But vaccines are not just for children. For example, in many parts of the country, broad-based programs have recently been introduced to encourage older Canadians to get flu shots. Many programs aim to both prevent illness and reduce stresses on the health care system.

Flu Shot Programs

12

Most provinces/territories will pay for seniors and the chronically ill to get annual flu shots. Some go further by targeting specific groups (such as health care workers) or offering the vaccine to all residents.

Jurisdiction	Vaccination program		
	Seniors	Chronically ill	All other residents
Newfoundland	✓	✓	✗
Prince Edward Island	✗	✗	✗
Nova Scotia	✓	✓	✗
New Brunswick	✓	✓	✗
Quebec	✓	✓	✗
Ontario	✓	✓	✓
Manitoba	✓	✓	✗
Saskatchewan	✓	✓	✗
Alberta	✓	✓	✗
British Columbia	✓	✓	✗
Yukon	✓	✓	✓ (over 18)
North West Territories	✓	✓	✓
Nunavut	✓ (over 50)	✓	✗

Source: Information collected from provinces and territories by CIHI

In last year's report, we noted that data from several provinces show that demands on hospitals and their emergency rooms have seasonal peaks during the flu season. New results suggest that flu-related demands on Canadian hospitals were higher in 1999/2000 than in the year before. Acute care hospitalizations for patients with a primary diagnosis of influenza were up in most parts of Canada.*

Since then, new or expanded vaccination programs have been introduced in many parts of the country. What's happening this year? It's too soon to know for sure how well these programs are working. In fact, some researchers question whether even a full program review can conclusively evaluate their effectiveness.^{2, 3}

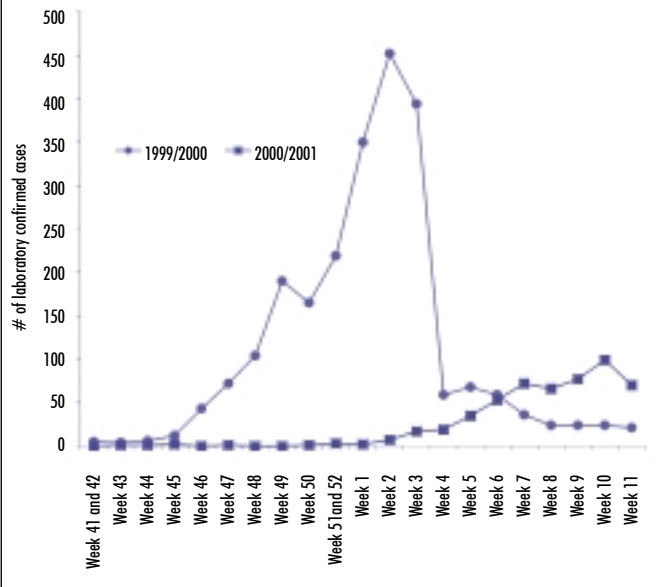
Nevertheless, early evidence suggests that the 2000/01 flu season may be milder than the year before. As of March 17, 2001, six out of 10 provinces had fewer laboratory-confirmed cases of influenza compared with the same period in the previous year. Overall, Health Canada's FluWatch program received only 3772

case reports in the first 23 weeks of the 2000/01 flu season (from August 27, 2000 to March 17, 2001). There were 6887 cases over the same period in the previous year. Early evidence also suggests that Canada, like other countries, is experiencing a season influenced by the type B strain of influenza this year. So far, over two-thirds of Canada's laboratory confirmed cases in 2000/01 have been type B. This type is less virulent than the A strain that predominated from 1994 to 2000.

Flu Cases Down in Ontario in 2000/01

13

So far in 2000/01, flu cases are down in most parts of the country. As an example, the graph below shows Ontario's laboratory-confirmed influenza cases in 2000/01 compared to those for the same period in the previous year. One reason for the lower number of flu cases this year could be that the province has recently offered to pay for flu shots for all residents. But it might also be explained by a later than normal start to the season, a random fluctuation in the annual incidence rate, or other factors. We'll be watching to see what happens over the rest of the year and what evaluators conclude when they review the results of immunization programs.



Source: FluWatch, Population and Public Health Branch, Health Canada

* Data for Quebec and Manitoba are not yet available.

Where You Go First: Primary Care and Emergency Services

Primary health care occurs where you first contact the health care system—often in a physician's office, a health clinic, or a community health centre. It is also meant to be the first link in a continuum of health care services.

Your Doctor's Office

Most Canadians visit their doctor at least once a year. A 1998/99 [Statistics Canada](#) survey found that 85% of females 12 and older reported having had contact with a general practitioner within the last year. The same was true for 72% of men. Contacts were about equally likely for Canadians of all income levels, but older adults were more likely to have visited a general practitioner.

Reforming Primary Care

Today, most family doctors care for patients on a fee-for-service basis in solo or group practices. In recent years, many experts have been re-thinking how to best provide primary care services. Reform discussions often focus on developing group practices where teams of doctors would work together with nurses, pharmacists, or other care providers.

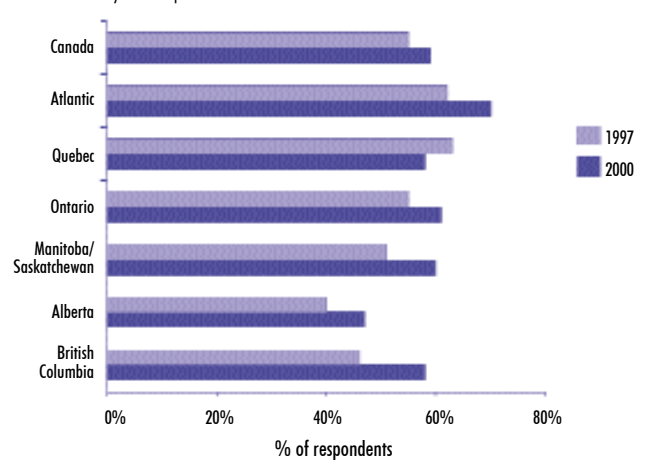
Pilot projects of several possible options are already underway. For example, an Ontario initiative includes more than 150,000 patients in six sites.⁴ Participating practices sign up a group or "roster" of patients. They then commit to taking care of the rostered patients' medical care needs 24-hours a day, 7-days a week. Similar efforts in Quebec may soon be much more widespread. The recent Clair Commission Report suggested that 75% of patients might be signed up within five years.

What do patients think about rostering? A Berger Population Monitor poll in 2000 found that most Canadians (59%) support the concept, up from 55% in 1997. However, support drops rapidly if patients could not use the services of professionals outside the team with which they are rostered or if they would have to pay for such care. A recent poll by EKOS Research Associates Inc. (2000) reported similar findings. Almost three-quarters (74%) of respondents said that they would prefer to see a family doctor who worked as part of a team. But over half (52%) said that they would no longer agree if there was a condition that they could not use any other clinics or teams of practitioners.

Signing Up: How Canadians Feel

14

According to a recent cross-Canada poll, public support for patient rostering rose between 1997 and 2000 in all parts of the country except Quebec.



Source: The Berger Population Health Monitor, Hay Health Care Consulting Group

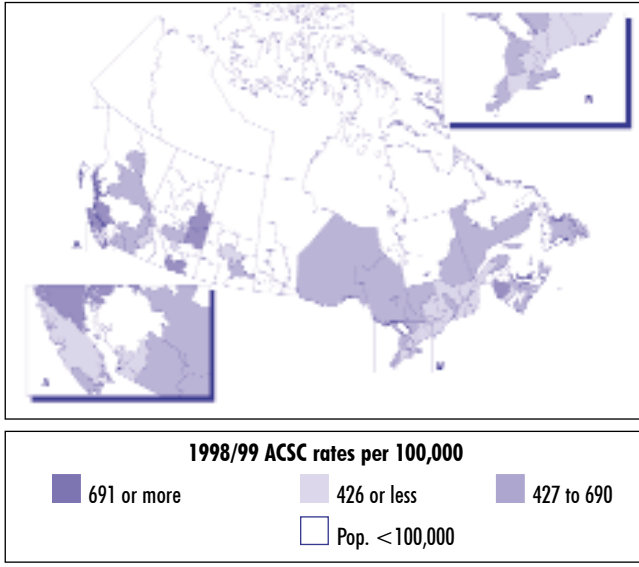
Visits to doctors were more common for patients with chronic conditions—such as diabetes, asthma, and hypertension—than for the population as a whole. Sometimes, these conditions also lead to the use of emergency health care services or hospitalization. But often, they can be managed by patients who are active in their own care, with help from physicians or other health care providers. While not all hospitalizations can be avoided, there is evidence to suggest that high rates of hospitalizations for these types of conditions may reflect problems with access to disease prevention programs or appropriate primary care.⁵

For the second year, CIHI has found wide variations in regional rates of ambulatory care sensitive hospitalizations (also known as preventable admissions) across the country. For example, 11 of Canada's largest regions (those with a population of 100,000 or more) had preventable admission rates under 300 per 100,000 population in 1998/99. But a number of areas had rates that were at least twice the level in the lowest region. The region with the highest rate had 1,069 hospitalizations

Regional Variations in Preventable Admissions

15

Hospitalizations for ambulatory care sensitive conditions (ACSC) in 1998/99, age standardized rate per 100,000 residents, for health regions with a population of 100,000 or more.



Source: Hospital Morbidity Database, CIHI

per 100,000 residents. In part, these differences may reflect variations in disease rates, as well as in the availability of community care. Comparable data on the prevalence of chronic conditions at a regional level are not yet available, but they will be in 2002 through the new [Canadian Community Health Survey](#).

Detailed reviews of patient charts suggest that other hospital patients might also appropriately be cared for in other levels of care.⁶

From the Drug Store

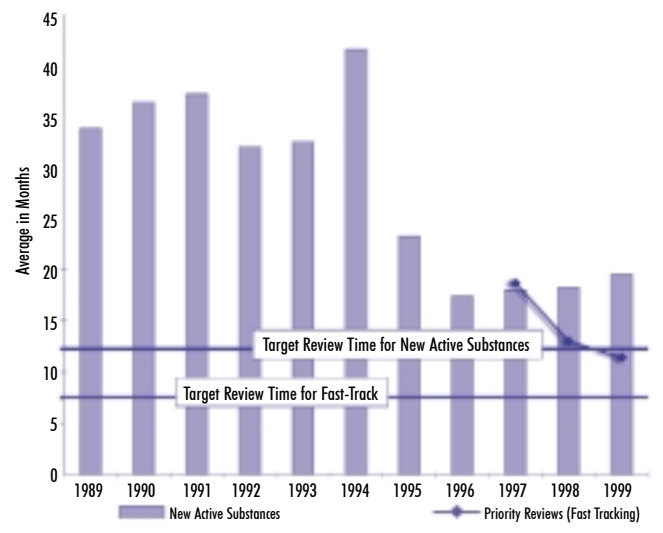
Prescription and over-the-counter drugs help Canadians in many ways. They are used to overcome infection, control diabetes, regulate heart rhythms, lower blood pressure, and relieve pain and anxiety. But inappropriate use can also lead to health risks. Health Canada plays a lead role in evaluating and monitoring the safety, efficacy, and quality of therapeutic products, including drugs.

At one time or another, most Canadians have had a prescription filled, and millions

Approving New Drugs

16

When manufacturers want to market a new drug, an application is submitted to Health Canada with information on the drug's safety, effectiveness, and quality. The target review time for new active substances is typically 355 days. Some drugs—particularly those that appear promising for life-threatening or severely debilitating conditions for which there are few effective therapies already on the market—are fast-tracked. The target review time for these drugs is 235 days. Average review times in 1999 exceeded these targets.



Source: Health Canada, Annual Drug Submission Performance Report

take drugs daily. Statistics Canada recently reported that many of us take some type of over-the-counter and/or prescription medication each month. For example, the 1998/99 [National Population Health Survey](#) of Canadians aged 12 and over found that:

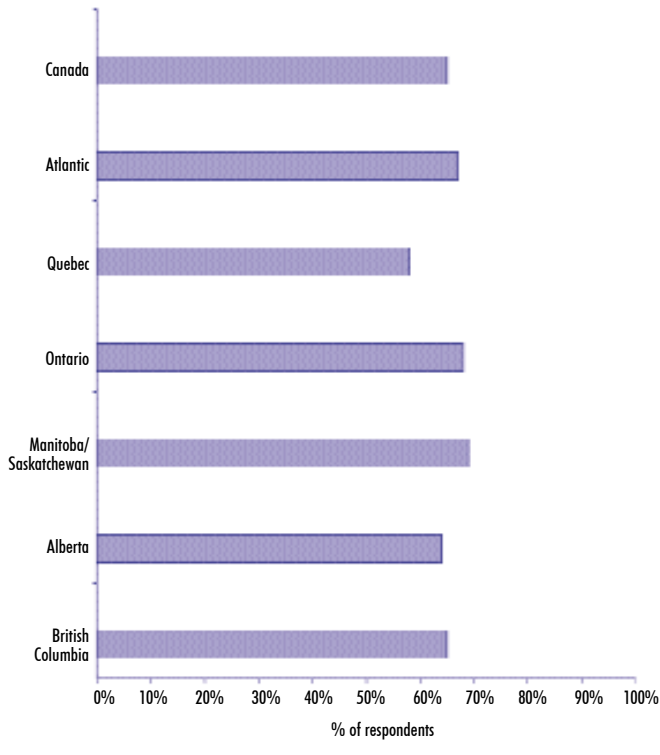
- Almost two-thirds (65%) of respondents reported taking acetylsalicylic acid (eg: Aspirin™), acetaminophen (eg: Tylenol™), arthritis medicine, anti-inflammatories, or some other pain reliever in the last month.
- One in five said that they had used cough and cold medicines in the same period.
- Other types of commonly-used drugs included stomach remedies (10%), blood pressure medication (10%), allergy medicine (9%), penicillin or other antibiotics (8%), and asthma medications (6%).

Use of medications tended to be higher among women than among men and for older Canadians. Low-income Canadians also tended to report higher use of many medications, except pain relievers and allergy medications.

Who Gets Prescriptions

17

In a recent national survey, most Canadians said that they had received one or more prescriptions from their doctor in the past year. The proportion of respondents who reported receiving prescriptions across the country is shown below.



Source: The Berger Population Health Monitor, Hay Health Care Consulting Group

When Help is a Call or Click Away

Patients do not always go to doctors' offices, pharmacies, or other health care facilities when they need health care. An increasing variety of options is becoming available across the country, offering both emergency and routine assistance.

Emergency First Response: 9-1-1

In an emergency, every minute can count. In 1974, 9-1-1 services were first introduced to Canada. They replaced local seven-digit

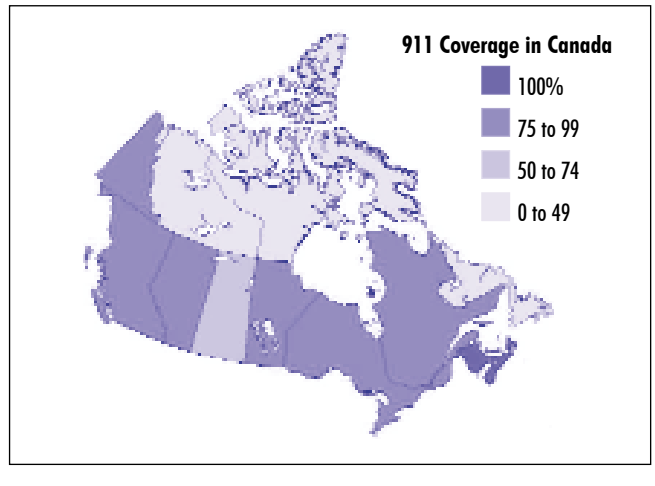
numbers for emergency fire, ambulance, and medical services. These lines aim to improve the coordination of, and access to, emergency services and to reduce the time that it takes for help to arrive.

Today, most Canadians can call for help by dialing 9-1-1. Nevertheless, only in Nova Scotia, Prince Edward Island, and New Brunswick do services currently cover the entire province.

WHO CAN CALL 9-1-1?

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9-1-1 coverage continues to expand across the country. The map below shows the percentage of residents who had access to 9-1-1 services as of March 2001.



Health Advice over the Telephone

Not every health problem is an emergency. People often have questions about their health and that of their family members. In many parts of Canada, they now have a new place to turn.

The names may differ—for example, some people in New Brunswick have referred to their line as an "electronic grandmother"—but telephone triage services are spreading across the country. These services are generally available 24-hours a day, 7-days a week. They supply answers to health-related questions and advise callers about how to handle non-urgent medical conditions.

Quebec's Info-Santé began in 1995. It later became the first province-wide telephone triage service. Telephone triage services are also operating in New Brunswick, Northern Ontario, Toronto, Winnipeg, Victoria, and other communities. Similar or expanded initiatives are planned in Alberta, Nova Scotia, British Columbia, the rest of Ontario, and other parts of Canada.

Telephone triage services are generally staffed by trained nurses. They work with computer-assisted tools to help callers decide whether to care for themselves, see a doctor or other health care provider, or go to an emergency room. In some cases, callers can also listen to pre-taped information on various health-related topics. Or they may be referred to other crisis or community information lines, such as 9-1-1, medication information lines, sexual assault services, or poison information centres.

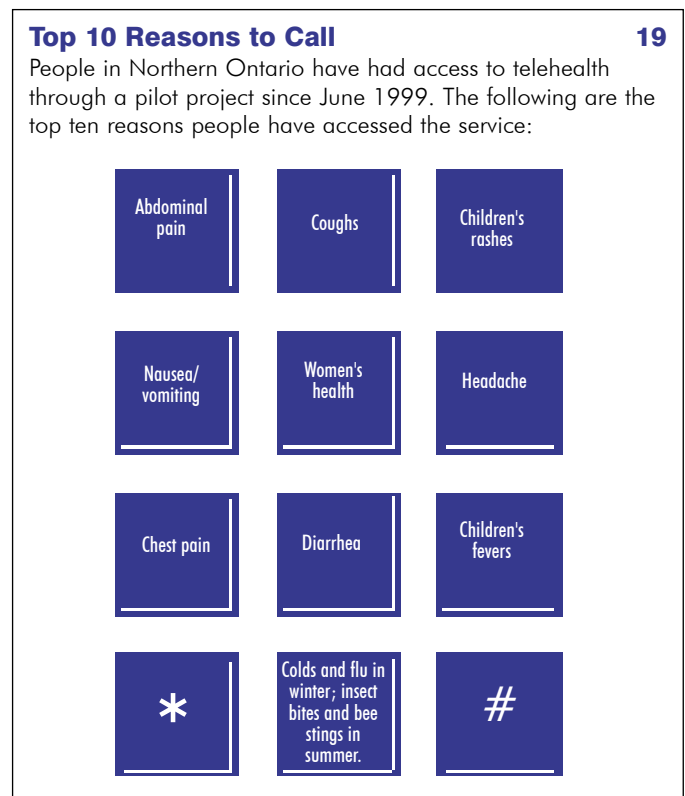
What do we know about these services? In total, **Quebec's** Info-Santé logged more than 2.5 million calls in 1998/99.⁷ That's 348 calls for every 1,000 residents. Women between 25 and 44—especially those with young children—were the most frequent users of the service.

Experience in **New Brunswick** has shown that only about 1% of callers are told to call 9-1-1.⁸ Another 20% are advised to go to an emergency department on their own. Nurses recommend that most callers care for themselves at home or go to their family physician or an after-hours clinic.

A recently released evaluation of **Victoria's** telephone triage services⁹ suggests that its Health Support Line increases the likelihood that callers will care for themselves. Thirty percent of callers reported that their initial intention was to care for themselves when they called the support line. After talking with

the nurses, this number rose to over 48%. As part of the evaluation, 100 people were contacted to see if they did what they had planned. 84% had.

Telephone triage in **Edmonton**, known as **Capital Health Link**, was launched in September 2000. According to an initial evaluation, the registered nurses answering the calls receive 5000 calls a week—60% of which are for health advice. For example, they have been able to advise callers on how to care for themselves, to go to a doctor within 24 hours, or head to the emergency room. Over 90% of callers reported being satisfied with their Capital Health Link call, and over 95% said they would recommend the service to family and friends.



Source: Ontario Report to Taxpayers, Winter 2000. www.onreport.gov.on.ca

Health on the Net

Another new way that Canadians access information about health and health care is through the Internet. A 1999 Statistics Canada survey found that Internet use among Canadian households continues to grow rapidly. Almost 42% of households in the survey reported using the Internet regularly. And, for an increasing proportion of households (up from 10% to 19% between 1997 and 1999), using the Internet at home is a part of daily life. More than half of these households (54%) used the Internet to seek medical and health information.

Complementary and Alternative Therapies

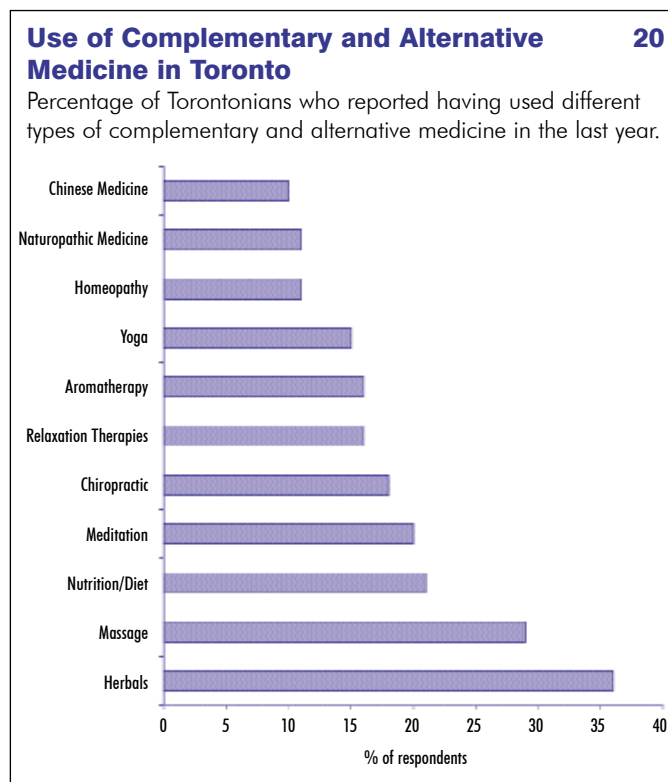
Massage therapy, traditional Aboriginal and Chinese medicine, homeopathy, and herbal products are examples of healing practices and products that are sometimes used along with (complementary to) or instead of (alternatives for) conventional medical treatment. Growing numbers of Canadians are using these types of therapies, even though, in many cases, there is little information on their effectiveness in improving health and treating illness.

In 1998/99, the [National Population Health Survey](#) found that an estimated 16% of Canadians 12 or older said that they had consulted a chiropractor or another type of complementary or alternative health care provider in the previous year. This was up from 14% in 1994/95. On average, women, people between the ages of 25 and 54, and those with chronic conditions were more likely to use complementary and alternative health care providers. Canadians with higher levels of education and income, and residents of the western provinces were also more likely to do the same.

