

Canada's Health Care Providers, 2007

Canadian Institute for Health Information
Institut canadien d'information sur la santé

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Canadian Institute for Health Information
495 Richmond Road
Suite 600
Ottawa, Ontario
K2A 4H6

Phone: 613-241-7860
Fax: 613-241-8120
www.cihi.ca

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Table of Contents

Acknowledgements xi

The Report xiii

Chapter 1: Health Human Resources—A Priority in Canada 1

- The Emergence of HHR in Canada 6
- World Health Organization—The Decade of HHR 7
- Health Care Expenditures 9
- Health Human Resources—Touching Every Part of the Health Care System 10
- HHR Planning—A Conceptual Model 13
- HHR Planning Initiatives and Collaboration 14
- Health Human Resources—Where Are We Going? 20

Chapter 2: The Making of Health Human Resources in Canada 23

- Becoming a Health Care Provider 26
- Education and Training in Canada 26
- Use and Role of Clinical Placements 32
- The Regulatory Environment for Health Care Providers in Canada 35
- Canada's International Students 37
- Internationally Educated Health Care Providers 40
- The Changing Environment of Education 43
- From Training to Practice—What Happens Next? 47

Chapter 3: Health Care Providers—A Demographic Profile 51

- Supply of Health Care Providers 53
- Changes in the Distribution of Health Care Providers in Canada 54
- Health Care Provider-to-Population Ratios 57
- General Characteristics of Health Care Providers 60
- Sex 60
- Canada's Aging Population and Aging Health Workforce 64
- Ethnic Origin 68
- Where and How Are Health Care Providers Working? 70
- Counts and Characteristics—Will HHR Be There for Me? 73

Chapter 4: The Health of Health Care Providers 77
Health Status of Canada's Health Care Workforce 80
Absenteeism in Canada's Health Care Workforce 82
Injuries in the Workplace 84
Nature of Injuries Leading to Time-Loss Claims 88
Fatalities 89
Focus on Job Satisfaction 90
Healthy Workers—A Continued Investment 94
Health Human Resources 95

Chapter 5: HHR—Here, There and Everywhere 99
Recruiting Available Health Care Workers From Within Canada 101
Health Care Providers Migrating Across Urban and Rural Areas 106
Migration of International Graduates to Canada 109
International Migration From Canada 111
Strategies for Retaining Health Care Providers 114
Recruitment and Retention 115

Chapter 6: A Final Word 117
HHR Data Collection and Use—Back to the Beginning 119
Data Standards and Access to Data Are Critical 122
Summary 124
Conclusion 125

Tables and Figures

List of Tables

Table 2.1 Availability of Training Programs and Graduate Statistics Across Canada, 2004 27

Table 2.2 Medical Graduate and Residency Program Matches, by Year, 1993 to 2005 33

Table 2.3 The Regulatory Environment For Selected Health Professions in Canada, 2004 36

Table 2.4 Number of International Students, in General, by Province or Territory, 2006 38

Table 2.5 Canada's Internationally Educated Health Care Professionals, 2006 43

Table 2.6 Changes in Education and Training Requirements, by Profession 44

Table 2.7 The Transition From Diploma to Baccalaureate Entry-to-Practice Requirements for Registered Nurses 45

Table 3.1 Percent Female of Health Occupations, 2001 61

Table 3.2 Average Age of People in Health Occupations and All Occupations Between 1995 and 2005 66

Table 3.3 Aboriginal and Non-Aboriginal Population in the General and Health Labour Force, 2001 69

Table 4.1 Accepted Lost-Time Injury Claims, Canada, 2001 to 2005 86

Table 4.2 Workplace Fatalities in the Health Industry as Compared to All Industries, Canada, 2003 to 2005 89

List of Figures

Figure 1.1 An Overview of HHR Planning 4

Figure 1.2 Health Care Providers per 1,000 Population 8

Figure 1.3 Maternal Mortality Ratio per 100,000 Live Births in 2000 8

Figure 1.4 Total Health Expenditure by Use of Funds Canada, 2007 (in Billions) 9

Figure 1.5 Unit-Producing Personnel Compensation as a Percentage of Total Operating Cost in Canadian Hospitals, by Province, Territory and Canada, 2004–2005 10

Figure 1.6 Health Human Resources in the Emergency Department (ED) . . .11

Figure 1.7 Wait Time to Obtain an Appointment With a Doctor, by Country, 2005 12

Figure 1.8 Health System and Health Human Resources Planning Conceptual Framework 14

Figure 2.1 Students Enrolled in Canadian Universities in Health Programs, by Province, 2004–2005 28

Figure 2.2 Number of Faculty and Number of Medical Students and Post-MD Students, Canada, 1992–1993 to 2005–2006 30

Figure 2.3 Possible Pathways Through the Health Education System 31

Figure 2.4 Proportion of International Students in Canadian Universities, in Health-Related Programs, 1995 and 2004 37

Figure 2.5 Total Number of Postgraduate Work Program Permits Issued in 2005 39

Figure 3.1 Unemployment Rate Across Occupations in Canada, 1987 to 2006 53

Figure 3.2 Distribution of Health Personnel in Canada, 1995 and 2005 54

Figure 3.3 Percentage Increase in Selected Health Occupations, 1996 to 2005 55

Figure 3.4 Nurses Employed in Nursing, Canada, 2006 56

Figure 3.5 Number of Health Professionals per 100,000 Canadians, 2005 . . .57

Figure 3.6 Health Care Provider Types per 100,000 Population, by Province and Territory, Canada, 2001 58

Figure 3.7 Percentage of Health Care Providers within G8 Countries (Excluding Japan), per 1,000 Population, 1997 to 2004 59

Figure 3.8 Percentage of Women Employed Across Industries, Canada, 1987 to 2005 60

Figure 3.9 Number of Physicians by Age Group and Sex, 2006 62

Figure 3.