Results from Recent Polls

Only a minority of those who use complementary and alternative medicine consult practitioners. National polls in 2000 estimated that between 60%¹⁰ and 70%¹¹ of Canadians had used some type of complementary and alternative medicine—particularly vitamins—in the last year.

Similar results have been found in local surveys, such as those conducted by the Summit Strategy Group in Toronto. About 65% of respondents to a 2000 survey said that they had used some type of complementary and alternative medicine in the past year—most commonly herbals or massage therapy. This survey did not ask about use of vitamins.



Source: The Local Market for Complementary Medicine: A Research Report, Summit Strategy Group
 Note: Percentages total more than 100 as respondents were able to indicate having used more than one type of therapy.

Most of those surveyed used these therapies on their own—almost half said that they never see a practitioner of complementary and alternative medicine. In contrast, about one-quarter of those surveyed reported seeing a practitioner once or twice a year.

Torontonians who use complementary and alternative medicine typically pay the costs themselves. However, 30% of those

who use these types of care indicated that they spent no money on the therapy they use the most. Another 56% reported spending under \$100 per month on a particular therapy and a small percentage (3%) spent over \$300 per month. Only one in five who used complementary and alternative medicine indicated that they had been reimbursed by an insurance plan.

Information Gaps

What We Know

- Reported use of physicians' services, as well as those of complementary and alternative medicine practitioners.
- Types of services provided by physicians paid on a fee-for-service basis.
- Total spending on and reported use of prescription and non-prescription drugs.
- Rates of selected health promotion and prevention services (e.g. mammograms and pap smears).

What We Don't Know

- How many Canadian children receive all recommended immunizations on schedule?
- What services are delivered by physicians who are not paid on a fee-for-service basis and by other primary care providers? How do patterns of care or health outcomes differ based on who delivers services?
- What impact would different types of primary care reform have on costs, outcomes, and access to services?
- How safe and effective are most complementary and alternative medicines being used today?

What's Happening

- Canada's Premiers and the Prime Minister agreed to track and report on the adequacy of health protection/promotion services and access to 24-hour a day, 7-day a week first contact health services, along with 12 other indicators, in each of their jurisdictions by 2002.
- [Statistics Canada's Canadian Community Health Survey](#) will soon provide regional-level estimates of use of various types of health care, such as physician services and prescription drugs.
- A variety of models for the delivery of primary care services are being tested across the country. Many include evaluation plans.
- An expert group has recently been established to begin to explore primary care information priorities.

For More Information

- ¹ Tremblay, M.S. and Willms, J.D. (2000). Secular trends in the body mass index of Canadian children. *Canadian Medical Association Journal*, 163 (11), 1429-1433.
- ² Demicheli, V. (2001). Mass influenza vaccination in Ontario: Is it worthwhile? *Canadian Medical Association Journal*, 164 (1), 38-39.
- ³ Schabas, R. E. (2001). Mass influenza vaccination in Ontario: A sensible move. *Canadian Medical Association Journal*, 164 (1), 36-37.
- ⁴ Wexler, H.R. (2000). Primary care reform: what it means for our patients. *Ontario Medical Association Media Release*. www.oma.org
- ⁵ Bindman, A.B., Grumbach, K., Osmond, D., Komaromy, M., Vranizan, K., Lurie, N., Billings, J., and Stewart, A. (1995). Preventable hospitalizations and access to health care, *Journal of the American Medical Association*, 274 (4), 305-11.
- ⁶ Health Services Utilization and Research Commission (1994). *Barriers to Care*. Saskatchewan: HSURC.
- ⁷ Dunnigan, L. (2000). *Recours au service téléphonique Info-Santé CLSC*. Enquête sociale et de santé 1998, 2e édition, Québec, Institut de la statistique du Québec, chapitre 21.
- ⁸ New Brunswick Health and Community Services. <http://www.gnb.ca/hw%2Dsm/hw/pub/ar/99%2D00/care/telecare.htm>.
- ⁹ Mullett, J. (2000). *Partnerships for Better Health: A Self-Care Pilot Project*. Prepared for the British Columbia Ministry of Health and Ministry Responsible for Seniors and the Capital Health Region.
- ¹⁰ PricewaterhouseCoopers (April 2000) *HealthInsider*, Highlights. www.pwcglobal.com/ca/eng/about/ind/svcs_hc-hi.html
- ¹¹ The Berger Population Health Monitor (2000). *Survey #21: May 2000 Survey*. Toronto: The Berger Population Health Monitor and the Hay Health Care Consulting Group.

3. Canada's Acute Care Hospitals: A Snapshot

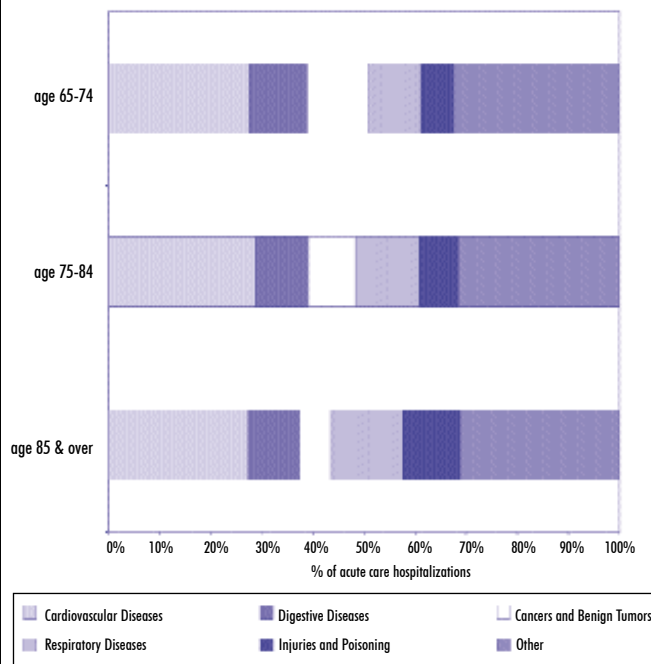
Acute hospital care is at the other end of the spectrum from primary health care. The majority of hospitals offer short-term diagnostic and treatment services for patients with a wide range of illnesses and injuries.

Most hospitalizations involve care for seniors or are related to pregnancy and childbirth. In 1998/99, seniors made up about 12% of the Canadian population, but they accounted for just under one in three acute hospital stays and half of all days spent in hospital.

Why Seniors are Hospitalized

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In 1998/99, Canada's seniors spent over 11 million days as inpatients in acute care hospitals. Younger and older seniors tended to be hospitalized for somewhat different reasons. The distribution of the leading causes of hospitalization is shown below.



Source: Hospital Morbidity Database, CIHI

When Hospitals Close

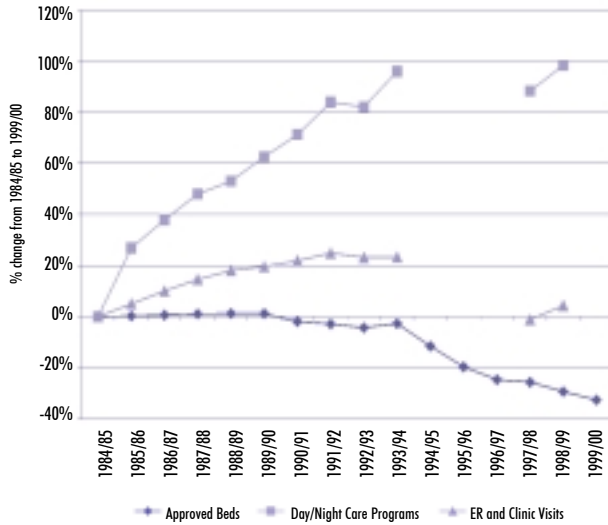
For more than a decade, Canada's inpatient hospital sector has been shrinking. Fewer patients are hospitalized overnight each year. And, those who are hospitalized stay, on average, for a shorter period of time.

In the last five years, CIHI data show that more than 275 hospitals across the country have closed, merged, or been converted to other types of care facilities. The number of approved beds is also down substantially. At the same time, many more people are being cared for in hospital day-surgery programs.

How Hospitals Are Changing

22

Since the 1980s, Canada's hospitals and the services that they offer have changed substantially. The graph below shows the percentage change in the number of approved beds and ambulatory services since 1984/85.



Source: Annual Hospital Survey, [Statistics Canada](#) (to 1994/95) and CIHI (1995/96 on)

What impact have these changes had on our health? It is too soon for a conclusive answer. Early results are in for some communities; evaluations are underway in others.

In last year's report, we presented results from research in Saskatchewan and Manitoba. The **Saskatchewan** study looked at what happened when the government closed 52 small rural hospitals.¹ Researchers found that residents in the communities that lost their hospitals were much less satisfied with health care after the closures than before. However, they reported that their fears of worse health and less access to health care services had not, in general, come to pass. As well, the study showed that death rates fell faster in communities that lost their small hospitals than in those that kept them open.

Similarly, **Manitoba** researchers assessed the impact of the loss of more than 700 hospital beds in Winnipeg in the mid-1990s.² The quality of care—as

measured by death rates, frequency of visits to physicians' offices and emergency rooms after discharge, and readmission rates—remained about the same. Seniors hospitalized during the period of bed closures had more confidence in the accessibility of services than did those who were not hospitalized.³

What's New in the Past Year

Researchers from the University of **British Columbia** recently published a report on the impact of hospital downsizing in their province.⁴ They compared how seniors used hospitals, long-term care, and publicly funded home care services before (1986-88) and after (1993-95) a reduction of 30% in the number of hospital beds. The closures began in 1991/92.

Over the study period, there was a 17% jump in the number of seniors living in the province. Nevertheless, researchers found that seniors used hospital services at almost the same rates before and after the bed reductions. Death rates were also stable over the time period, after accounting for the population aging. What did change? While British Columbia seniors were about as likely to be admitted to hospital in 1993-95, they tended to have shorter lengths of stay.

Montreal is also systematically monitoring the results of health reform.⁵ The latest series of reforms started in the early 1990s. They included launching regional boards in 1991 and adopting a policy promoting health and well-being in 1992, as well as efforts to slow the growth of public spending on health care and to improve overall performance. Within this context, the Montreal regional board introduced a three-year transformation plan in 1995. This was followed by another plan (Accent on Access) in 1998.

Researchers from the Montreal Public Health Department and other organizations have been tracking the results of the plans' implementation.⁶ Early findings include:

- The region closed more than one-quarter of Montreal hospital beds between 1995 and 1998. Over the same period, lengths of stay also dropped, but day surgeries and emergency room use were up. The rate of readmission to hospital was stable for many patient groups, including those with hip fractures, heart attacks, congestive heart failure, colon and rectal cancers, and chronic obstructive lung disease. In contrast, the rate of readmission was higher for new mothers (they also had an increased risk of postpartum depression) and for patients undergoing day surgery procedures.
- Surveys⁷ in 1994, 1997, and 2000 compared Montrealers' overall satisfaction with services received on their last hospital, medical clinic, home care, or community health centre visit to their expectations. In most cases (over 85% in all three years) expectations were mostly or completely met. Satisfaction levels peaked in 1997, but continued to be higher in 2000 than six years earlier.
- Montreal residents, particularly those who did not use health services, perceived that access to care had decreased. But, overall, more people are using services than in the past (although the frail elderly and the poor are receiving fewer hospital and specialist services).
- Barriers between hospitals and community agencies continue to exist. For example, the elderly, women who have given birth, and mental health patients sometimes have difficulty getting community care services after discharge from hospital.

- 40% of patients 70 years and older released from emergency departments, had some loss in functional status. Their risk of returning to the hospital following discharge was greatly reduced when they received information regarding their follow-up care and referrals for homecare services.
- More than one in three seniors who visited the ER reported that they do not currently have access to a family doctor.
- The shift to ambulatory services has led to increased demand for care from local community health centres (CLSCs). The researchers suggest that CLSC programs to promote health and prevent illness and injury have been trimmed as a result.

The Impact of Aging on Hospitals: Experts Disagree

The Canadian population grew and gradually aged over the course of the 20th century. This trend is expected to continue. Seniors made up about 12% of the population in 1996, and by 2031 they are expected to account for approximately 20%.

Many experts have explored the possible impact of population aging on hospital use in Canada and other countries. There are basically two sides to the debate.

One side worries that the "greying" of the population will overwhelm our hospitals. Proponents of this view point out that the elderly tend, on average, to use more health care resources than their younger counterparts. They then project what would happen if current rates and hospital use patterns stayed the same, while the population grew and aged in line with expectations. That is, they assume that Canadians in the future would be equally as likely to access hospitals as they are today and that they would be treated in the same way as current patients. Under these assumptions, projections show significant increases in acute care hospital use over the next 10 years.⁸

Those on the other side of the debate argue that these assumptions are not realistic. First, they point to recent evidence of a "compression of morbidity". For example, recent research by Statistics Canada suggests that older Canadians can expect a better quality, as well as an extended quantity of life, compared with twenty years ago.⁹ As a result, today's seniors are healthier than ever before. Second, they note the dramatic changes in the way Canadian hospitals have been used over the last several decades. For example, CIHI data show that the rate at which Canadians were hospitalized has dropped steadily over this period, even while the average age of the population has risen. Average lengths of stay are also falling. Researchers around the world have found that changes in how often and for

how long people in specific age groups are hospitalized have been more important than overall population aging in explaining recent changes in hospital use.^{10, 11, 12}

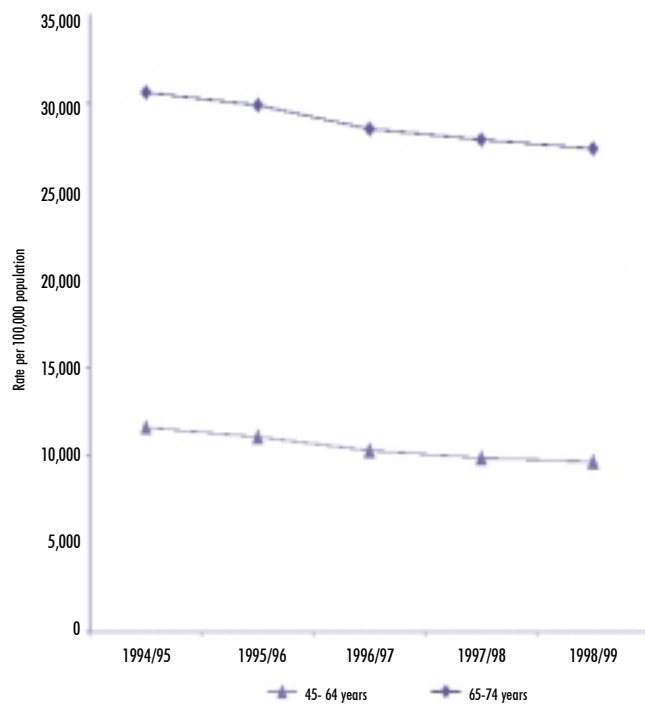
Proponents of this view suggest that, based on recent experience, any increased demands due to population aging could likely be accommodated by an evolving health care system.¹³ For example, they point to historical projections (e.g. Statistics Canada's in the late 1970s¹⁴) that significantly overestimated current hospital use based on anticipated demographic and other changes. The lowest estimate from these projections was about 20% higher than actual hospital use in 1995/96[†]. Their "most realistic" estimate was about 50% too high. Why should today's projections, based on similar assumptions, fare any better, they ask?

And the debate continues.

Falling Hospitalization Rates

23

The rate of inpatient hospitalizations in acute care facilities per 100,000 Canadians has fallen steadily over several years. The chart below shows age standardized rates for Canadians aged 45-64 and 65 and over.



Source: Hospital Morbidity Database, CIHI

Giving Birth in Hospital

Care for seniors may account for a large share of hospital days, but pregnancy and childbirth are still the leading reasons why women of child bearing years are hospitalized in Canada. A significant percentage of births occur by caesarean section (c-section). There has been an upward trend in national c-section rates over the past five years. This—especially after the previous decade of declining rates—has rekindled the arguments for and against the surgery.^{15, 16}

In some cases, c-sections are essential, life-saving operations. For example, researchers recently studied 2,083 women in 26 countries who gave birth to a single baby who was either in frank (with legs extended) or complete (with legs tucked) breech position.¹⁷ They found that the women were healthier if they had a planned c-section, rather than a planned vaginal birth, as were their babies.

[†] Part of the difference can be attributed to lower than expected population growth.

In other cases, surgery may not be in the best interest of the mother or her baby. Experts from the Society of Obstetricians and Gynecologists of Canada have weighed the evidence and established guidelines for appropriate care before, during, and after birth.¹⁸ Among other things, they note that most women, even a large proportion of those who have previously had c-sections, can safely deliver vaginally. In fact, they suggest that successful vaginal births after c-sections typically carry lower health risks for mothers and require shorter hospital stays than for those having an optional surgical delivery. There is also recent evidence to suggest that women having c-sections are at higher risk of being re-admitted to hospital than women who have had vaginal births.⁶

variations in caesarean section rates are also frequently observed.²⁰

In Canada, CIHI data show that 19.2% of births were caesarean deliveries in 1998/99. But there were pockets of the country with higher and lower rates. For example, four of the country's largest health regions (populations of 100,000 or more), had caesarean rates of 25% or more. In contrast, two regions had rates under 15%.

What causes these variations? Many factors influence c-section rates, only some of which are currently understood. For example, recent research by the Institute for Clinical Evaluative Sciences in Ontario suggests that the type of care where the mother gives birth may matter.²¹ This study found that teaching hospitals and those with evidence-based guidelines in place had lower c-section rates.



How Caesarean Section Rates Vary

C-section rates vary dramatically, both within and across countries. The World Health Organization reported national rates in Europe ranging from a low of 11% (e.g. Netherlands) to a high of 29% (e.g. Italy) in 1998.¹⁹ Within countries, regional

Waiting for Care

Headlines about waiting for care appear regularly in newspapers across the country. And opinion polls suggest that waiting is a serious concern for many Canadians.

Wait times are affected by many factors, including changes in the burden of disease, changes in indications for surgery, the availability of doctors and other health professionals, referral patterns, and the accessibility of operating room time or other resources.²² Unfortunately, comparable data about who is waiting for what, for how long, and the factors that influence waiting are rare. We also know relatively little about how waiting for surgery, chemotherapy, or other treatment affects patient outcomes in the long term.

Different groups monitor wait times in different ways. One option is to ask patients who received treatment in a given period how long they waited for care. Information on observed patient experience can also be collected directly from medical records or specialized monitoring systems.

Understanding Regional Variations in C-Section Rates 24

As the table below shows, two of Canada's largest health regions had c-section rates below 15% in 1998/99 and four had rates of 25% or more. Many factors contribute to these differences in rates. One appears to be how often women who have previously had a c-section deliver subsequent babies vaginally (the VBAC rate).

Region name	C-Section rate	VBAC rate	Average age of mother
Région de l'Estrie (QUE)	11.0	60	28
Région de Laurentides (QUE)	14.0	44	29
North Okanagan (BC)	25.0	23	29
Health and Community Services Eastern Region (NB)	26.7	16	28
Capital Region (BC)	28.0	30	30
Health and Community Services Central Region (NB)	29.4	7	28

Source: Hospital Morbidity Database, CIHI
 Note: VBAC-Vaginal birth after c-section

When Waits Do (or Don't) Matter

In some cases, a delay of minutes counts. For example, a patient who is bleeding severely needs emergency care. But often, waiting is not immediately life threatening. Determining medically-safe waiting periods is difficult. So is judging the impact of anxiety, missed work, pain, or other consequences that a patient may experience while waiting. Experts from across the west recently reviewed current research on the health effects of waiting for care for breast cancer, knee and hip replacement, cataract surgery, and colorectal cancer. A sample of what they found is included below.

For breast cancer ...

- Patients treated within three to six months were more likely to be alive five years after diagnosis than those who waited longer.
- The time between diagnosis and treatment can be stressful. Women waiting for surgery often experience insomnia, mood disturbances, depression, and tension.

For hip and knee replacement ...

- Pain and function improve significantly after surgery.
- Patients' quality of life improves somewhat after surgery.

For cataract surgery ...

- Before surgery, patients' eyesight is between approximately 20 and 25% worse compared with after surgery. Estimates of how much this affects their quality of life vary greatly. Study results range from between 2% and 25% post-surgery improvements.

For colorectal cancer surgery ...

- It is unclear how delays affect patients' short and long-term survival changes.
- Patients who are waiting frequently experience pain, but surgery does not seem to help for most people.
- Timely treatment seems to help reduce the distress, anxiety, depression, and sleep disturbances that many patients experience.

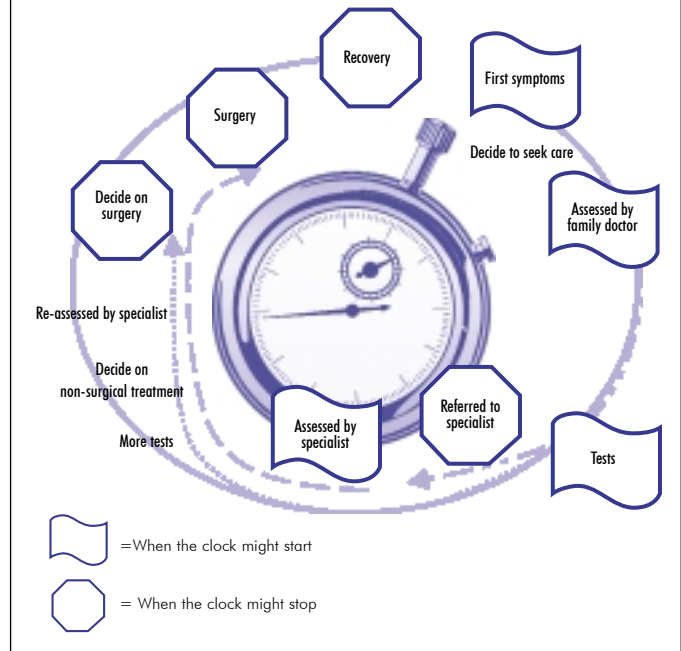
Source: Western Canada Waiting List Project

An alternative is to survey doctors and ask them how long they expect that a patient would wait for a particular type of care. A review by the Canadian Health Services Research Foundation (CHSRF)²³ suggests that this approach may best measure care providers' satisfaction with access times. Comparisons between approaches are difficult because of the differences in definitions used. But for many areas where reasonably close comparisons are possible, wait times reported using the first approach appear to be shorter than those based on the second.

When to Start (and Stop) the Clock

25

One of the reasons that it is so hard to compare data from across the country is that there are many possible ways to define wait times. Should a "wait" start when someone first has pain or other symptoms? What about when she sees her family doctor? Or when she has tests that confirm the need for further treatment? No one decision is correct. There are advantages and disadvantages to each. But these differences must be reconciled if meaningful comparisons are to be made. The figure below shows a possible care path, with a variety of options for calculating wait times.



Tracking Waits for Care in Canada

There's no such thing as a Canada-wide waiting list for surgery. In many regions, for many procedures, there is not even a single shared list of all patients waiting for care. Nevertheless, there are pockets of information about who is waiting for what and for how long, many of which were included in last year's report.

For example, Ontario's Cardiac Care Network provides information on waits for by-pass surgery. According to their most recent data²⁴, patients in need of emergency bypass surgery had median wait times of three days in 2000. Median waits for semi-urgent and elective cases were longer—eight and 44 days respectively. For all three urgency levels, over 70% of patients had surgery during the recommended time frame.

3. CANADA'S ACUTE CARE HOSPITALS: A SNAPSHOT

Other provinces also publish information about wait times for particular types of care. Examples from Alberta and British Columbia are shown below.

Waiting in Alberta: An Example 26

Alberta Health and Wellness recently began to publish quarterly region-by-region comparisons of numbers of patients, wait lists, and wait times for hip and knee replacement, open heart surgery, and long-term care, as well as wait times in emergency for in-patient beds. As an example, the chart below compares how many weeks, on average, cancer patients waited for radiation therapy in Edmonton and Calgary. Provincial target times are also shown.

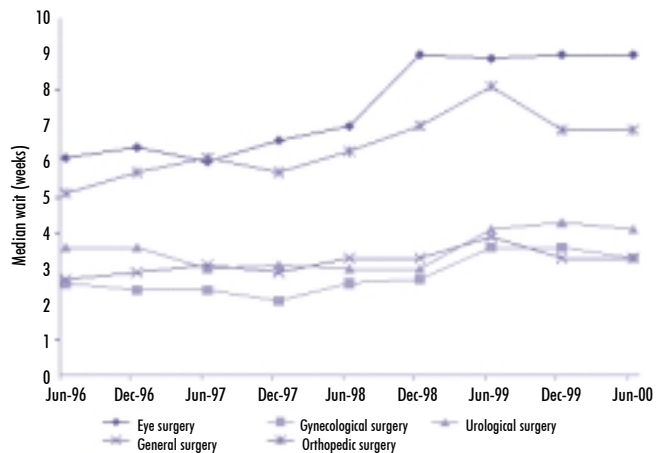
	March 31 2000	June 30 2000	Sept. 30 2000	Target wait time
Radiation Treatment -breast/prostate				
Cross Cancer Institute (Edmonton)	11 weeks	9 weeks	4 weeks	4 weeks
Tom Baker Cancer Centre (Calgary)	4 to 4.5 weeks	5 weeks	3.5 to 4 weeks	4 weeks
- most other tumours*	2 to 3.5 weeks	2 to 4 weeks	1.5 to 3 weeks	2 to 4 weeks
Chemotherapy*	1 week	1 week	1 week	1 week

* Average times for both centres.

Source: Alberta's Health and Wellness System: Some Performance Indicators, Alberta Health and Wellness

How Long British Columbia Patients Wait 27

In British Columbia, over 30 of the province's largest hospitals regularly report wait times for a range of surgery to the Ministry of Health and Ministry Responsible for Seniors. Results—by hospital and surgeon—for times between when the surgery was booked and when it actually took place are posted on the Ministry web site. The latest British Columbia report includes data on median waits—the period at which half of all patients wait less time and half wait longer—for 17 types of non-emergency surgery. The graph below shows median weeks waited for the five most common types of surgery included. Median waits are calculated over six month periods.



Source: Provincial Waiting List Trends, British Columbia Ministry of Health and Ministry Responsible for Seniors

Untangling the Evidence

The results of wait time studies seem contradictory, partly because of variations in the methods and data sources used. The table below outlines some of the key differences between selected Canadian wait time and wait list studies. In addition, while most studies include all patients who received care, coverage for physician surveys varies. For example, only about one quarter of doctors contacted by the Fraser Institute in 1999 responded to the survey.

	Study	Data source/Coverage	General finding	Wait(s) measured	Time period
DATA FROM PATIENT EXPERIENCE	B.C.	Actual patient experience reported by hospitals.	Waits generally stable to end of 1998; tended to rise in next 6-12 months with slight drop in last 6 months.	Surgery booking to surgery	June 1995 - June 2000
	Alberta	Regional Health Authorities (joint replacement); Alberta Cancer Board	Waits vary across regions, with some below and others above provincial targets; waits for cancer treatment decreased in last quarter reported.	Prescription to first treatment for radiation and chemotherapy; surgery booking to surgery for joint replacement	Cancer: Jan. - Sept. 2000; joint replacement: April - June 2000
	Manitoba	Actual patient experience from Medicare claims	Little overall change in waits.	Specialist visit to surgery	1992/93 - 1996/97
	Nova Scotia	Actual patient experience from Medicare claims	Waits generally down, except for cataract surgery.	Specialist visit to surgery	1992/93 - 1995/96
	Cardiac Care Network of Ontario	Actual patient experience reported by hospitals	Regional differences, but in all areas urgent/ emergent patients have shortest waits.	Surgery booking to surgery	August - October 2000
PHYSICIAN SURVEYS	New Brunswick	Regional Hospital Corporation surgical wait lists	5.5% more cases waiting at end of March 1999 vs. 1998	# patients waiting not wait times	March - 1996-99
	Fraser Institute	Survey of physician opinion on expected waits	Waits up from 1998, except in Ontario and Manitoba.	GP visit to surgery	1991 - 1999
	Commonwealth Fund Survey of Physicians	Survey of physician opinion on expected waits	Expected hip replacement waits shorter in Canada than in Australia, New Zealand, the UK but longer than in the US.	Not specified	April - July 2000

Source: Compiled by CIHI

Information Gaps

What We Know

- The types of patients who receive inpatient acute care in hospitals, how long they stay, and what procedures they receive.
- Numbers of emergency visits, clinic visits, and other services provided by reporting hospitals.
- Selected local and provincial data on wait times for care.
- Information on how patient short- and long-term outcomes for particular types of care compare across the country (see Outcomes of Care).
- How overall quality of care for most groups (measured by death rates, re-admissions, emergency room visits, or similar indicators) changed after hospital cuts in some provinces and communities.

What We Don't Know

- What types of services do hospital emergency departments and outpatient clinics provide? How well is the changing mix of hospital services meeting the needs of the community?
- How do wait times compare across the country? What percentage of wait times fall within recommended guidelines for most treatments? What is the emotional and physical impact of waiting for most treatments?
- To what extent are patients and their families across the country satisfied with the hospital care they receive?
- How do most types of patients fare after they leave hospital?

What's Happening

- Researchers, managers, and policy-makers in several parts of the country continue to identify new indicators and use existing indicators to track the immediate and long-term implications of changes in hospital care.
- Canada's Premiers and the Prime Minister agreed to track and report on readmissions and wait times, along with 12 other indicators, in each of their jurisdictions by 2002.
- New tools to help manage waiting lists for cataract surgery, children's mental health, general surgery, hip and knee replacement, and MRI scans have been developed and are being tested by the Western Canada Waiting List Project. A similar project is starting in Ontario.
- CIHI is introducing enhanced guidelines for reporting wait times for patients admitted to hospital through the emergency room in April 2001. Hospitals in Newfoundland, Nova Scotia, Ontario, and New Brunswick are mandated to collect this information. They can now compare their patients' wait times with those in other facilities. Some hospitals in other parts of the country are also participating in this program or similar initiatives at local or provincial levels.
- The Canadian Joint Replacement Registry will soon be in a position to collect wait times in participating facilities.

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4. Providing Special Care: A Snapshot

Some types of care—such as births and major surgery—are typically provided only in acute care hospitals. Others are delivered through a wide range of other health care programs and facilities. Compared to hospital care, relatively little information is reported about these types of care, although pockets of data are available.

In last year's report, we focused on four areas where care continues beyond hospitals—rehabilitation, long-term, home, and palliative care. We return to home care and long-term care this year, as well as touching on mental health and tele-health services.

Mental Health Care in Canada

Many Canadians report being in good to excellent mental health. But others experience depression, schizophrenia, or other mental health and addiction problems. For example, about 4% of Canadians aged 12 and over reported symptoms suggesting that they had had at least one major depressive episode during the past year on the 1998/99 [National Population Health Survey](#). Symptoms were more common for women (6%) than for men (3%).

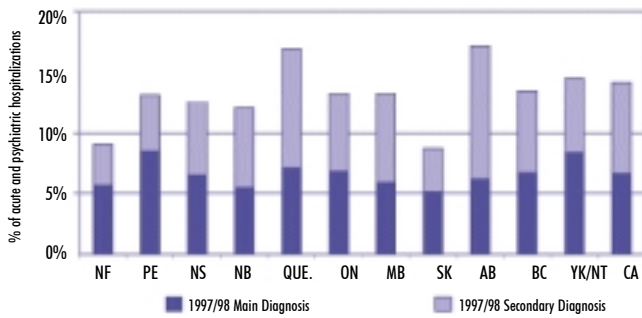
Many of those who report having symptoms of depression do not receive treatment for their condition. For example, under half (43%) of those who reported symptoms suggesting a major depressive episode in the 1994/95 [National Population Health Survey](#) said that they had talked to a health professional about their emotional or mental health in the past year.¹ Research from the Institute for Clinical Evaluative Sciences in Ontario also suggests that many people who have problems with depression often do not seek help for this problem, but may visit doctors for other complaints.²

Those who do receive treatment or support for mental health and addiction problems tend to get help from family physicians, case managers, social workers, and a wide range of other care providers. For example, a recent study showed that about two-thirds of Ontario residents who received physician care for mental health issues in 1997/98 visited their family doctor.³

Some people require additional interventions—including hospital care—because of a severe or persistent mental disorder. A series of reforms of mental health services beginning in the 1960s emphasized support and treatment for people with serious mental health problems in the community, with reduced reliance on long-stay provincial psychiatric hospitals.

Psychiatric Hospitalizations in Canada 28

Many patients who are hospitalized in acute care or psychiatric facilities have mental health or addiction problems. For some, it's the leading reason (primary diagnosis) for their hospital stay. Others mostly receive care for other reasons but have a secondary diagnosis of a mental health or addiction problem. The chart below shows the percentage of patients who were discharged from, or died, in acute or psychiatric hospitals in 1997/98 who fell into these two categories.



Source: Hospital Mental Health Database, CIHI

What have been the results of "de-institutionalization"? Comprehensive information is not available, but research has been done in some parts of the country. For instance, a recent study followed long-stay patients discharged from a large psychiatric hospital in Quebec between 1989 and 1998. It showed that nearly all were being appropriately cared for in the community, usually in highly supervised settings. The costs of supported living arrangements within the community were found to be less than the costs of continued hospitalization.⁴

A 1997 review of best practices in mental health reform found that the availability of supports—such as housing, vocational and educational services, crisis response services, and community-based case management—tended to reduce the need for institutional care.⁵ The review also suggested that homeless people with mental disorders often require community and professional supports, in addition to a range of housing options. How many people are affected? Pockets of evidence suggest the number maybe quite high. In 1996/97, a survey of adult shelter users

was conducted in Toronto. Over 75% of shelter users were found to have at least one lifetime diagnosis of a disorder—just over half (51%) were mood disorders.⁶ A more recent study in Vancouver reported that two-thirds of people who used shelters in 1999 suffered from some form of mental illness.⁷

Living in Health Care Institutions

In 1996/97, nearly 185,000 seniors and 35,000 younger Canadians lived in nursing homes and other health care institutions, according to a Statistics Canada survey. Nearly half were recent arrivals, having moved into the institution in the previous two years.

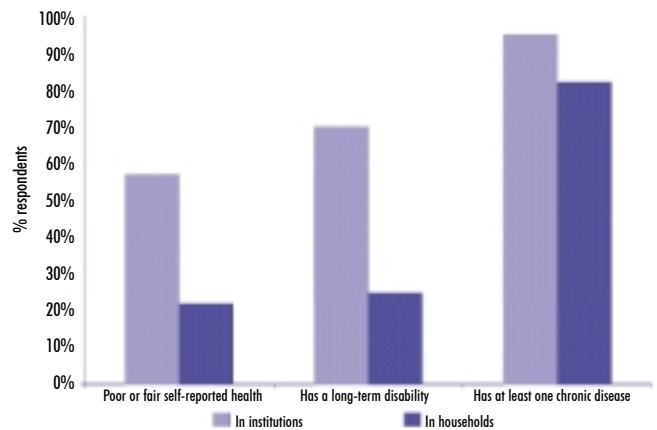
Who's Living in Health Care Institutions?

According to the 1996/97 National Population Health Survey those living in health care institutions tend to be:

- More women than men (68% of residents)
- Older seniors (average age for women: 83, for men: 69)
- People with long-term disabilities (71% of residents)
- People with one or more chronic health problems, such as incontinence, heart disease, and Alzheimer disease or other dementia (95% of residents).

Health of Seniors 29

As expected, the health profiles of seniors living in health care institutions in 1996/97 differed from those living in the community. What kinds of differences exist? Four in 10 residents reported being in good to excellent health, compared to almost eight in 10 who were living in households. Residents were also more likely to report chronic health problems.



Source: National Population Health Survey, Statistics Canada

4. PROVIDING SPECIAL CARE: A SNAPSHOT

A recent Statistics Canada study followed 2,300 people who were living in health care institutions across the country in 1994/95 for 4 years.⁸ About two-thirds were women. Their average age was 80 years, compared to 67 for men. Most (68% of seniors) reported at least one chronic condition, such as incontinence, Alzheimer disease or other dementia, and the effects of stroke.

How have they fared? Four years later, about half were deceased. The good news for the others was that three out of five said that their health in 1998/99 was as good as, or better than, in 1994/95. And a large proportion of residents had a social life at least as active as four years previously. For example, two in three residents with close friends living outside the institution said that they saw them as or more often than in the previous survey. Similarly, almost four in five of those with close family had contact at least as often with one family member.

The bad news is that two out of three residents had more chronic health problems than four years before. The most common new conditions were osteoporosis, heart diseases, and Alzheimer disease and other forms of dementia. This trend is expected given that this population tends to be in poor health and has aged over the course of the study.

When Health Care Comes Home

Home care is an important part of our health care system. At times, it substitutes for care in hospitals or long-term care facilities. For other clients, the goal is to help them remain independent in their current living environment or to provide preventive services early with a view to reducing long-term care needs.

Who uses home care? About 12% of Canadian seniors reported receiving publicly-funded home care services in the 1998/99 [National Population Health Survey](#). The survey also found that home care use tended to rise with age. Most recipients needed help with activities of daily living, such as preparing meals and housework.

The services covered under publicly-funded home care programs vary across the country (see table below). Regardless, the first step is usually an assessment process. A recent study—part of an on-going evaluation of the cost effectiveness of home care—explored the factors case managers in five provinces in Canada weigh when deciding whether an individual is suited for home care or needs institutional care.⁹ Researchers found that the functional ability of the person, as well as broader factors such as access to and funding for home care services, the availability of an informal care provider, the health of that provider, and access to home support workers (including home maintenance support) were considered.

What Services Are Covered?

30

Each province and territory offers somewhat different home care programs. In 1999, all jurisdictions covered services such as assessment and case management, nursing care, and home support for eligible clients. But only some include prescription drugs and various types of therapy in publicly-funded home care programs. If home care clients want services beyond those covered, they typically have to pay for them themselves, either out-of-pocket or through insurance plans.

Service	BC	AB	SK	MB	ON	QC	NB	NS	PEI	NF	NWT	YK
Assessment & case management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Nursing care	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Medical equipment and supplies	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Occupational/physiotherapy	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓
Speech therapy					✓		✓					
Respiratory therapy		✓					✓					
Social work	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓
Home support	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Prescription drugs		✓	✓		✓		✓	✓				

Source: [Health Canada](#), Provincial and Territorial Home Care Programs: A Synthesis for Canada, with updates compiled by CIHI

As interest in home care programs grows, better information about the types of services provided—and the outcomes of the care—is important. With this in mind, CIHI received funding from the Health Transition Fund and Health Information Roadmap to work with 11 health regions and other home care experts to identify and pilot meaningful indicators for home care. These indicators are intended to help health regions monitor and compare the health of their clients, as well as the quality and performance of home care services.

The first step—the results of which have just come in—was to pilot indicators based on data available to regions today. Consistent with the results of other research, pilot sites reported that:

- Most of the clients they serve are seniors.
- The majority of people receiving services are women.

- Fewer than one-third of clients live alone, but (particularly for women) the proportion of those living alone tended to rise with age.
- Many home care clients have difficulty with tasks such as bathing, meal preparation, and shopping.
- Clients most often stop receiving services because their service goals are met. In addition, a significant number are transferred to institutional care settings.

Watch for more results in future reports.

e-Technology Comes to Health Care

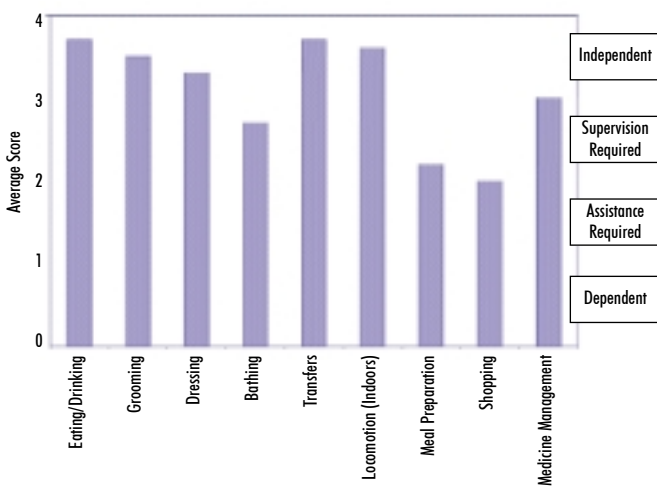
In a country as vast as Canada, providing access to quality care for everyone is a challenge. New technologies, collectively known as telehealth, are beginning to offer innovative ways of delivering health care services and information over small and large distances.

A wide range of services can now be provided through telehealth. For instance, x-rays and other diagnostic images can be

Differences in Functional Status

31

Canadians receive home care services for many reasons—one of which is that they need help with preparing meals, bathing, or other activities. Five regional homecare programs recently reported the functional status of their clients on admission to the program as part of a pilot project. Average scores—from 1 (dependent) to 4 (independent)—are shown below. Average scores were consistently low for some activities, while they remained high for others.



Source: Evaluation of Information Standards for Home Care, Health Transition Fund Final Project Report, CIHI.

What is Telehealth?

32

Industry Canada defines telehealth as "the use of communications and information technology to deliver health and health care services and information over large and small distances." Examples of telehealth applications are shown below.

Telemedicine, "medicine-at-a-distance"	Consultations, dermatology, radiology, cardiology, psychiatry, ultrasound, diabetes education, rehabilitation, etc.
Tele-education, telephone triage-information and education for health professionals, patients, and the public	Physician and nursing education, patient and consumer information via Internet, telephone, CD-ROM, etc.
Telemonitoring, tele-homecare, emergency networks	Monitoring of hemodialysis and cardiac patients, remote controlled infusion for oncology patients, assisted home care of the elderly, emergency systems linking homes to hospitals
Electronic patient records and information	Linked patient health records and information sources within a network (e.g. pharmacies, clinics, patient records, test results, etc.)

Source: Industry Canada

transmitted electronically for interpretation by radiologists who live many miles from where the image was taken. Another example comes from paediatric ophthalmology. Recent advances help to avoid premature babies having to travel to a large hospital for a test to see if they need treatment to prevent blindness. Special cameras transmit images of a baby's retina to specialists in urban centres. Babies who need treatment might still need to travel, but those who don't will be able to stay closer to home. Other uses of e-technology to deliver care range from tele-cardiology assessments using video cameras and electronic stethoscopes to tele-psychotherapy and cancer support groups that use telecommunications technologies to bring people together in "virtual" space.

How Telehealth Is Being Used in Canada

Across the country, a number of small and large telehealth projects are underway. The range of uses to which the technology is being put is wide—and growing.

Some telehealth networks connect clinics and hospitals across provincial, territorial, and even international boundaries. But not

all telehealth connections cover large distances. Some connect a patient's in-home monitoring equipment to local health facilities over telephone lines. Others allow hospitals and clinics in the same urban area to exchange patient and other information when appropriate.

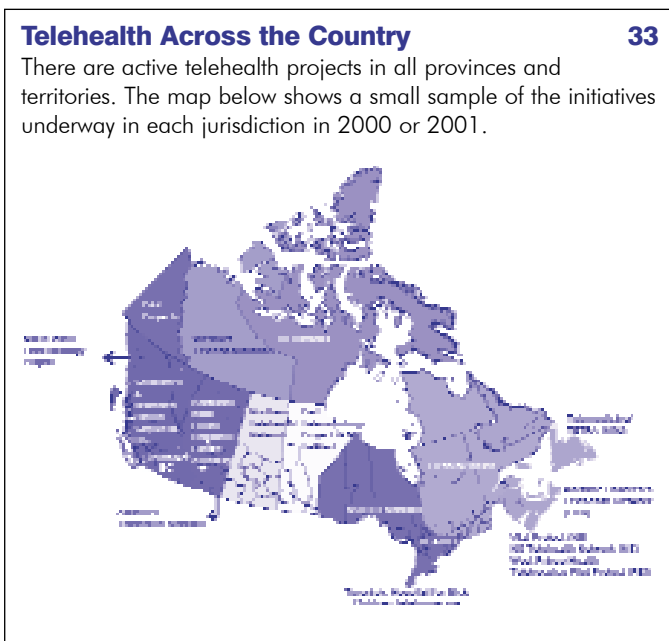
Evaluating Telehealth

Many telehealth technologies and projects are relatively new. But evaluations of early initiatives are arriving and some results suggest significant promise for telehealth applications. Others identify a number of technological, legal, organizational, clinical, and other challenges.

A recent international systematic review of studies of patient satisfaction with telemedicine indicated that under ideal circumstances patients accept and are generally satisfied with the care they received.¹⁰ This is reflected in several Canadian studies.

For example, evaluations of the impact of five telehealth projects in Nova Scotia on patient care found many favorable results. Findings (which generally covered the period between April 1998 and March 2000) included:

- **Tele dermatology:** The 360 patients treated traveled an average 35 km round-trip for a consultation, compared with 200-1100 km round-trip distances to their nearest urban centre for a face-to-face consultation.
- **Teleradiology:** Over 24,500 routine and about 200 emergency cases had been transmitted by teleradiology as of May 1998. In a review of 87 emergency cases, referring physicians indicated that teleradiology changed patient management in 68 (78%) of those cases. For example, for two in five of these cases, physicians were able to begin treatment sooner and one-quarter avoided patient transfer. In 12% of the cases, admission to hospital was avoided.



- **Telepsychiatry:** Almost 100 adult and pediatric telepsychiatry consultations had taken place. Consulting and referring physicians reported that the service enabled earlier initiation of appropriate treatment, prevented deterioration of patients' conditions, and either enabled appropriate or prevented inappropriate hospital admissions.
- **Cardiovascular-Thoracic Surgery:** As of the summer of 1999, 15 telehealth clinics and 93 consultations had been conducted. The wait time for a post-angiography appointment decreased from a minimum of about six weeks to about one or two weeks.

Similarly, an evaluation of a Labrador Telemedicine Project¹¹ was generally positive. The evaluation tested the effectiveness of a "store and forward" method of electronically sending health information from a nursing station in Black Tickle to a regional hospital in Goose Bay. Doctors receiving the electronic file felt they

were able to make more informed decisions, and nurses felt more confident in the treatment they were providing. In addition, 32 out of the 43 patients whose information was part of the pilot project and who responded to a patient satisfaction survey felt that the care they received had improved—for example, with faster access to a doctor. Patient transportation costs were also lower.

But not all evaluations are as positive. The Nova Scotia evaluations identified inappropriate referrals and limitations in the technology. Pediatric psychiatrists also felt telepsychiatry was more appropriate for follow-up visits than initial consultations. They were concerned about missing subtle cues (e.g. nonverbal communications and family interactions) that might affect the care of their patients. In another recent study, paediatric psychiatrists in Newfoundland tended to prefer face-to-face assessments, although some of the children being assessed favoured videoconferencing.¹²

Information Gaps

What We Know

- Numbers of residential care beds by type.
- Rates of hospitalizations in acute care and psychiatric facilities related to mental health and addictions.
- Survey and basic administrative information about care provided beyond hospitals and doctors' offices.
- Selected local and provincial/territorial information about rehabilitation, continuing care, mental health, home care, and other services and their outcomes.

What We Don't Know

- Who is seeking and paying for public and private mental health, rehabilitation, continuing care, and home care services? Who is providing this type of care? How is it monitored for quality? How satisfied are patients?
- How can e-technology most effectively be used in health care? What differences in access to and use of e-health exist across different groups?
- How do home care outcomes compare with those in institutions? How do costs to the public sector, patients, and families differ depending on where patients receive services? How does the impact on patients and their friends and family vary depending on whether care is provided at home or in an institution?
- Are there people who could benefit from services outside of hospitals who aren't receiving them? For example, are there patients in hospitals who would be as well or better off at home, with the appropriate help, or in other types of health care facilities?

What's Happening

- Statistics Canada's [Canadian Community Health Survey](#) will soon provide regional-level survey estimates of the use of various types of health care services.
- Mental health issues will be the focus of the 2002 cycle of the [Canadian Community Health Survey](#).
- Canada's Premiers and the Prime Minister agreed to track and report on home and community care services, along with 13 other indicators, in each of their jurisdictions by 2002.
- Consensus has been achieved on a national standard for data about rehabilitation services, and a number of facilities have begun reporting comparable data based on this standard.

For More Information

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Part B: The People, The Care, The Cost

5. The Providers of Care

A Changing Mix

34

There is a wide range of regulated health professions. The table below shows the number of licensed professionals per 100,000 Canadians and the percentage change in these numbers between 1989 and 1998 for health care professions regulated in all provinces.

	1989	1998	Change
RNs ⁺	804	750	-7.2%
LPNs [‡]	301	250	-17%
Physicians*	187	185	-0.5%
Pharmacists*	67	76	+13%
Dentists*	52	54	+4%
Physiotherapists*	37	49	+32%
Psychologists	32	40	+25%
Dental hygienists	29	46	+59%
Chiropractors	12	16	+33%
Optometrists	11	11	0%

Source: Health Personnel Database, CIHI

Note: All 1998 counts are preliminary estimates.

* RN numbers are based on those employed in nursing.

‡ LPN numbers are based on those licensed but not necessarily employed in nursing.

* Based on those active in the profession.

Our health care system depends on having a steady supply of appropriately distributed, well-trained, and experienced professionals and committed volunteer caregivers. About one in ten employed Canadians worked in health care in 1999. Many more Canadians helped to care for their friends and family members or volunteered with health care organizations.

An Evolving Health Care Team

Health care providers and administrators are the backbone of our health care system. More than 30 groups are now regulated under legislation in at least one province or territory. Each tends to specialize in certain areas, although skills and roles vary across the country and sometimes overlap.



The ranks and roles of regulated professions continue to expand.

For example:

- British Columbia recently became the first province to regulate Chinese Medicine practitioners. These practitioners are skilled in a variety of treatments, including herbal remedies and acupuncture.
- Ontario, Quebec, Manitoba, and British Columbia now fund midwifery services from the public purse. Typically, midwives provide care to pregnant women before and after birth. They may also manage planned home births and hospital births.
- Quebec recently changed legislation to allow nurses to act as surgeons' assistants. This means they can now perform some surgical tasks, such as stitching and closing wounds. Medical residents and other doctors have traditionally been responsible for these functions.

In addition, new roles continue to emerge within existing legislation. For example, some community hospitals are introducing a new type of specialist—the hospitalist. These physicians take care of patients in hospital who do not have a family doctor to care for them. As well, palliative medicine is now being recognized as a specialty, with postgraduate training being introduced at several Canadian medical schools.

Nurses: Who They Are and Where They Work

Nursing is the largest health profession. There are three regulated nursing groups: registered nurses (RNs), licensed practical nurses (LPNs), and registered psychiatric nurses (RPNs).

In 1999, over 228,000 RNs were employed in nursing across the country.¹ This is about the same as in 1998, but about 2.5% lower than five years earlier. When population growth is accounted for, there were 7% fewer working RNs per person in 1999 than in 1994. However, preliminary estimates for 2000 suggest a slight reversal of this downward trend.

Recent patterns vary from province to province. There were actually more RNs in

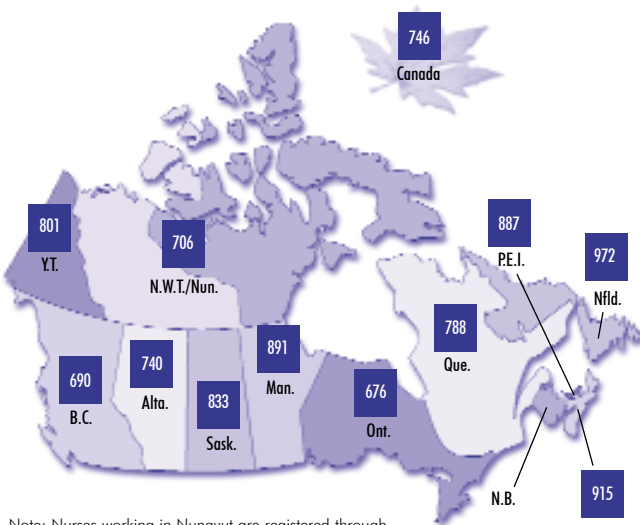
most provinces in 1999 compared to 1994—although only Newfoundland, Prince Edward Island, and the Yukon had equal or higher numbers *per capita*.^{*} Primarily, overall Canadian RN totals fell because of substantial drops in RN numbers in Ontario (4%), Quebec (5%), and Nova Scotia (6%).

But simply counting RNs does not tell the whole story. Across the country, just over

Canada's RNs

35

The number of registered nurses employed in nursing per 100,000 Canadians varied between provinces and territories in 1999, as shown below. Other factors—such as the extent of full- and part-time employment, where nurses work, their scope of practice, their geographic distribution, and the availability of other health care providers—may also be important in understanding nursing supply variations.



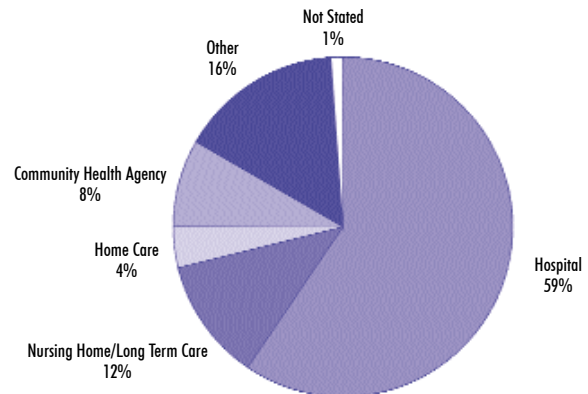
Note: Nurses working in Nunavut are registered through the N.W.T. Registered Nurses Association. At this time, the available data do not accurately identify in which territory all of these nurses are employed. Due to reporting differences, RN data for New Brunswick were not available at the time this report was developed.

Source: Registered Nurses Database, CIHI

Where Nurses Work

36

The total number of Canadians working in nursing is changing, as is the nature of their work. Most RNs still work in hospitals, but there was a slight shift out of this sector between 1994 and 1999. In contrast, employment in home care and community health grew over this period. The graph below shows where RNs employed in nursing worked in 1999.



Source: Registered Nurses Database, CIHI

half of all RNs worked full-time in 1999. Part-time work and working for more than one employer have both become more common in the last five years. In 1999, just over 45% of RNs working in nursing had part-time employment. Some choose regular part-time or casual work. Others do not. A recent study of hospital RNs in Alberta and British Columbia found that over 40% of hospital RNs in British Columbia and over 60% in Alberta who were working on a casual basis were doing so by choice.²

There are also important shifts in the kind of work that RNs are doing. In 1999, over 85% of RNs primarily provided direct

^{*} Due to changes in reporting New Brunswick numbers could not be compared.

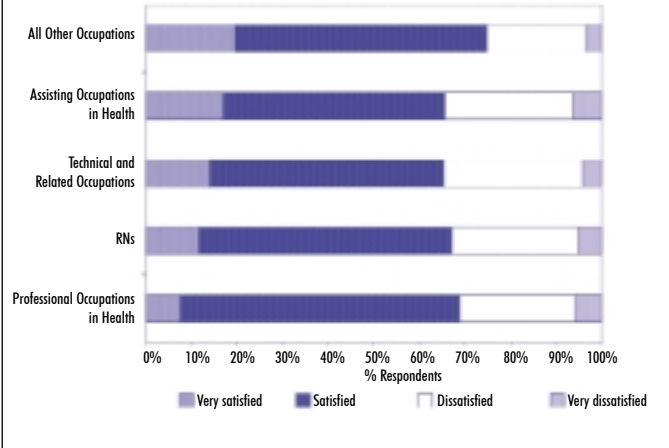
patient care. This is down from just over 88% in 1994. Others work in education, research, and administration. In 1999, more than 10% of nurses worked primarily in these areas. There have also been changes in RNs working in management positions. Between 1998 and 1999, increases in nursing managers working in the community health sector partially offset a 3% drop in hospital nurse managers.

Overall, most nurses are happy with their current jobs. About 13 in 15 (87%) RNs (including head nurses and supervisors) in Canadian provinces reported being satisfied or very satisfied in Statistics Canada's Workplace and Employee Survey (1999). But, compared with other health care providers, a larger percent reported being very dissatisfied with their job.

While overall job satisfaction levels were high, RNs and other health care providers were not as positive about specific aspects of their jobs. For example, they were less satisfied with their pay and benefits.

Satisfaction with Pay and Benefits 38

About 67% of RNs (including head nurses and supervisors) reported being satisfied or very satisfied with their pay and benefits in 1999. Among health care providers, satisfaction levels ranged from 65% for Technical and Related Occupations (e.g. Laboratory Technicians) to 68% for Professional Occupations (e.g. Physicians and Dentists).



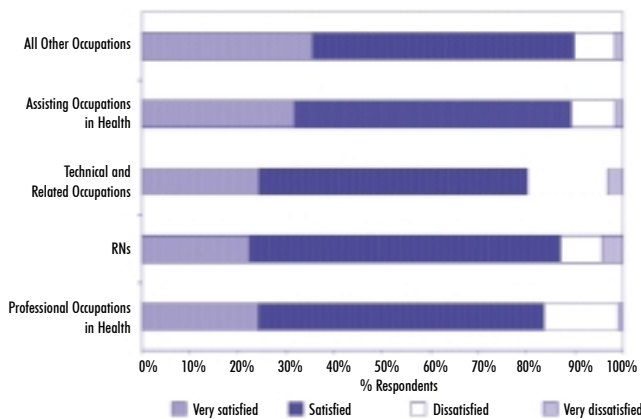
Source: Workplace and Employee Survey, Statistics Canada

An Aging Workforce

The average age of nurses in Canada is rising. In 1999, only one in 10 RNs working in nursing was under 30. The ratio was one in eight (13%) in 1994. At the same time, the number of RNs age 50 to 59 has grown. There are now almost 53,000 nurses in this age group, many of whom will leave the workforce over the next decade.

Overall Job Satisfaction 37

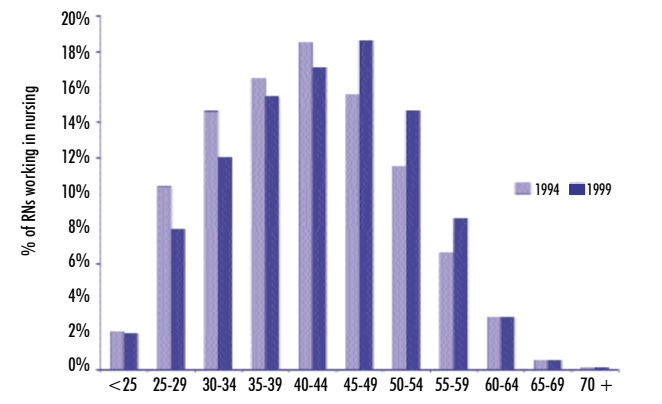
Most health care providers reported being satisfied or very satisfied with their current jobs in 1999. Overall satisfaction levels for 4 groups of providers (RNs include head nurses and supervisors) are shown below.



Source: Workplace and Employee Survey, Statistics Canada

The Aging of RNs 39

In recent years, the average age of RNs employed in nursing has risen. The graph below shows how the age distribution of working nurses changed between 1994 and 1999.



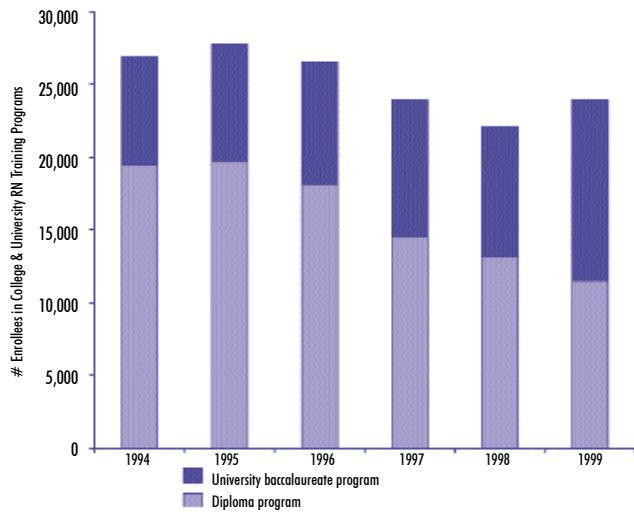
Source: Registered Nurses Database, CIHI

In part, the nursing workforce is aging because fewer young people are joining the profession. The distribution of students graduating from college and university RN programs is also changing.

Nurses In Training

40

The number of students enrolled in registered nurse training programs in universities and colleges across the country has fluctuated in recent years, but there has been an overall increase in baccalaureate program numbers. Note: Some diploma programs (10 in 1994, 4 in 1996, 15 in 1997, 4 in 1998, and 15 in 1999) did not report enrolment numbers.



Source: Canadian Nurses Association

Are we heading towards a nursing shortage? If current patterns of health status, care, utilization of services, division of labour among health care workers, output rates from educational programs, nursing career patterns, and other factors continue, many predict significant nursing shortages.^{3, 4, 5} Similar arguments have been made in Australia⁶, the United Kingdom⁷, and the United States.⁸

Others say that a large-scale shortage is not inevitable. They suggest that much depends on how well we recruit and retain nurses, how roles of nurses and other professionals evolve, and how effective we become at promoting health and preventing illness. Other relevant factors may include workplace policies, such as mandatory retirement and labour arrangements.

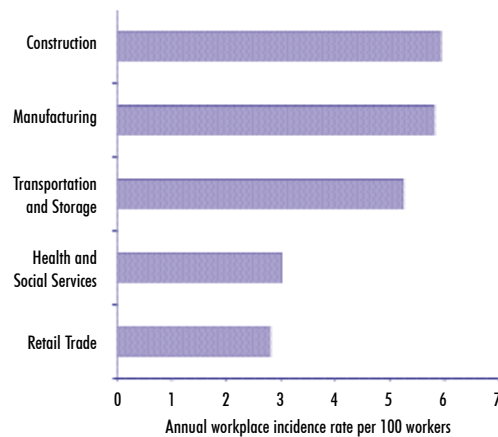
In Sickness and In Health

One of the goals of the health care system is to prevent illness and injury. But nurses, the largest group of health workers, suffer from some of the highest rates of on-the-job injuries. Recent data from the Association of [Workers Compensation Boards of Canada](#) show that there were more than 36,000 lost-time injuries among health care and social services workers in 1998—about three for every 100 workers. Nurses and assisting occupations (such as nurse aides and orderlies) account for over 75% of workplace injuries in health care. Most injuries stem from lifting and moving patients.

On-the-Job Injuries Compared

41

Compared with other large industries, Canadian health and social services workers had the 4th highest rate of workplace injuries resulting in lost time in 1998. The graph below shows the five industries with the highest annual injury incidence rates.



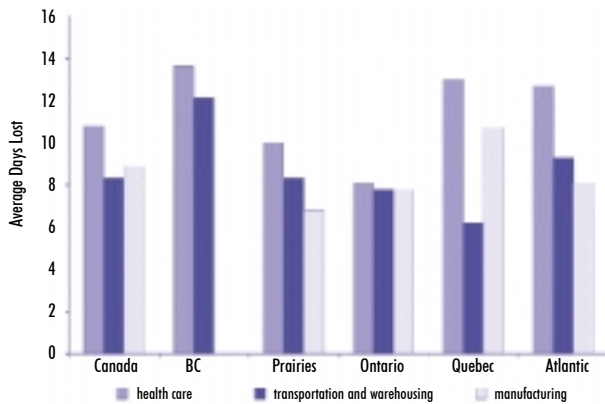
Source: National Work Injury Statistics Program, Association of [Workers Compensation Boards of Canada](#).

As a result of workplace and other injuries and illnesses, health care workers have high absenteeism rates. According to Statistics Canada survey results, Canadians employed in health care were more likely to miss work because of illness or disability than workers in other sectors. For example, an average of 8.5% of full-time nurses (including RNs, nursing assistants, and similar professions) were absent from work for this reason each week in 1999.

Lost Work Days

42

People employed in health care tend to miss work due to illness or disability more often than workers in other large industries. The chart below shows how the average number of lost work days from this cause for full-time paid workers compared across the country in 1999.



Note: Due to small cell size, B.C. data for manufacturing are not available.

Source: Labour Force Survey, Statistics Canada, 1999

Nurses were also away for longer. In 1999, nursing workers lost more than three weeks of work on average (15.4 days) due to illness or disability, an average similar to that in the previous year (15.6 days). This is significantly higher than the average for all Canadian workers (6.7 days in 1999).

Physicians

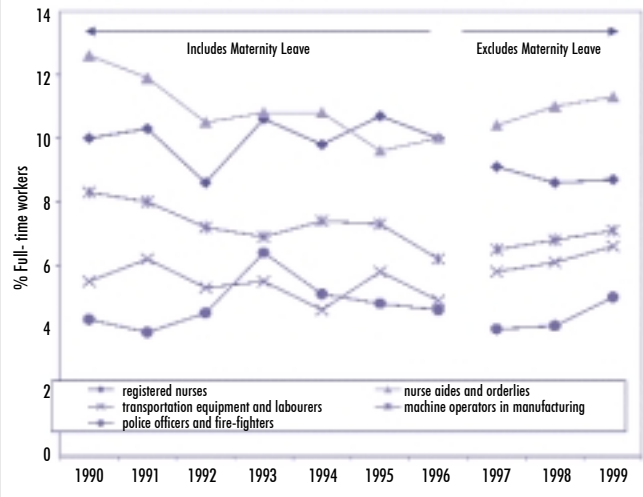
Doctors are the third largest group of regulated health professionals, after RNs and LPNs. There were about 56,900 non-military physicians in clinical and non-clinical practice in Canada in 1999, according to CIHI data. This is more than ever before. The number of doctors has steadily increased over the last three decades. With population growth, the national physician-to-population ratio has remained relatively stable throughout the 1990s.

Although the overall number of physicians per Canadian is about the same as at the beginning of the decade, the mix has changed. There are fewer family doctors per person, but more specialists.

Nurses More Likely to Miss Work

43

Between 1990 and 1999, RNs were more likely to have missed work due to illness or disability than workers in selected other shift-work occupations. The graph below shows the average percentage of full-time paid workers who missed work due to illness or injury each week. Data for 1996 and earlier years includes time on maternity leave. After 1996, maternity leave is excluded.



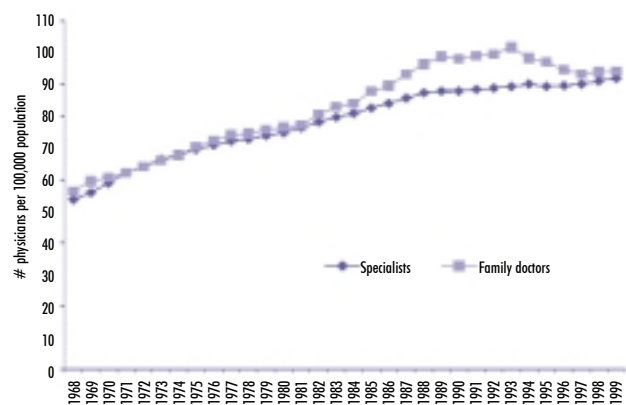
Source: Labour Force Survey, Statistics Canada

The percentage of physicians who are female (29% in 1999) is also up. And more and more new doctors—just under half of all medical school graduates in

How Many "Share" Doctors

44

The total number of physicians in Canada is about 2.5 times higher than 30 years ago, but the physician-to-population ratio has fluctuated over time. In 1999, there were 76 more doctors per 100,000 Canadians than in 1968 (evenly split between specialists and family doctors). The chart below shows how the number of active civilian physicians (excluding residents) per 100,000 population changed between 1968 to 1999.

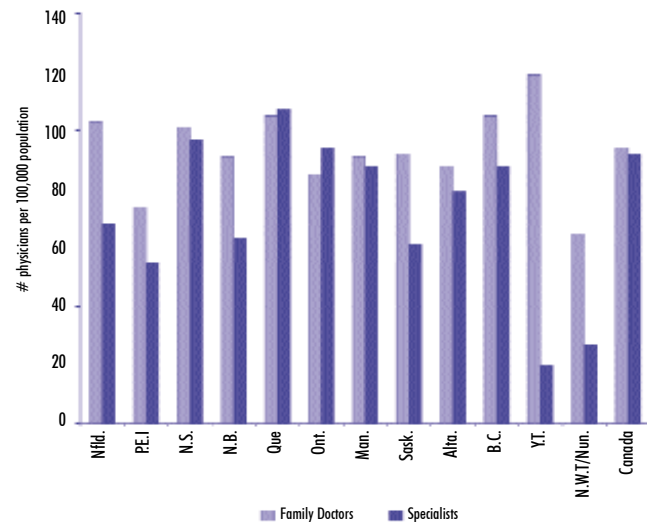


Source: Southam Medical Database, CIHI

1998—are women. These trends matter because female doctors are more likely to practice as primary care physicians, tend to choose different specialties, often work fewer hours per week, and have other practice differences compared to their male colleagues.¹⁰

Canada's Family Doctors and Specialists 45

Number of active civilian family doctors and specialists per 100,000 population, by province/territory in 1999.



Source: Southam Medical Database, CIHI

Physicians Are Aging Too

For several years, the average age of doctors has been creeping up. In 1999, almost four in 10 physicians (39%) were 50 or older. This compares with only 35% in 1995. Specialists tend to be somewhat older than family doctors. In 1999, the average age of a family doctor was almost 46, whereas the average age for a specialist was nearly 49. As with nurses, there is some debate about whether a physician shortage is imminent. Experts are divided on the issue.^{11, 12, 13}

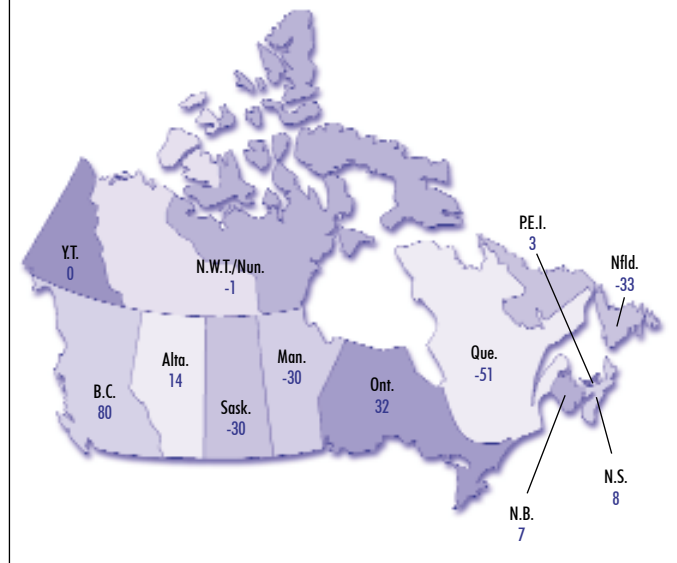
Recruiting and Retaining Doctors

Every year, many Canadians move from province to province, and doctors are no exception. In fact, movement of physicians

within Canada has increased slightly over the last few years. Just over 800 doctors (excluding residents) moved from one province to another in 1999. Quebec experienced the highest net loss of physicians (78). In contrast, Ontario had the highest net gain (119). British Columbia and Alberta also attracted significant numbers of doctors from other provinces in 1999.

Migration Within Canada 46

From year to year, provinces and territories gain and lose physicians because of migration within Canada. The map below shows the average annual net numbers of physicians (excluding residents) lost/gained for this reason between 1995 and 1999. Figures are based on the physicians' province of residence at the beginning of each year.



Source: Southam Medical Database, CIHI

Internationally, physician migration seems to occur in cycles. The last peak was in the mid to late 1970s, followed by a new (longer-lasting but lower) peak in the mid 1990s. In 1999, CIHI data show that 585 doctors moved abroad, about 3% more than in 1998. Most were male, specialist physicians. About half had received their M.D. education within the last 10 years. In the same year, 343 physicians returned from abroad, up about 7% from the year before. Their characteristics were similar to those of the doctors who left the country.

Attracting and Keeping Doctors and Nurses

Recruiting and retaining health professionals is a complex task. In recent months, many governments have targeted millions of dollars towards this task. A wide variety of programs now exist across the country, ranging from short-term cash incentives to multi-year integrated strategies. The table below provides examples of general policy approaches being used to address physician supply issues across the country.

Recruitment	
Into medicine	Grants, loans, bursaries, fairs/tours
Retention	
Regulatory/administrative	Restrictions on practice location, legislation for expanded nurses' role
Practice-related funding	Bonuses for practicing in underserved areas, salaried or alternate payment positions, travel allowances, special on-call payments, subsidized income
Education and training	Grants, loans, bursaries, special funding for rural training/placements, special funding for continuing education/skills development, special recruitment policies, nurse practitioner or similar program
Other	Funding for new remote diagnostic technologies, Physician Resources Co-ordinator

Adapted from: Chan B., Barer M. (2000) Access to Physicians in Underserved Communities in Canada: Something Old, Something New. Paper prepared for the Fifth Annual Quadrilateral Physician Workforce Conference, Sydney, Australia, November 2000.

What works best? It's difficult to disentangle the effects of different strategies and to separate them from other factors affecting the health sector and the economy in general. The approaches used are also evolving, and it takes time to develop evidence on what works best. Researchers recently studied current knowledge about nursing recruitment and retention strategies for the [Ontario Ministry of Health and Long-Term Care](#). Examples of approaches they found to be the most successful include:

Recruitment	
Students into nursing profession	Flexible class schedules, financial support, mentor/shadow programs, career counselling, career fair/days
Nurses to health-care organizations	Strong affiliations with schools of nursing, career counselling, career fair/days
Retention	
Administrative aspects	Satisfying work environment, staff recognition, accessibility and visibility of nursing leaders
Organizational aspects	Innovative compensation and benefits, flexibility in scheduling and work status, participation in committees
Professional practice	Promoting autonomy, enhance decision-making ability related to patient care, appropriate workload/staff level/skill-mix
Professional development	Opportunities for advancement, continuing education and training

Adapted from: The Ontario Ministry of Health and Long Term Care (2000) *Ensuring The Care Will Be There. Report on Nursing Recruitment and Retention in Ontario*, Prepared by the Registered Nurses Association in Ontario and the Registered Practical Nurses Association of Ontario, March 2000.

In addition, many physicians immigrate to Canada—243 doctors became landed immigrants in 1999. Before being licensed to practice, immigrants must usually undergo an extensive certification process.

Compared to the year before, significantly fewer 1999 immigrants came with arranged employment as physicians (67 in 1999 versus 125 in 1998). Physicians may also enter the country under temporary work visas. Many of these physicians practice in rural and remote areas.

Managers of the System

Managing the day-to-day operations and planning for the future of Canada's health care system are the roles of health service executives. Their responsibilities include developing organizational objectives and implementing policies, programs, and systems to meet changing needs; recruiting staff; coordinating the work of departments, programs, divisions, and regions; and representing their organizations in negotiations or other situations.

Ministers of Health play a key role in setting overall direction for Canada's health care system. At the federal level, nine Members of Parliament have been appointed Health Minister since 1980.

Allan Rock, the current Minister of Health, has served the longest term during this period. He was appointed in 1997. The extent to which changes of government and cabinet shuffles have led to turnover of provincial/territorial Ministers varies. Some serve only a few months. Others have held office for more than five years.

Change at the Top

47

Since 1990, 75 Health Ministers have served at the federal, provincial, or territorial level across the country. The table below shows the number of Ministers who held office in each jurisdiction from January 1990 to February 2001 and their median term (in months). The median is the point at which half served longer and half served shorter terms.

Jurisdiction	Ministers #	Median Term (mons)
Federal	6	24
Newfoundland	6	28.5
Prince Edward Island	5	29
Nova Scotia	6	23.5
New Brunswick	4	34
Quebec	4	38.5
Ontario	7	28
Manitoba	5	25
Saskatchewan	7	19
Alberta	4	41.5
British Columbia	7	22
Yukon Territories	5	22
Northwest Territories	8	13
Nunavut	1	Appointed April 1999

Source: Compiled by CIHI

Since no formal registration process for health service executives exists, we do not know exactly how many are currently working across the country. Estimates come from membership lists of the [Canadian College of Health Service Executives \(CCHSE\)](#). As membership in CCHSE is voluntary and the employment status of members is not known, the actual number of managers in the health care system will differ from available estimates.

Annual membership in CCHSE has fluctuated over the last decade, from a low of about 2,500 members in 1988 to a high of slightly over 3,000 in 1994 and 1995. By 1997, membership numbers (2,675) had returned to levels similar to the late 1980s.

In 1993, just over 4,200 CCHSE members and graduates of health administration programs at six Canadian universities were surveyed about their positions, compensation, job satisfaction, and other issues.¹⁴ Of those who received the survey, seven in 10 completed it. Most respondents in senior or middle management positions (70%) were over the age of 40. Although about as many men as women completed the survey, they tended to hold different types of jobs. For example, women were more likely to hold senior management positions in rehabilitation and psychiatric facilities. Male senior managers were more likely to be employed at community and teaching hospitals.

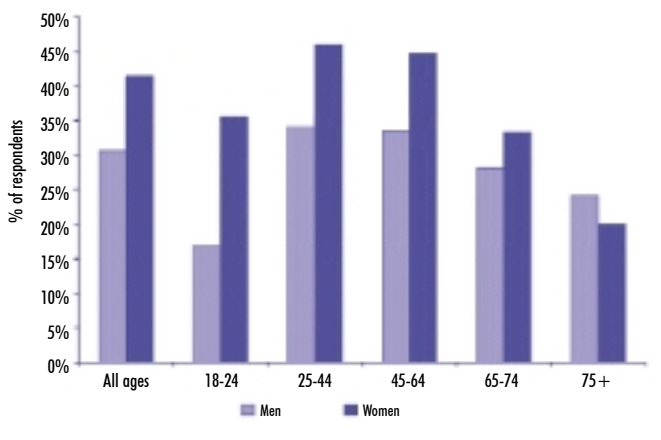
Beyond Formal Care Providers

For health professionals, care is their "day job". But many other Canadians also provide support to friends and family members or volunteer with health organizations. For example, a recent survey in Alberta found that more than one-third of respondents (36%) had

The Family's Contribution to Health Care

48

Albertans aged 25 to 64 were more likely to have provided health support to a family member in the last six months than their older or younger counterparts. The graph below shows the percent of male and female respondents by age group who reported providing support.



Source: 2000 Survey About Health and the Health System in Alberta, [Alberta Health and Wellness](#)

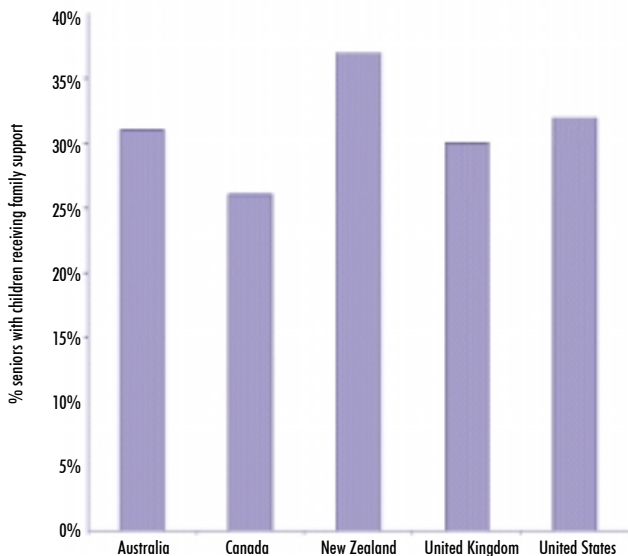
provided health care support to a family member within the past six months.¹⁵ This included emotional support, help with home or personal care, transportation, childcare, financial assistance, and palliative care. Up to age 75, women were more likely than men to have said that they provided this type of help. Nationally, a recent poll found that one in four adult Canadians in 2000 reported providing some form of care to someone in their

home with a long-term physical or mental illness or who was frail or disabled.¹⁶

In addition to acting as caregivers in the home, Canadians are volunteering with an increasing number of health organizations. A 1997 Statistics Canada survey found that health organizations benefited from almost 12% of volunteer activity in Canada. And, as in many other sectors, involvement had increased from a decade before.¹⁷

Family Caregivers: An International Perspective 49

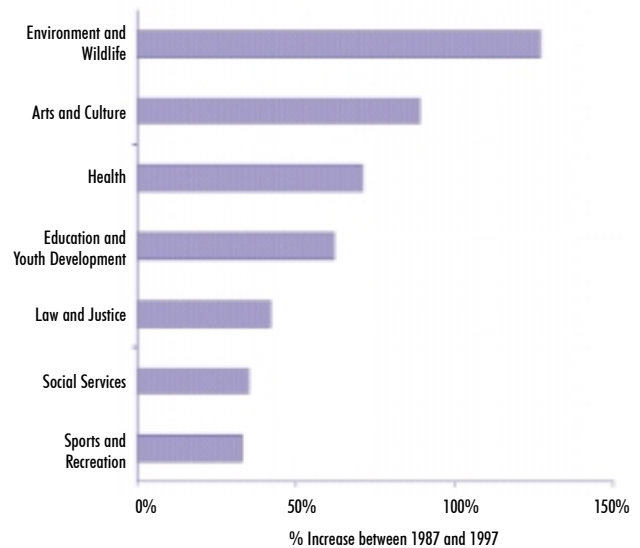
In Canada in 1999, 26% of seniors who had children reported that their children often helped them when they were ill. Rates in other countries surveyed by the Commonwealth Fund ranged from 30% to 37%.



Source: The Commonwealth Fund 1999 International Health Policy Survey

Volunteering Up in Health Care 50

Data from national surveys on volunteering show a substantial increase (71%) between 1987 and 1997 in the number of health organization with which Canadians report volunteering. Several other sectors also experienced increases.



Source: National Survey of Giving, Volunteering and Participation, Statistics Canada

Information Gaps

What We Know

- The number of physicians by age and sex, where they work, and their migration patterns.
- The number of registered nurses by age and sex and where they work.
- The number of active professionals for most of the other types of health occupations.
- How workplace injury and absenteeism rates for health workers compare with other sectors.
- How satisfied some health professionals are with respect to their employment, compensation, and benefits.

What We Don't Know

- What are the age, sex, and working patterns of health care providers and managers other than physicians and nurses? How quickly is their age distribution changing?
- How many nurses and other health care providers (other than physicians) leave Canada each year? How many return?
- Do the number and types of services provided by fee-for-service physicians differ from those provided by salaried or sessional physicians and what impact does this have on the provision of care to the population?
- How will changes in the supply and distribution of health professionals affect access to care in the future?
- How are employment and practice patterns changing over time? How many health care workers prefer to work less than full-time? How do differences in labour arrangements affect the health care system's ability to respond to changing needs?
- Which strategies will prove most effective at attracting, recruiting, and retaining health professionals in the long-term?

What's Happening

- CIHI is planning to release a special in-depth report on the health care team in the fall of 2001.
- A database development project to expand information about licensed practical nurses and registered psychiatric nurses is underway.
- A new report on RN supply and distribution in Canada was published in 2000. Other projects to improve the usefulness of data on physicians and RNs are also underway.
- [Human Resource and Development Canada](#) has launched several labour sector and occupational studies relevant to health care providers. These include an occupational study of nursing in Canada as well as an Industry Profile of hospitals and other health institutions.
- An updated survey of Canadian family doctors is underway.

For More Information

- ¹ CIHI (1999). *Supply and Distribution of Registered Nurses in Canada*. Ottawa: CIHI
- ² Clarke, H., Giovannetti, P., and Shamian, J. (2001). *Hospital and Patient Outcomes An International Study: Canadian Component Nurse Survey Results*. Presented at the Nursing Leadership Conference.
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- ⁶ Australian Institute of Health & Welfare (AIHW) (1999). *Nursing Labour Force 1998, National Health Labour Force Series*. Australia: AIHW.
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- ¹⁰ Cohen, M. (1999). *Women In Medicine, The Canadian Perspective*. 4th International Invitational Medical Workforce Conference, San Francisco.
- ¹¹ Canadian Medical Forum Task Force on Physician Supply. *Physician Workforce*.
www.cma.ca/advocacy/taskforce.
- ¹² Barer, M.L., and Stoddart, G.L. (1991). *Toward Integrated Medical Resource Policies for Canada*. Report prepared for the Federal/Provincial/Territorial Conference of Deputy Ministers of Health.
- ¹³ Rachlis, M., Evans R., Lewis, P., and Barer, M. (2001). *Revitalizing Medicare: Shared Problems, Public Solutions*. British Columbia: Tommy Douglas Research Institute.
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- ¹⁵ Northcott, H.C., and Northcott, J.L. (2000). *The 2000 Survey About Health and the Health System in Alberta*. Edmonton: [Alberta Health and Wellness](#).
- ¹⁶ The Berger Population Health Monitor (2000). Survey #21. Toronto: The Hay Group.
- ¹⁷ [Statistics Canada](#) (1997). *Caring Canadians, Involved Canadians*. 1997 National Survey on Volunteering in Canada. Ottawa: Statistics Canada.

6. Outcomes of Care

Traditionally, we have been good at counting what the health care system does—how much money is spent and where, how many doctors and nurses there are across the country, how many surgeries are done each year, and how these numbers have changed over time. But health care is about maintaining or improving health, in other words producing better outcomes. New data are beginning to provide insights into how health outcomes vary from province to province or from region to region. This chapter highlights new findings for a number of important conditions—heart attacks, cancer, transplants, and certain surgical procedures.

Surviving a Heart Attack

Heart disease is the leading cause of death for Canadian men and women. But there are large variations in death rates across the country.¹ To some extent, this is because of differences in how and why different people experience heart problems. Major risk factors for heart disease include smoking, diabetes, high blood pressure, obesity, and physical inactivity.¹ Certain social and economic circumstances also place people at higher risk for having a heart attack. For example, low income workers have been shown to be more at risk than managers.²

So we know that there are differences in how likely people are to get heart disease—but what about once you have it? How do patients across the country fare?

In 1999, the Institute for Clinical Evaluative Sciences (ICES), in conjunction with the [Heart and Stroke Foundation of Ontario](#), studied heart attack (acute myocardial infarction or AMI) outcomes in Ontario.³ They compared death rates both after 30 days and after one year in each of the province's [District Health Council \(DHC\)](#) regions. To make the comparisons fair, they adjusted for regional differences in age, sex, comorbid conditions (illnesses present at the same time as the heart attack), and other factors. Even so, they found significant variations in death rates across the province.

About Our Study: The Fine Print

This study uses data from CIHI's Hospital Morbidity Database. To make outcome comparisons as fair as possible, we used these data to develop risk-adjusted regional mortality rates. The methods we used have been well tested in Ontario and elsewhere.⁴ Rates and confidence intervals for regions with a population of 100,000 or more are included in *Health Indicators 2001*, an insert to this report. Detailed descriptions of our methods and technical notes are available on the CIHI web site (www.cihi.ca).

What to Watch For

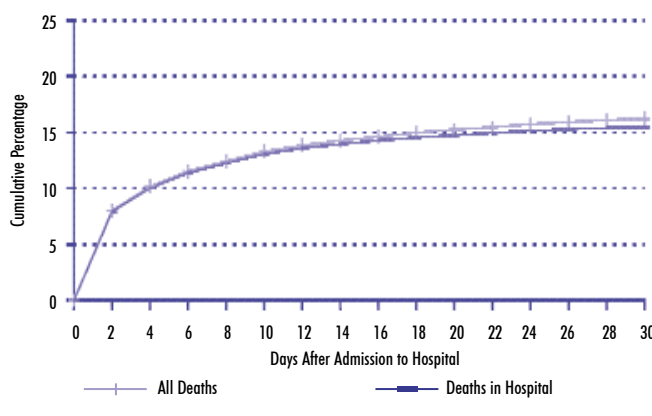
- Our analysis is based on where patients live, not where they are treated. As a result, the rates reflect mortality for AMI patients resident in a region (who may also receive care elsewhere), rather than the outcomes of care for hospitals in the region (who may also treat patients from other areas).
- To make outcome comparisons as fair as possible, we only included patients who had a new AMI, leaving out anyone who had already been hospitalized with a heart attack in the past year. In addition, we used well-tested methods to adjust for differences in age, sex, and co-morbidity (e.g. cancer, renal disease, and conditions of shock) across regions. Nevertheless, we could only use the data available to us. As a result, differences across regions may reflect variations in risk factors or in care before admission and after discharge that we were not able to adjust for, not just the quality of care patients received in hospital.
- This study compares 30-day in-hospital mortality rates. There is a strong, but not perfect, relationship between deaths in hospital and out of hospital over this period. Statistics Canada data on AMI patients in health regions in three provinces suggest that 91-100% of all deaths within 30 days of initial

hospitalization for AMI in 1995/96 occurred in a hospital. Across all the regions studied, about 95% of deaths were in hospital. The estimated 5% of deaths missed is the difference between the end points of the two lines on the chart below. The majority of deaths within one year after an AMI occur within the first 30 days.

Deaths In and Out of Hospital

51

Cumulative rate of death up to 30 days after initial hospitalization with AMI, three provinces, 1995/96.



Source: Person-Oriented Information Project, Statistics Canada

- 95% confidence intervals were calculated for all mortality rates. These intervals tend to be larger (i.e. the rate estimate is less precise) for regions with fewer patients in a given year. Thus, for example, Toronto's rate is estimated to be accurate to within ± 0.93 percentage points 19 times out of 20. In contrast, Lakeland, Alberta's (with only a fraction of Toronto's cases) is within ± 4.71 percentage points.

New Results From Across Canada

For the first time, CIHI has used a similar approach to compare outcomes across the country. We looked at in-hospital death rates within 30 days after being admitted to hospital with an AMI. Rates were calculated for most of Canada's largest health regions (those with a population of 100,000 or more). As in the earlier ICES work in Ontario, these rates were adjusted

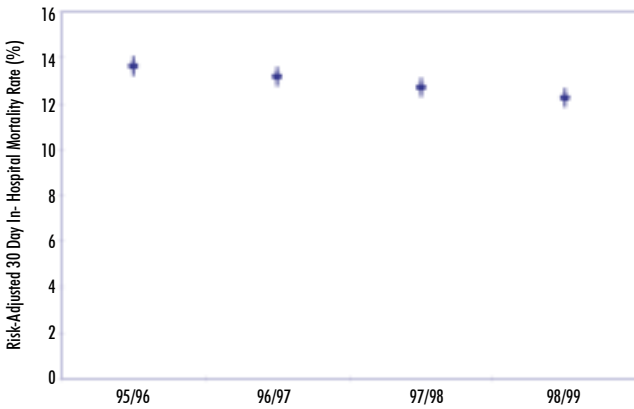
for differences in age, sex, and comorbid conditions. Rates for regions in British Columbia and Quebec are not available because of differences in how hospital data are collected.

Across all regions (large or small), 12.65% of patients died in hospital within 30 days of an initial AMI hospitalization in 1998/99.

Changes in AMI Mortality

52

From 1995/96 to 1998/99, a patient's chances of dying in hospital within 30 days of an initial AMI hospitalization appear to have gradually decreased. The graph below shows combined trends for provinces/territories that reported data throughout this period (Alberta, Manitoba, Ontario, Nova Scotia, New Brunswick, Newfoundland, Prince Edward Island, and the Territories). The rates* (shown by the circles) are estimated to be accurate to within the range shown by the bars 19 times out of 20 (95% confidence interval).



* Adjusted across all 4 years for comparability

Source: Hospital Morbidity Database, CIHI

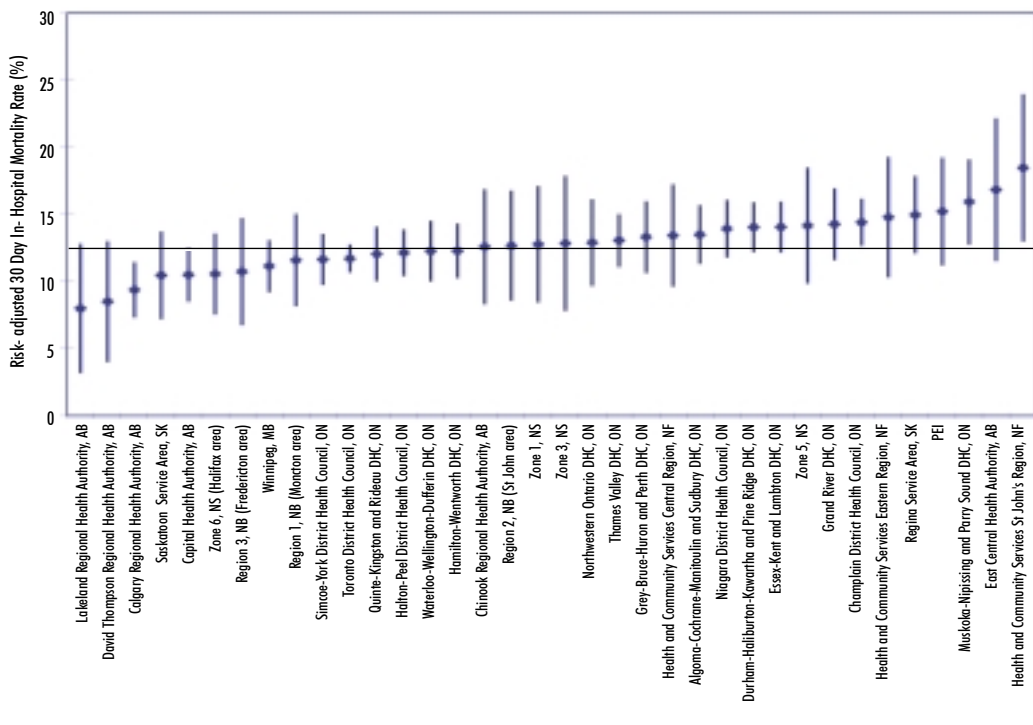
After risk adjustment, we found that most large regions had mortality rates that were about the same as the overall average. But some were substantially higher or lower than the norm. For example, three Alberta regions (Lakeland, David Thompson, and Calgary) had the lowest rates—all under 10%. On the other hand, the province was also home to the region with the second-highest death rates (East Central at just under 17%). And the rate in the St. John's region in Newfoundland was over 18%.

Why this variation? Some of the differences may be due to risk factors or conditions that we were not able to adjust for. For example, research in Ontario has shown that, all else being equal, low income patients are more likely to die within one year of a heart attack than their better-off counterparts.⁵ Other

Regional Variations in AMI Mortality

53

The chances of a patient dying within 30 days of initial hospitalization for AMI (adjusted for age, sex, and comorbidity) varied from region to region in 1998/99, although, few regions' rates were statistically significantly different from the overall average. Available data for Canadian regions with a population of 100,000 or more are shown below. The rates (shown by the circles) are estimated to be accurate to within the range shown by the bars 19 times out of 20 (95% confidence interval). The solid line represents the overall average of 12.65%.



Source: Hospital Morbidity Database, CIHI

differences may relate to the access to, or to the quality of, services in communities across the country, not all of which are likely well documented in patient records. Still other reasons for variations may well exist, even if they are not well understood today.

What we do know is that many lives could be saved each year if all regions were able to achieve 30-day mortality rates similar to those in the areas with the lowest rates.

Surviving Cancer

Cancer is the number two killer of Canadians, and the leading cause of death before age 70. [The National Cancer Institute of Canada](#) estimates that there will

be 132,100 new cases of cancer and 65,000 cancer deaths in 2000.⁶

Cancer death rates have been compared across provinces and with other countries for many years. But these rates do not tell us whether any changes we see—such as recent trends of falling death rates for some cancers—are due to differences in how many people have cancer or in how long patients live after diagnosis.

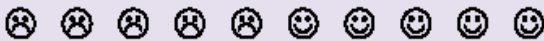
For the first time, Statistics Canada recently released national "relative" survival rates for patients diagnosed with a primary lung, breast, prostate, or colorectal cancer in 1992.⁷ Relative survival compares the survival rate of cancer patients with the survival rate of members of the general population with similar key characteristics, such as age, sex, and geographic place of residence.

Five-year relative survival rates were different for the four types of cancer. For women, they were best for those with breast cancer—better than 80% five-year survival (except for the very young and very old). Five-year relative survival for the other cancers ranged from 15% for men diagnosed with lung cancer to over 85% for men with prostate cancer.

What is a Relative Survival Rate?

Relative survival rates for cancer measure how much more likely it is that someone diagnosed with cancer will die within a specified time period compared to a similar person in the general population. For example, consider two hypothetical groups of ten people. The first is newly diagnosed with some type of cancer. The second—with similar ages, sexes, and provinces of residence—is chosen at random from the general population. Five years later, 5 of the first group and 7 of the second are still alive. The ratio of the survival in the first group to that of the second group is the relative survival. In the current example, those diagnosed with this cancer were 71% (5/7) as likely to survive five years as were those from the general population.

Diagnosed with Cancer



survival = 50%

General Population



survival = 70%

Relative Survival = 50%/70% = 71%

😊 = survived at least 5 years

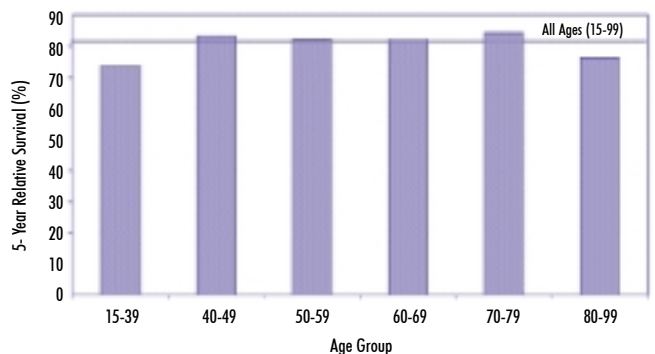
☹️ = deceased within 5 years

Longer survival times could mean one of two things. It could be that cancer is being caught at an earlier stage (possibly because of expanded screening programs). Or, it could mean that patients with cancer are living longer, perhaps due to better treatment. With improved tracking of tumor stage in the future, it should be possible to disentangle these effects.

Note: Numbers are for illustrative purposes only. They do not represent actual survival rates.

Surviving Breast Cancer: 5 Years Later 54

A woman aged 15-99 diagnosed with a primary breast cancer in 1992 had a 5-year relative survival rate of over 80%, but survival chances varied by age, as shown below.



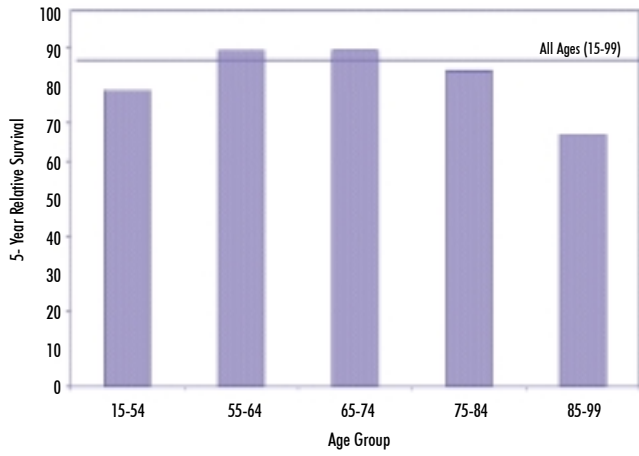
Source: Statistics Canada; Canadian Coalition on Cancer Surveillance

It will soon be possible to compare relative survival rates for several types of cancer across the country and over time. Calculations are currently underway.

Surviving Prostate Cancer

55

Men age 15-99 diagnosed with prostate cancer in 1992 had five year relative survival rates of 87%. The graph below shows how relative survival chances varied by age.



Source: Statistics Canada; Canadian Coalition on Cancer Surveillance

1998 were kidney transplants. Patients who received kidneys between 1992 and 1998 had better survival chances than those whose surgery occurred between 1985 and 1991. The same was true for patients who received liver and heart transplants.

In the East? In the West?

From coast to coast, it didn't much matter where you received a kidney transplant between 1992 and 1998. Recipients in the Atlantic Provinces, Quebec, Ontario, and the West were about as likely to survive one, three, or five years after their operation. In all regions, the probability of surviving 3 years was greater than 90% for those who received kidneys.

The same was true for heart transplants. But there were some variations for liver transplants. Patients in Atlantic Canada had somewhat worse survival chances after one, three, and five years than those in other parts of the country.

Transplant Survival: A Success Story

All surgery carries risks. The goal is to minimize those immediate risks, with a view to bettering long-term health, well-being, and life expectancy. For transplant patients, survival prospects seem to be improving steadily over time.

If your kidneys stop working, you usually only have two treatment options—long-term dialysis or a transplant. Nearly two-thirds (63%) of the almost 1,600 single organ transplants performed across the country in

Five Year Survival After Transplant

56

Five-year survival estimates for Canadians receiving a kidney, liver, or heart transplant between 1992-1998 were higher than for patients in 1985-1991. The table below shows these estimates and their 95% confidence intervals.

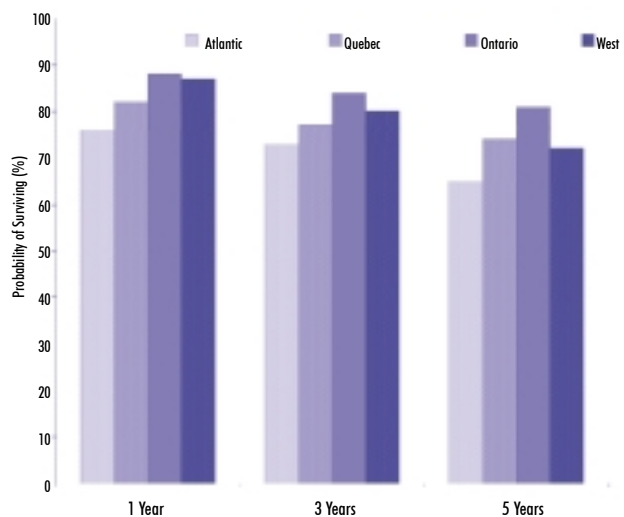
Time of Transplant	Kidney	Liver	Heart
1985-1991	85 (84-87)	69 (65-72)	71 (67-74)
1992-1998	88 (87-89)	76 (74-79)	78 (75-80)

Source: Canadian Organ Replacement Register, CIHI

Regional Differences Following Liver Transplants

57

Patients who received liver transplants between 1992 and 1998 had relatively similar outcomes across the country. The exception was Atlantic Canada where patients had somewhat worse probabilities of surviving.* Small differences between other regions may be explained by random variation. Estimates are less precise for smaller regions.



*Statistically significantly different (p=0.05)

Source: Canadian Organ Replacement Register, CIHI

How Canada Compares Internationally

The United States has a population about 10 times larger than Canada's. And they do about 10 times as many transplants. For example, the [United Network for Organ Sharing \(UNOS\) Scientific Registry's](#) annual report reported that 5,400 Americans (between the ages of 18-65) received liver transplants between January 1996 and December 1997. In Canada, there were 509 transplants during this period.

International comparisons of outcomes are tricky because of potential systematic differences in the age, health, and other characteristics of organ donors and recipients, as well as in how survival data are collected. Bearing these cautions in mind, it appears that Canadian and American survival rates are generally similar for kidney, liver, and heart transplants.

Canadian survival rates are also relatively similar to those in Australia and New Zealand. For example, patients who received a kidney transplant in 1992 in Canada, Australia, or New Zealand had at least a 90% chance of surviving one year. Canada's rates were highest at 96%.

When Volume Counts

When patients arrive at a hospital, they want to know that they will receive high quality care. Research suggests many factors affect the likelihood of good outcomes. Patient characteristics are one such factor. For example, age and severity of illness often matter. Other factors relate to how we organize and deliver health care services.

One factor—the number of cases of a given procedure that a facility performs—has been consistently shown to relate to quality. While only a few types of care have been studied in detail in Canada,^{8,9} a large number of research studies—primarily from the United States—have found a striking relationship between case volumes and quality. For many different types of care and for many different surgeries, researchers have found that patients treated in hospitals with higher numbers of cases are less likely to have complications or to die after surgery. This relationship occurs in most procedures that have been studied—ranging from rare procedures such as pediatric heart surgery^{10,11} and coronary bypass surgery,^{12,13} to more common procedures, such as gall bladder removal (cholecystectomy)¹⁴ and removal of the uterus (hysterectomy).¹⁵

Why is this so? We don't know exactly. Some have suggested that high volume hospitals (those that perform more surgery) develop greater skills.^{20,21} According to this theory, practice makes perfect. Another possible explanation is that hospitals that do a good job attract more patients over time.^{21,22} In this case, superior performance attracts higher volumes of patients—the "selective referral" theory.

Nevertheless, while research demonstrates a volume outcome relationship, we have very little information about the exact relationship. Is there a "threshold" number of cases—a specific volume for a particular

Cross-Border Comparisons

58

At three and five years, survival estimates in Canada and the United States are relatively similar for kidney and liver transplant patients of all age groups. Data are for patients who received transplants between January 1989 and December 1997. 95% confidence intervals are shown in brackets below survival estimates.

Age Group	5 Year Survival			
	Kidney Transplant		Liver Transplant	
	Canada	US	Canada	US
18-34	94% (93-95)	90% (89.6-91.2)	80% (75-86)	76.8% (76.6-76.9)
35-49	88% (87-90)	85% (84.1-85.3)	75% (71-79)	77% (76-78)
50-64	79% (77-81)	74% (73-75)	70% (66-73)	69% (67-70)

Sources: Canadian Organ Replacement Register, CIHI; 1999 Annual Report, UNOS Scientific Registry Data (US)

Managing System Quality

In Canada and around the world, recent reports highlight the importance of managing system quality. For example, a recent study by the [Institute of Medicine, *To Err is Human: Building a Safer Health System*](#), estimated that "medical errors" in hospital would likely rate as the 8th leading cause of death in the United States.¹⁶ That is, they would account for more deaths than motor vehicle accidents, breast cancer, or AIDS. Studies in Australia¹⁷ and the UK¹⁸ have raised similar concerns.

Here in Canada, we do not yet have comprehensive estimates of the impact of health care system error. Nevertheless, recent events demonstrate that we are not immune. For example, an inquest inquired into the deaths of 12 children who had open-heart surgery at Winnipeg's Health Sciences Centre in 1994. The report¹⁹, released in November 2000, found that each of the children died under very specific circumstances. Nevertheless, it also said that weaknesses in the program—including policies governing staffing, leadership, teamwork, communication, decision-making, and quality assurance—contributed to problems in the procedures and outcomes of the program.

For example, the evidence presented to the inquest suggested that there was poor case selection: the program undertook some cases that were beyond the skill and experience of a new surgeon and team. The report concluded that "the limited number of cases that can be undertaken in a province like Manitoba with a population of just over one million increases the risk of morbidity and mortality, particularly in the case of high-risk surgery." It recommended pursuit of a western or prairie-region high-risk pediatric cardiac surgery program. A provincial program would be limited to lower and medium-risk procedures. The inquest also found that there was a failure of quality assurance and monitoring of the former program and recommended that "methods must be developed to reduce the frequency of medical and human errors within hospitals, trap such errors as they occur, and reduce their impact." The report stressed that "... the recommendations are intended to establish a structure within which highly skilled and talented people can establish a health-care team that continually works together to provide a high standard of care."

procedure—that is associated with better outcomes? Or do outcomes steadily get better with higher case volumes? For the most part, we don't know. But we do know that many Canadian hospitals perform very small numbers of procedures.

Care Volumes in Canada

For most surgical procedures, there are large differences in the number of cases performed by different hospitals. This is true for relatively rare operations like open-

What Research Shows

59

A large number of researchers have studied the relationship between hospital caseload and outcomes, measured by death rates. Dudley and colleagues recently summarized the findings for forty conditions. For most, published studies have consistently found a relationship between higher procedure volumes and lower death rates. Examples are shown in the table below. Some studies only identified a trend in this direction, but results were statistically significant in most cases.

Condition	# published studies	# showing better outcomes with higher volumes	# with statistically significant results showing better outcomes
Coronary artery bypass surgery (CABG)	11	11	9
Coronary angioplasty	6	6	6
Cardiac catheterization	4	3	3
Acute myocardial infarction	4	4	3
Pediatric heart surgery	2	2	2
Pediatric oncology	1	1	1
Pediatric trauma	1	0	0
Pancreatic cancer surgery	8	8	8
Hip replacement	9	9	6
Knee replacement	3	3	2
Colorectal surgery	6	6	5
Cholecystectomy	4	4	2
Hysterectomy	2	2	2

Adapted from: Dudley, R.A., Johansen, K.L., Brand, R., Rennie, D.J., and Milstein A. (2000). Selective referral to high-volume hospitals: Estimating potentially avoidable deaths. *Journal of the American Medical Association*. 283 (9):1159-1166.

heart surgery as well as for more common procedures, like gall bladder removal (cholecystectomy). In 1998/99, there were significant volume variations for hysterectomies (surgery to remove a woman's uterus). The more than 55,000 hysterectomies across the country took place in almost 400 different hospitals. Seventy-nine facilities reported doing 10 or fewer procedures, while the highest volume facility cared for 833 patients (about 1.5% of the total cases). Similarly, the 10% lowest volume facilities did only 1% of all cholecystectomies in Canada, while the top 10% treated almost one-third of all cases.

We find similar patterns for a wide variety of surgical procedures. Many hospitals provide a very small number of procedures. And a much smaller number of centres perform high volumes of surgery.

Delivering Specialized Care: The Case of Bypass Surgery

For both rare and common procedures, the vast majority of operations occur in high volume hospitals. For example, consider the 33 hospitals that did the almost 22,500 coronary artery bypass graft surgeries (a major procedure to repair blockages in the blood supply of the heart) in Canada in 1998/99. Just over 200 took place at the lowest volume hospital. In contrast, the highest volume facility performed over 2,000 surgeries—that's almost 10% of all procedures across the country being done in one facility. Together, the top three (highest volume) hospitals accounted for almost one-quarter of all surgeries.

This concentration of surgeries at high volume facilities may be good news for Canadians. And, patients have been increasingly treated at high volume centres in recent years. For example, the highest volume hospitals (those with 1,000 or more surgeries per year) did over 5,000

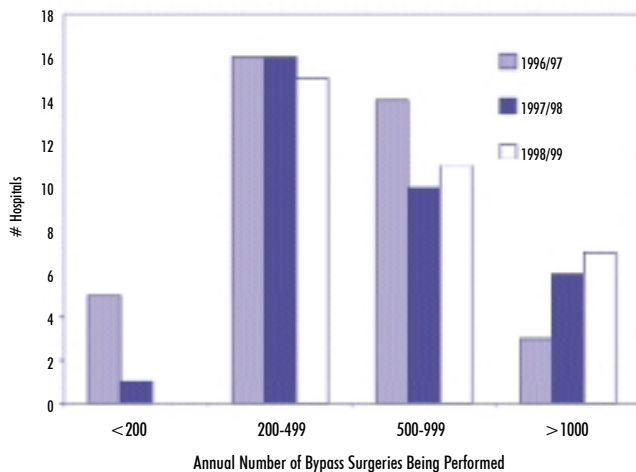
more bypass surgeries in 1998/99 than in 1996/97. This is an increase of 125%.

But services are not concentrated equally across the country. Provinces with large populations tend to have correspondingly large numbers of patients needing care. As a result, it may be easier to achieve high volumes in individual centres in these areas.

The share of bypass surgery performed in high and low volume settings varies considerably across provinces. In 1998/99, most Ontario (77%) and almost half of Quebec (44%) bypass surgeries took place in hospitals performing 1,000 or more operations per year. None of the bypass procedures in other parts of the country took place in such high volume centres. There are also differences in how often services take place in lower volume settings. Only 4% of Ontario's bypass surgeries occurred in hospitals that perform fewer than 500 operations per year. In contrast, other provinces often provide care in these lower volume settings—16% in British Columbia, 33% in the Prairies, 47% in Quebec, and 23% in the Atlantic provinces.

Centralization of Bypass Surgery 60

Between 1996/97 and 1998/99, the number of hospitals across the country performing lower volumes of bypass surgery (i.e. fewer than 500 cases) decreased, and there were more facilities performing high volumes, especially in the category doing over 1,000 surgeries.

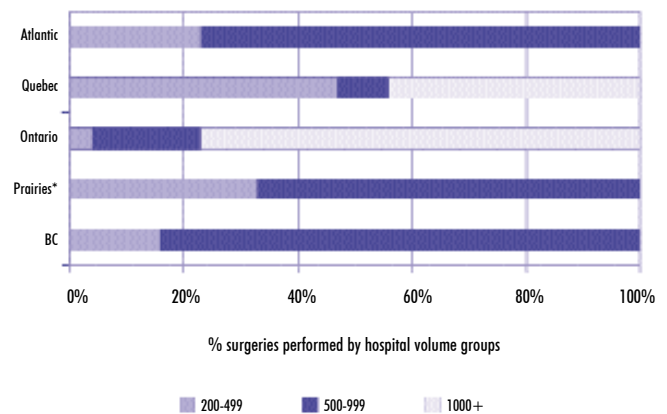


Note: Hospitals reporting fewer than 10 surgeries in a year are not shown. For 1996/97 and 1997/98, the above results may include programs that opened or closed mid-year.

Source: Hospital Morbidity Database, CIHI

Volumes of Bypass Surgery Across Canada 61

The degree of centralization of bypass surgery varies across the country. The graph below shows the percent of bypass surgeries performed in the 33 hospitals doing 200-499, 500-999, and 1000 or more operations in 1998/99.



*Includes one program which transferred to a new facility when its hospital closed. In this chart, annualized volumes (based on the program's cases in both hospitals) have been used.

Source: Hospital Morbidity Database, CIHI

US evidence suggests that small case volumes for bypass surgery may be associated with poorer outcomes. Researchers there found that patients treated at centres performing fewer than 500 bypass surgeries in a year were 39% more likely to die before leaving hospital than those cared for in higher volume hospitals.^{12, 23}

Addressing the Issue Will Involve Trade-Offs

Concentrating surgical procedures in centres that perform a large number of cases—sometimes referred to as regionalization or centralization—may lead to significant benefits. These include developing specialized expertise in health care teams, optimal use of costly equipment, and achieving better outcomes for patients.

On the other hand, many argue that centralizing care could have adverse effects, especially in rural areas. For example, it might create travel burdens, interfere with continuity of care, and ultimately decrease access to necessary care for patients living far from referral centres.

Clearly, deciding how much to centralize care requires us to strike a balance across these issues. This balance is likely to vary from procedure to procedure and place to place. A new indicator (patient inflow/outflow) shows variations in the extent to which patients travel from region to region to seek care (see *Health Indicators 2001* insert). A high score on this measure suggests a larger degree of centralization with many patients coming in from outside the region for care. Specialized procedures, such as coronary artery bypass surgery, tend to be more centralized than more common types of operations, such as gall bladder removal or hysterectomies.

Better information about patient outcomes at individual hospitals might help people decide when centralization of care is appropriate. Until we have that information, understanding volume patterns across the country is an important first step.



Information Gaps

What We Know

- How death rates (adjusted for age, sex, and comorbidity differences) in the first 30 days after initial hospitalization with an AMI compare across large regions.
- Relative survival rates for breast, prostate, lung, and colorectal cancer.
- Long-term survival for kidney, heart, lung, and other transplant patients.
- For different types of surgery, how many surgical cases take place in low and high volume settings.

What We Don't Know

- How healthy are patients three, six, and 12 months after most types of surgery?
- What is the relationship between how much we spend on particular interventions and the health benefits they provide?
- For which, if any, surgeries do hospitals performing low numbers of operations place patients at higher risk of complications and death? For these procedures, what is the optimal or minimum number of cases a hospital should perform to provide safe and effective care? How many deaths could potentially be prevented by ensuring that surgery is provided at high volume centres?

What's Happening

- Canadian researchers are developing ways to compare the outcomes of hospital care including complications, readmissions, and mortality.
- Where survey respondents have given permission, Statistics Canada is linking health survey data with health care administrative data, with a view to better understanding the factors influencing health and health care outcomes.
- Comparable provincial relative survival rates are being calculated for several types of cancer.
- CIHI and the [Canadian Institutes for Health Research](#) are co-sponsoring research to estimate the extent of health care system error in Canada.

For More Information

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7. Spending on Health Care

From Band-Aids to births and bypass surgery—health care services account for a substantial share of Canada's economic output each year. Total spending and how the money is spent have changed significantly over the last decade. So has how the bill is split among governments, private insurers, individual Canadians, and other groups.

Health Care Spending on the Rise

CIHI estimates that the cost of health care topped \$95 billion in 2000, 6.9% more than the previous year.¹ That works out to over \$3,000 per Canadian, up almost \$175 from 1999. Even after adjusting for inflation and population growth, there was a 4.1% real increase in spending between 1999 and 2000.

Rising health care costs are not unusual. Canada has seen steady increases in spending over several decades, except for the mid-1990s. Inflation and population growth partly explain this escalation. But even after they are taken into account, expenditure in 2000 is forecast to have been more than 70%

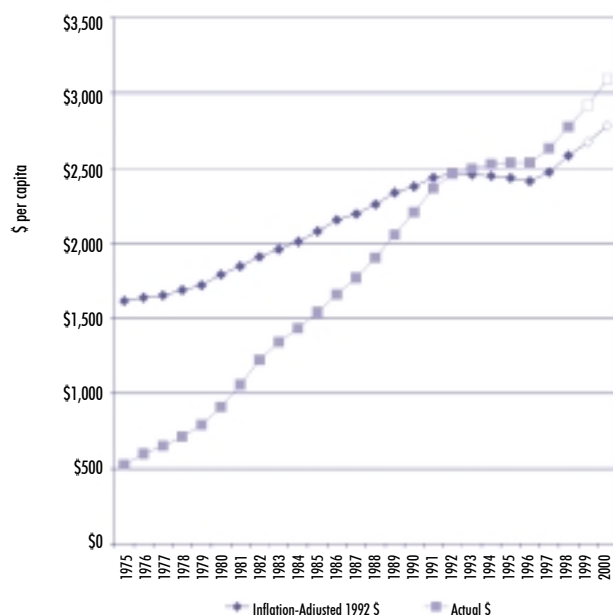
higher than 25 years ago. The pace of spending growth is also speeding up. Real expenditure per person is rising faster today than at any time since the 1980s. Why the increases? Possible explanations include changes in those served by the health system, different funding patterns, higher costs for services similar to those provided in the past, and changes in the way or intensity with which we provide care for particular conditions or groups of people.

Not only is health care expenditure higher than in the past, we are also spending more than most other countries. In 1998, Canada ranked third among G-7 countries in terms of expenditure per person, behind the United States and Germany. Only the United States used a higher share of its economic output on healthcare (13.6% of their gross domestic product in 1998). In the same year, Canada's rate was 9.3%. More recent estimates have it remaining at this level in 1999 and 2000.²

The Growth in Health Care Spending

62

Canadians saw continued growth in actual and inflation-adjusted health care spending per person in both 1999 and 2000.



Note: Open symbols are forecast figures.

Source: National Health Expenditure Database, CIHI

Does higher spending mean better health? Not necessarily. The United States spends much more, but Canadians live longer and our newborns are less likely to die.

Splitting the Bill: Public and Private Spending

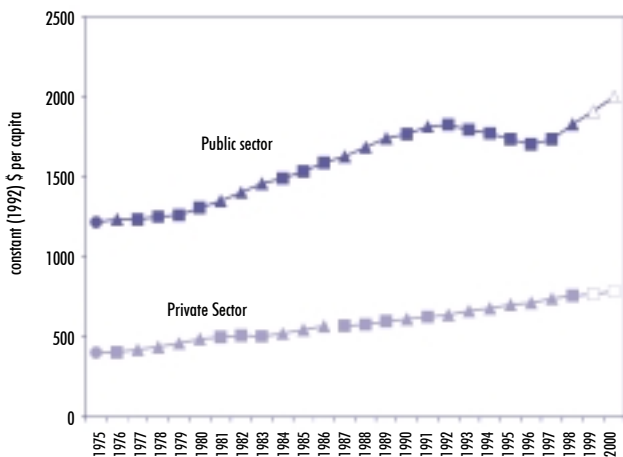
Seven out of every 10 dollars spent on health care comes from the public purse. For several years in the mid-1980s and through to the mid-1990s, private spending growth outpaced that in the public sector. But recently, the public share has increased again. CIHI projects 4.4% and 4.8% increases in public sector spending for 1999 and 2000 respectively, after adjusting for inflation and population growth.



The Public/Private Mix

63

The public share of health spending is expected to have grown from just under 70% in 1997 to 71% in 2000. But this is still below the 75% public share seen in the 1970s and 1980s. The graph below shows changes in inflation-adjusted health expenditure per person by the public and private sectors since 1975. The sector that grew faster (in terms of percentage change) in each year after 1975 is marked with a triangle.



Note: Open symbols are forecast figures.

Source: National Health Expenditure Database, CIHI

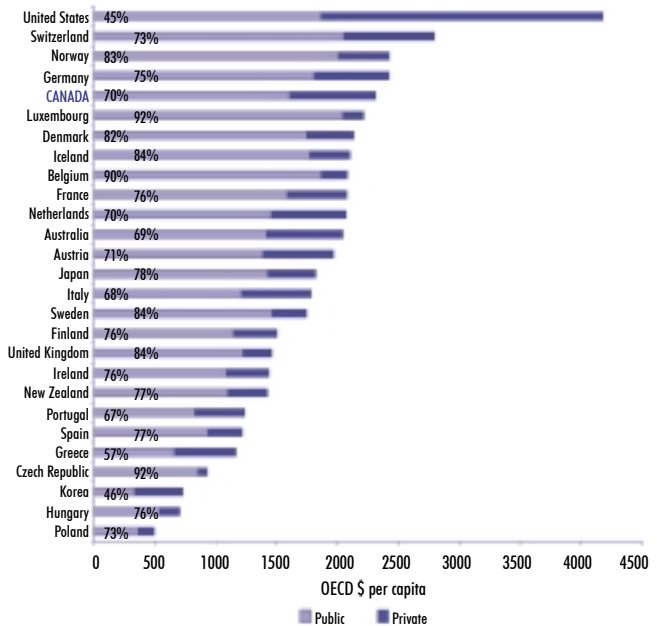
The Public Share

Governments, Workers' Compensation Boards, and other social security schemes fund public health care spending. In 2000, this amounted to about \$67.6 billion. The public sector funds most public health programs, hospital care, physician services, and health care for Status Indians and Inuit. It also shares the costs of other services. Examples include home care, prescription drugs, and ambulances. There are also other services that are mostly funded privately. For instance, most Canadians pay for dental services and complementary and alternative medicine through supplementary insurance or out of their own pockets.

How Canada Compares

64

In 1998, Canada was fifth among the 27 OECD countries in total spending per person on health care. But most had a higher share of spending from the public sector, as shown below. Estimates are adjusted for differences in prices (purchasing power) between countries.



Source: OECD Health Data 2000

Provincial and territorial governments administer the bulk of public funding for health care, some of which is financed through federal cash and tax points transfers. But who pays what? Full data

have not been available for several years. In 1996, the federal government introduced the Canada Health and Social Transfer. Under this program, provinces and territories allocate funding among social programs according to their individual priorities. Comparable information on how these funds are split among health, post-secondary education, and other social programs is not published. As a result, data on total federal contributions to health care are no longer available.

The Private Share

On top of what was spent by the public sector, Canadians paid an estimated \$27.5 billion for health care through insurance (mostly through employment) or out-of-pocket in 2000. That works out to almost \$900 per person. Indirectly, some of these costs are borne by governments in the form of foregone tax revenues. For example, firms can deduct insurance premiums from

their taxable income, but employees do not pay taxes on these benefits.

Drugs, dental care, and vision care account for the bulk of private spending. Most are paid by consumers themselves, but insurance firms are increasing their share. They accounted for over one-third of private spending in 1998.

Spending from Coast to Coast

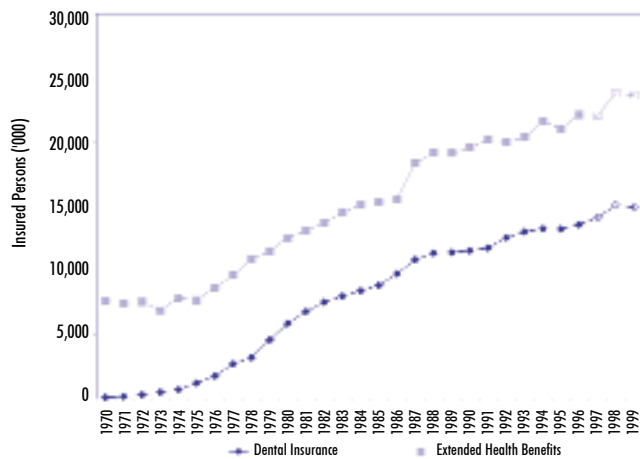
From east to west, Canadians in all provinces spend substantial amounts per person on health care each year. Total costs ranged from about \$2,800 in Prince Edward Island to just over \$3,400 in Manitoba in 2000.



Private Coverage Trends

65

Private coverage for dental care and extended health benefits insurance (e.g. for prescription drugs) appears to be much higher today than in previous decades. The graph below shows how many Canadians were covered (including most work-sponsored plans, but excluding Blue Cross coverage) between 1970 and 1999.



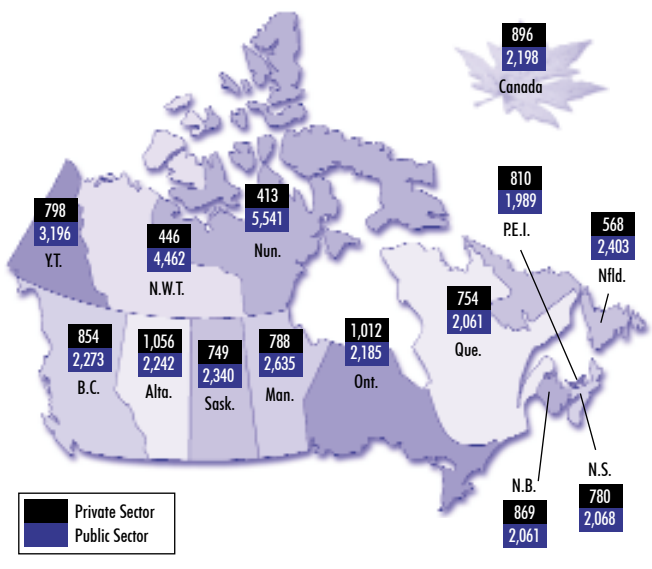
Notes: Some individuals may be counted more than once in the totals (e.g. when family members are covered under separate benefit plans for each spouse). Open symbols are projected figures.

Source: Canadian Life and Health Insurance Association

Health Care Spending in Canada

66

Forecast public health care expenditure per person averaged \$2,198 in Canada in 2000. Average private spending was \$896 per capita. Across the provinces, the private share varied from less than one in five dollars in Newfoundland to almost one in three dollars in Alberta. In the territories, the vast majority of health care funds come from the public purse.



Source: National Health Expenditure Database, CIHI

The Cost of Distance

Average health care costs per person are much higher in the territories than in the rest of the country. A large portion of the difference can be explained by the costs of serving a small number of people scattered over a large geographic area. For instance, almost 13% of health care dollars in the North West Territories go towards medical transportation while the national average is less than 2%.



Photos, Health Canada. Reproduced with permission of the Minister of Public Works and Government Services Canada, 2001.

Why the differences? Part of the variation in spending comes from differences in demographic patterns. Standardizing expenditures untangles the effect of age and gender differences from other factors that affect health care costs. The results tell us how much health spending would vary if

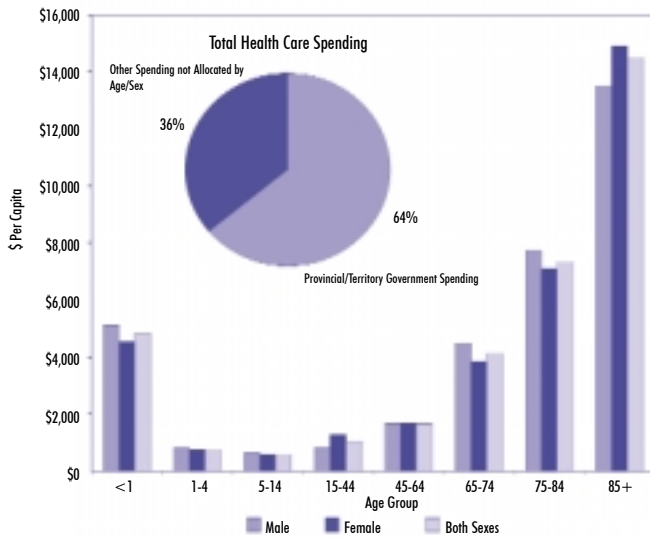
the distribution of men and women, young and old, were the same in each province as in Canada as a whole. Why do gaps remain? Explanations may include differences in health status (e.g. how common diabetes is among children), in the use of services (e.g. how many seniors receive flu shots), and in prices (e.g. how much hospital staff are paid).

CIHI recently published the first standardized estimates of how much provincial/territorial governments spend on health care. These figures reflect what would have been spent if the people who lived in a province had the same demographic profile as the country as a whole.

The Difference Age Makes

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Health care spending changes over a person's life. In most cases, provinces/territories spend a great deal on health care in the first year of life. Expenditures then drop dramatically. They start to rise in the teen years, particularly for women, because of costs related to pregnancy and childbirth. Spending is highest for seniors. In 1998, 12% of Canadians were 65 or older, yet more than 43% of what provincial and territorial governments spent on health care went to services for seniors. The graph below shows estimated spending by provincial/territorial governments per person for men and women by age group in 1998. As the inset shows, this covers 64% of total health care costs in Canada.

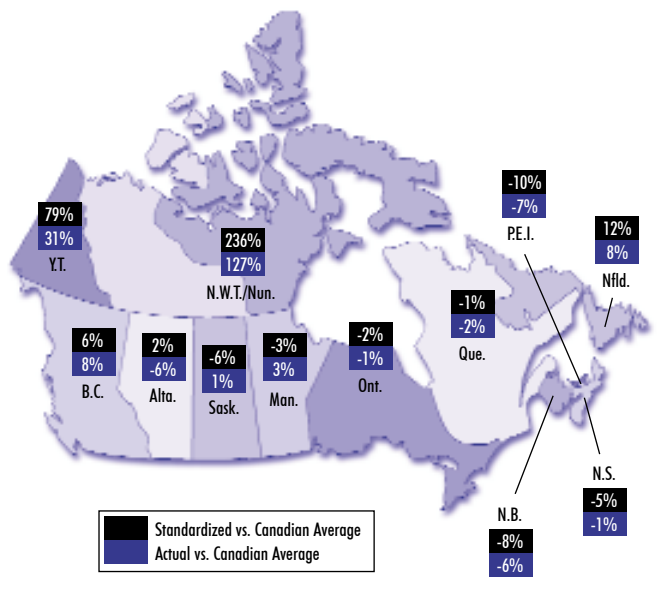


Source: National Health Expenditure Database, CIHI

A Second Look at Health Spending Across Canada

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Health care needs usually grow as people get older. A province with a young population would, with all else being equal, have fewer health needs and lower health care costs than one with older residents. In the map below, the actual spending bar shows whether a provincial/territorial government's actual per capita health spending was higher or lower than the national average in 1998. The standardized spending bar shows the same thing but is adjusted for differences in age and sex patterns. In general, a higher standardized bar means that a province/territory's residents are younger than the Canadian average. For example, the Alberta government's actual spending per person is about 6% below the national norm. But this can be partly explained by the relative youth of Albertans. After controlling for age and sex differences, the province appears to spend slightly more than the Canadian average.



Source: National Health Expenditure Database, CIHI

What Ill Health Costs Canada

The burden of ill health on the Canadian economy is much more than what we spend to treat disease. It includes the time that we take off work or other regular activities when we are sick and when we care for sick friends and family members. As well, potential output is lost when someone dies young.

According to a 1997 study by Health Canada, these "indirect" costs more than double the country's health care bill.³ The study estimated the economic burden of illness in Canada in 1993. It looked at both direct costs—dollars spent on treatment, care, and rehabilitation—and indirect costs—productivity losses due to premature death and short- or long-term disability. Indirect costs included the value of time lost from work and housekeeping due to illness or injury and output losses due to premature death. However, these costs did not take into consideration the value of time spent by family members or friends caring for someone who is ill (except as it led to productivity losses) or reflect pain and suffering or the psychosocial consequences of illness.

Under fairly conservative assumptions about indirect costs, researchers found that the total cost of illness in 1993 was \$156.9 billion. Over \$85 billion was due to indirect costs. Heart disease and stroke (\$19.7 billion), musculoskeletal disease (\$17.8 billion), injuries (\$14.3 billion), and cancer (\$13.1 billion) were the leading cost drivers. Together, they accounted for more than half (50.2%) of all costs that could be classified by type of illness. In all four cases, indirect costs were much higher than direct costs.

Researchers from Health Canada, Statistics Canada, and CIHI are currently producing updated estimates of the economic burden of illness. Watch for results later this year.

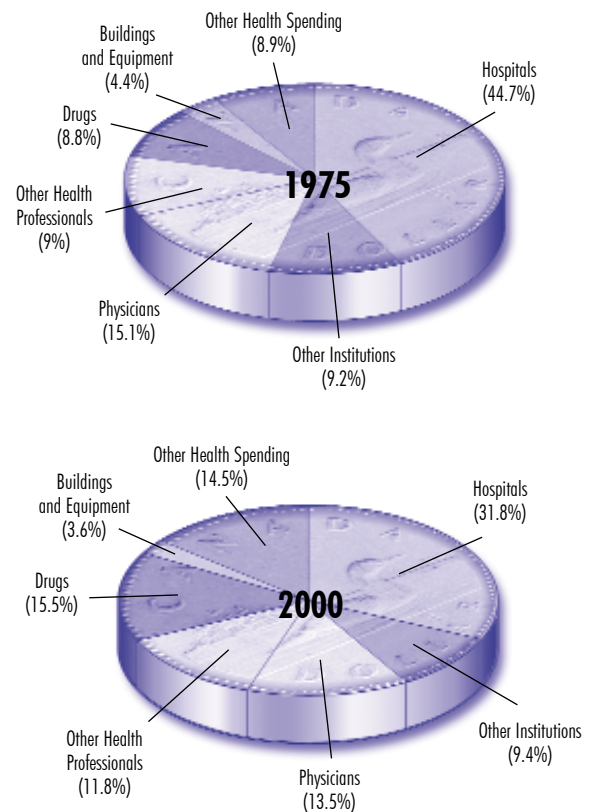
Where We Spend Health Care Dollars

At an estimated \$95 billion in 2000, the Canadian health care system is a vast enterprise. Together, hospitals, drugs, and physician services account for more than three in five dollars spent on health care.

Dividing the Health Care Dollar

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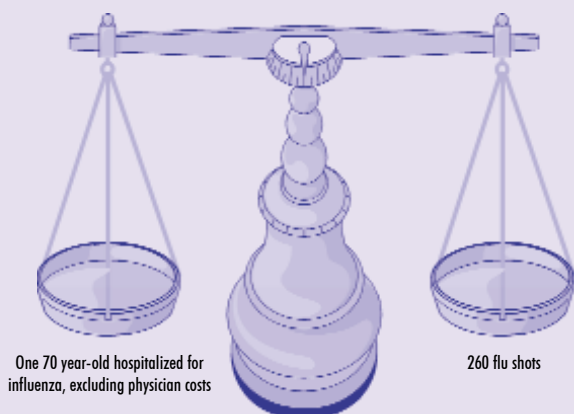
The way that we spend health care dollars is changing. Twenty-five years ago, a much larger share went to hospitals, and payments to physicians were the second—not the third—largest area of spending. The figure below shows how the distribution of total public and private health care expenditure in Canada has changed between 1975 and 2000 (forecast).



Source: National Health Expenditure Database, CIHI

What Our Taxes Buy

Every day, health care managers, government policy-makers, and others face tough decisions about how to best allocate public health care dollars. Is it better to fund more anti-smoking advertising aimed at teens or to pay for nicotine patches for smokers who are trying to quit? What about starting a telephone service to provide advice on health problems 24-hours a day, 7-days a week versus hiring more nurses to reduce crunches in hospital emergency rooms? The figure below shows two possible ways of spending \$2,150, slightly less than the average spent on health care per Canadian by the public sector in 2000 (\$2,198).



Sources/Notes: The hospital cost is an estimate for an inpatient stay in an acute care hospital for a 70 year-old patient hospitalized for influenza with no major comorbidities. It is based on CIHI data on average Canadian resource utilization experience (excluding Quebec and Manitoba). Associated fee-for-service physician costs are not included. Flu shot costs are based on the 2000/01 Ontario program which paid physicians \$8.25 on a fee-for-service basis if an influenza vaccination was the sole purpose for the patient's visit.

Hospitals: A Large but Declining Share of the Health Care Dollar

With almost one-third of the total, hospitals represent the largest category of health expenditure. In 2000, hospital costs are expected to have risen more than 5% from the previous year. Nevertheless, their share of the health care dollar slipped slightly, as it has every year since the mid-1970s. Over this period, the number of overnight hospital stays has also dropped, but day surgery has become much more common.

CIHI data show that the vast majority of hospital funding (92%) comes from the public purse. How are public services funded? A team of researchers⁴ recently investigated funding methods across the country. They found that governments

usually fund hospital services based on some combination of:

- Who is served (e.g. the proportion of seniors in the area) or what types of services are provided (e.g. the number of hip replacements performed).
- How much the hospital spent in the past, either overall or for particular types of costs, measured according to standardized accounting conventions.
- Criteria related to the government's political platform and the needs of constituents as identified by elected members of the legislature (e.g. special funding for priority programs).

Drugs: Continued Rapid Growth

Retail drug sales became the second-largest component of total health expenditures in 1997, overtaking physician services. Drug costs now account for over 15% of total spending. They are expected to have climbed to \$14.7 billion in 2000, up 9% from the year before. The percentage growth in drug spending between 1985 and 1998 was more than twice as high as for overall health expenditure.

What is driving this growth? There is no authoritative price index for all drugs sold in Canada and the existing price indexes have strengths and limitations.⁵ However, the Consumer Price Index and Industrial Product Price Index for drugs, as well as the Patented Medicine Prices Review Board Index (PMPI) and provincial drug plan price indexes have remained virtually unchanged since about 1993. This suggests that the increase in drug expenditure may be largely due to higher average utilization per person as well as the introduction of new drugs. Many factors may lead to changes in utilization rates. Examples include more extensive insurance coverage, demographic and health status trends, changes in prescribing practices, new drug products, and new treatment modalities.

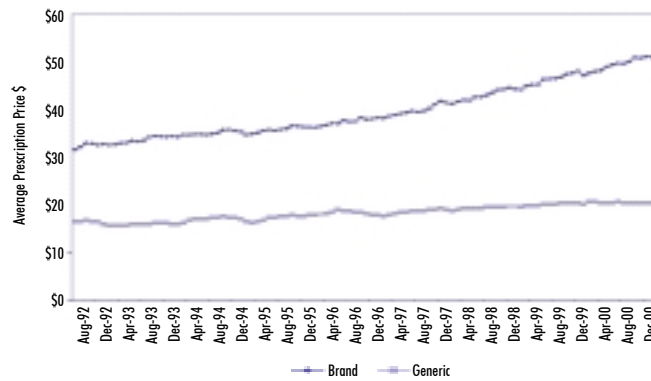
Understanding Drug Spending

Prescription drugs account for most retail drug spending, but other products account for just under one-quarter of spending. This includes over-the-counter drugs and personal health supplies, such as pregnancy test kits and contact lens solution. Since 1985, spending on prescribed drugs has grown much faster than for non-prescribed drugs. As a result, prescribed drugs account for an increasing share of the total—up from 67% in 1985 to 77% in 2000.

What Drugs Cost

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Over the past decade, the average cost (not adjusted for inflation) of a dispensed prescription in Canada (excluding the Territories) has continued to increase, as shown below. The increase has been more rapid for brand-name drugs than for their generic counterparts.



Source: IMS Health

In 1998, Canadians paid for 24% of retail prescription drugs out-of-pocket. Private insurers financed another 34.6%. Almost three-quarters (74%) of Canadians age 12 and older reported some public or private insurance coverage (with varying levels of deductibles) for prescription drugs in 1998/99. Seniors, young adults, and low income Canadians were least likely to be insured. In part, this likely reflects the fact that private insurance is often a benefit of employment, covering an employee and his or her dependents.

The Health Transition Fund recently funded a study on Canadians' access to

this type of insurance.⁶ Researchers found that some individuals may have problems ensuring their coverage continues as their circumstances change. This is particularly true for those who rely on employer-sponsored plans or who move between provinces.

The study also concluded that public coverage varies significantly from province to province. Families with similar incomes and medical needs may receive very different government-funded benefits depending on where they live. The researchers also found that a person's province of residence is the strongest determinant of whether she or he has adequate coverage against catastrophic drug costs.

Doctors: Slower Growth than Other Sectors

Spending on physician services grew relatively rapidly through the mid-1980s, then slowed during the 1990s. In 2000, CIHI projects growth of just under 5%. This is higher than in recent years, but still below increases in other major types of spending. As a result, physician services now cost almost \$13 billion, 13.5% of total expenditure.

Provincial and territorial medical insurance plans fund almost all physician services. Canadian doctors billed these plans for 241 million professional services performed in 1997/98.⁷ Insurance plans paid an average of \$29.49 for consultation and visit-type services. The average cost for surgical procedures varies depending on the type of procedure. For example, fees for a vasectomy were \$94 on average, compared with \$1,100 for cardiac bypass surgery.

Physicians' incomes from practicing medicine are not the amount that they bill medical insurance plans. They must also pay practice expenses—such as staff and



How Much Doctors Bill Provincial Plans 71

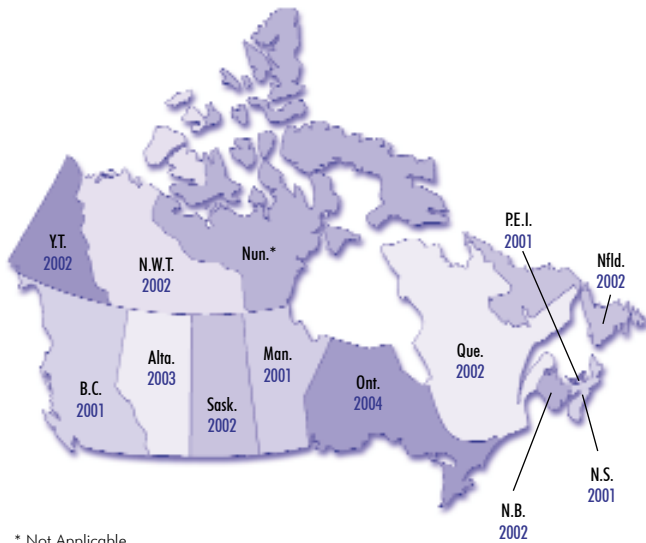
Average physician fees vary across the country. Gross billings must cover staff, office, and other expenses (which may vary from province to province), as well as the doctor's personal income. To facilitate comparisons, we looked only at doctors who received payments of at least \$50,000 from provincial fee-for-service insurance plans in 1997/98. Family doctors averaged \$177,191. Specialists were higher at \$239,322. The chart below shows average gross billings by province.

Province	Family Doctors	Specialists
Newfoundland	\$150,987	\$215,256
P.E.I.	\$195,642	\$248,509
Nova Scotia	\$140,427	\$221,114
New Brunswick	\$162,498	\$255,065
Quebec	\$138,122	\$177,089
Ontario	\$200,076	\$278,195
Manitoba	\$140,169	\$181,708
Saskatchewan	\$185,454	\$252,570
Alberta	\$175,427	\$237,410
British Columbia	\$175,589	\$240,396

Source: National Physician Database, CIHI

Time's Up 72

Payments to doctors are defined in detailed lists of fees that vary from province to province. These fee schedules change regularly, based on negotiations between governments and medical associations. The map below shows when the current agreements (as of February 2001) expire.



* Not Applicable

Source: Provincial/Territorial Medical Associations

Fee-For-Service as a Sole Source of Earnings

Most Canadian doctors bill the province for each service they provide, but a growing number are paid in other ways. Their compensation comes from salaries, sessional arrangements, or a combination of these and fee-for-service payments. The chart below shows the estimated percent of active physicians who received all of their earnings from the province on a fee-for-service basis in 1994/95 and 1997/98. In some provinces, the majority of a physician's income may come from fee-for-service plans even though they are also receiving payments under an alternative payment plan or funding arrangement.

Province	1994/95	1997/98
Newfoundland	72%	72%
P.E.I.	92%	76%
Nova Scotia*	75%	60%
New Brunswick	67%	60%
Quebec*	63%	N/A
Ontario*	94%	94%
Manitoba	61%	41%
Saskatchewan	84%	81%
Alberta*	98%	98%
British Columbia	92%	78%

Note: N/A-not available

Source: Provincial Ministries of Health

* Nova Scotia counts include 29 physicians receiving radiology/internal medicine/pathology payments only (both years) and 43 physicians receiving psychiatric payments only (1997/98). The percentage of Quebec physicians receiving all earnings on a fee-for-service basis in 1997/98 is not available, however, 88% of physician payments were through fee-for-service plans in that year. Ontario figures for both years reflect the number of physicians who are eligible to bill on a fee-for-service basis. 1997/98 Alberta figures are estimates.

office costs—out of their billings. Estimates of the magnitude of these expenses vary. For example, the Canadian Medical Association has compiled estimates from the mid-1990s that range from between 26% to 42% of gross fee-for-service billings. Costs depend on many factors, including where physicians practice and whether they are family doctors or specialists.

Giving to Health

Canadians donated about \$773 million to hospitals, the Cancer Society, the Heart and Stroke Foundation, and many other health organizations in the year leading up to a 1997 Statistics Canada survey.⁸ More than half of all Canadians (52%) opened their wallets to support these groups. In fact, health organizations got a larger proportion of all charitable donations (38%) than any other sector.

Who did these donations come from? Canadians were more likely to have donated if they were:

- Older (particularly compared to those under age 25)
- Female
- Married
- Employed, better educated, or higher income
- Living in a rural area
- Connected with a community of worship, regardless of their particular religious affiliation
- Giving or volunteering in other ways.

Who Gives to Health - and How Much

73

Many factors—including economic circumstances, social values, and cultural conventions—affect how likely people are to make charitable gifts and how much they give. These and other factors are reflected in provincial variations in donor rates. Rates are measured by the percentage of residents who reported donating to at least one health non-profit or charitable organization in the year before a 1997 survey was carried out. Average and typical (median) health donations are also reported. Half of all donations were lower than the median; the other half were higher.

Province	Donor rate	Average	Median
Newfoundland	70%	\$25	\$11
P.E.I.	69%	\$62	\$20
Nova Scotia	63%	\$43	\$20
New Brunswick	62%	\$36	\$20
Quebec	42%	\$66	\$15
Ontario	56%	\$75	\$30
Manitoba	53%	\$61	\$28
Saskatchewan	61%	\$41	\$20
Alberta	52%	\$54	\$28
British Columbia	46%	\$52	\$25

Source: National Survey of Giving, Volunteering, and Participating, [Statistics Canada](#)

Information Gaps

What We Know

- How much is spent in each province and territory on various types of care, such as hospitals, physician services, and drugs.
- How expenditures were distributed between the public and private sectors.
- How spending is changing over time.
- How spending in Canada compares to other countries.
- How much provincial/territorial governments spend, on average, on health care for Canadians of different ages and how this affects comparisons of total spending across jurisdictions.
- How costs for many specific types of health care services compare across the country.

What We Don't Know

- How do changes in health care expenditure affect the health of Canadians?
- What are the direct and indirect costs of different diseases today?
- How does health care spending vary from community to community across the country?
- How much do Canadians spend on complementary and alternative medicines such as massage therapy, homeopathy, and herbal remedies?
- How much do rehabilitation, health promotion, and community-based services cost?
- How much does it cost, in total, to have a hip replacement, deliver a baby, or receive other types of care?
- What is the federal government's share of total health care spending after the introduction of the Canada Health and Social Transfer?

What's Happening

- Several provinces have plans to improve the consistency and timeliness of hospital financial data. This includes the development of performance indicators to assess hospital financial condition.
- Methods for reporting spending on community-based services (e.g. public health and home care) are under development.
- Further refinements to inter-provincial/territorial comparisons of expenditure are planned.

For More Information

- ¹ CIHI (2000). *National Health Expenditure Trends, 1975-2000*. Ottawa: CIHI.
- ² *OECD Health Data 2000: A Comparative Analysis of 29 Countries* [CD-ROM]. Paris: Organization for Economic Cooperation and Development (OECD) and Centre de Recherche, d'Etude et de Documentation en Economie de la Santé (CREDES).
- ³ Moore, R., Mao, Y., Zhang, J. and Clarke, K. (1997). *Economic Burden of Illness in Canada, 1993*. Ottawa: [Health Canada](#).
- ⁴ CIHI (2000). *Hospital Financial Management Practices in Canada, Funding, Reporting and Performance Monitoring*. Early release version, October 2000. Ottawa: CIHI.
- ⁵ CIHI (2001). *Drug Expenditures in Canada, 1985 to 2000*. Ottawa: CIHI.
- ⁶ Applied Management, Fraser Group, Tristat Resources (2000). *Canadians' Access to Insurance for Prescription Medicine*. Ottawa: [Health Canada](#).
- ⁷ CIHI (2000). *National Physician Database-National Grouping System Categories Report, Canada 1996/97 and 1997/98*. Ottawa: CIHI.
- ⁸ Febbraro, A. and Hall, M. (1999). *Charitable Giving and Non-Profit Health Organizations: Perspectives Provided from the National Survey of Giving, Volunteering, and Participating*. Ottawa: [Health Canada](#).

The background of the page features a faded, light purple image of four hands reaching out from the top and sides towards the center. The hands are positioned as if they are about to clasp or support each other, creating a sense of unity and collective effort. The text is overlaid on the upper left portion of this image.

Part C: Future Directions

8. Looking Back~Looking Ahead

New for 2001

Almost every page of this report features new or updated data and analyses that were not available to us last year. Some of the data—such as updated health spending numbers or research on the impact of health reform in Montreal and British Columbia—are pulled from studies published by CIHI or other organizations over the past year. We have also included new analyses and fresh updates of data series. Examples are shown below. A complete list is available at www.cihi.ca.

- How a patient's chances of dying in hospital within thirty days of an initial admission with a heart attack (adjusted for differences in several key risk factors) have changed in recent years—and how they vary, region by region, across the country.
- How often different types of surgery are performed at high and low volume centres.
- The extent of hospital bed closures and changes in use of day surgery programs since the mid-1980s.
- Who has 9-1-1 access across Canada.
- Changes in the supply of pharmacists, dentists, physiotherapists, and other types of health professionals.
- How the health and job satisfaction of nurses compares with other workers within and outside the health care sector.
- To what extent patients in different parts of the country receive hospital care outside of the region where they live—both overall and for specific types of care.
- How Canada's largest health regions (covering more than 90% of the total population) compare on key health and health care indicators.
- Updated information on which home care services are covered by each province/territory.

After last year's launch of *Health Care in Canada 2000: A First Annual Report*, we asked readers what they valued about the report. Many told us that they most appreciated the compilation of the latest data, placed in context with recent research findings—pulling together what we know and don't know about health care in Canada.

The 2001 report builds on this tradition. In some cases, we return to important topics covered in 2000. Examples include the impact of health reform, wait times, and nurses' health and job satisfaction. For each, there are updated data and highlights of recent research and analysis. In addition, we explore new areas, such as mental health services, the impact of aging on hospitals, volunteerism in health care, and outcomes of care.

Many of our findings parallel those from last year. For example, we continue to observe significant changes in the health care system. Spending is on the rise—up \$20 billion since 1996. Overnight hospital stays continue to drop, but day surgery rates are up. The mix of doctors, nurses, and other care providers is shifting. And we are seeing other important changes in health care services, such as new models for primary care, new applications of telehealth, and increased use of complementary and alternative therapies.

And yet, the more things change, the more they stay the same. Most Canadians continue to enjoy good health. Life expectancies are also improving, although large differences remain within and across communities. The vast majority of Canadians also continue to report being satisfied with the care they personally receive. But polls suggest that overall ratings of the health care system are much lower than they were a decade ago (although there is some evidence of a stabilization or improvement in recent months).

This year's report also includes important new data and analysis on the outcomes of care. It shows, for the first time, how a person's chances of surviving a heart attack vary—region by region—across the country. Overall, these survival rates, like those for several types of transplants, have increased in recent years. Nevertheless, the data suggest that there may still be room to improve some outcomes of care. For example, Canadian and international researchers have found that survival chances for many types of surgery are better in hospitals with higher care volumes. While many Canadians receive operations in these types of centres, others are cared for in hospitals with fewer patients.

In these and other areas, our information gaps are narrowing. Yet there is still much that we don't know. The 2000 report included many unanswered questions. So does this current edition. For example, how well does the health care system respond to needs across the country? How do wait times compare? Are Canadian rates of health care error higher or lower than those found in the United States and Australia—two countries that have recently studied the issue? How are changes in demographics, practice patterns, and other factors affecting the supply of and need for doctors, nurses, and other caregivers? How are services and costs related in terms of their impact on short- and long-term health? Pockets of information are available, but, overall, these and many other questions remain unanswered.

What are the prospects for getting answers? In some cases, very good. Canada's First Ministers committed in September 2000 to report to the public on wait times, patient satisfaction, and twelve other indicators by the fall of 2002. Other initiatives to fill information gaps are also

A Framework for Understanding Health Indicators

A wide range of important information about health and health care is currently available, but many gaps remain. The framework below was developed following the 1999 National Consensus Conference on Population Health Indicators. It provides a common frame for organizing and understanding what we know and don't know. Where possible, the framework's dimensions are aligned with those used in other on-going

initiatives. For example, some in the health status category are based on concepts from the World Health Organization's International Classification of Functioning and Disability (ICIDH-2, Beta 2 Version). Similarly, the dimensions in the health system

Health Status			
Health Conditions	Human Function	Well-Being	Deaths
Determinants of Health			
Health Behaviours	Living & Working Conditions	Personal Resources	Environmental Factors
Health System Performance			
Acceptability	Accessibility	Appropriateness	Competence
Continuity	Effectiveness	Efficiency	Safety
Community and Health System Characteristics			

Source: CIHI

performance category are from the [Canadian Council on Health Services Accreditation](#). Already, data are available for many indicators selected at the consensus conference or in subsequent consultations. Some appear in the *Health Indicators 2001* insert that accompanies this report. Additional indicator data are also available through www.cihi.ca. Over time, the framework and indicators will continue to evolve based on on-going consultations with key stakeholders across the country.

underway. For example, CIHI and the [Canadian Institutes for Health Research \(CIHR\)](#) have agreed to co-sponsor research to study the level of health system error in Canada; CIHI is planning to release a special report on the health care team in the fall of 2001; and updated estimates of the economic burden of illness are being calculated. Results from Statistics Canada's new [Canadian Community Health Survey](#) will also begin to appear later this year.

In other areas, significant challenges remain. For example, a fuller understanding of health care performance depends on a broader range of timely, reliable, and comparable data and analysis on satisfaction, access, appropriateness, efficiency, effectiveness, and safety (and perhaps other areas as well). These data must go beyond hospitals. They must begin to fill the

important information gaps related to pharmaceuticals, primary care, public health, home care, nursing homes, mental health and addictions, and other services. Steps are underway in many of these areas; gradual progress can be expected over time.

In future reports, we hope to showcase progress in these and other areas. Consultations on research priorities are

already underway across the country. And we continue to track emerging health research and data sources. We plan to use the results, along with feedback on this report and advice from our Expert Group, to move ahead. Please help us to design future reports to better meet your needs by completing the feedback form at the end of this report or by e-mailing ideas to healthreports@cihi.ca.

Building a Health Information System

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Suppose that you are the manager of a rehabilitation program. Your program's aim is to help people who have had a stroke, amputation, joint replacement, or other health problem to regain and improve basic skills, such as walking, climbing stairs, and talking. What information would be important to you? To find out, we asked rehabilitation experts from across the country. They told us that how wait times, services, and outcomes for patients compare with those in similar programs is important. Information about how patients fare (e.g. did their pain get better or worse) while being treated and after discharge is also essential. The new National Rehabilitation Reporting System is designed to provide this information and much more. Like many such efforts, the system has evolved over a number of years, as the timeline below shows. Watch for results on wait times, services provided, and client outcomes in next year's annual report.

1995	<ul style="list-style-type: none"> • Consultations with health care stakeholders identified filling information gaps about rehabilitation and other non-acute care services as a priority. • CIHI undertook an environmental scan of current rehabilitation programs, information needs, and data systems across Canada.
1996	<ul style="list-style-type: none"> • A multidisciplinary working group—including rehabilitation professionals, government officials, researchers, and consumers—was convened to advise CIHI on rehabilitation information issues and priorities. • The working group agreed on a minimum set of data that should be collected by rehabilitation programs.
1997/98	<ul style="list-style-type: none"> • A pre-pilot test of the data set with five hospital or home care rehabilitation programs was carried out in Toronto. This pre-test (as well as subsequent stages) adhered to rigorous privacy and confidentiality principles and standards. • A full pilot with 31 hospital or home care rehabilitation programs in six provinces was completed.
1998/99	<ul style="list-style-type: none"> • Analysis and dissemination of pilot results took place. • Consultations occurred with the working group and others on improvements to be made as a result of the pilot.
1999/00	<ul style="list-style-type: none"> • Consensus was achieved on changes to the data set, as well as on priority indicators and appropriate groupings of patients/clients for comparative reporting. • Education sessions began for prototype reporting system. • British Columbia Health Information Standards Council adopted standard as inpatient rehabilitation data collection tool of choice for the province.
2000/01	<ul style="list-style-type: none"> • Prototype reporting system was launched in April 2000. • By March 2001, over 30 inpatient rehabilitation facilities in six provinces were voluntarily participating in the initiative. Plans are in place to expand participation to additional facilities and provinces over the next year.
2001/02	<ul style="list-style-type: none"> • Official launch of National Rehabilitation Reporting System at Canadian Association of Physical Medicine and Rehabilitation/RehabNet annual conference will take place in June 2001.
Future Plans	<ul style="list-style-type: none"> • Encouraging more rehabilitation programs to join in comparing wait times, service utilization, and patient/client outcomes, with a view to supporting the management of programs and quality improvement efforts. • Introducing secure electronic reporting tools to enable easier and more flexible access to facility-specific and comparative results for qualifying participants. • Responding to other priorities for on-going improvement identified by participants. • Expanding the reporting system beyond the adult inpatient population to include pediatric clients and non-institutional care.

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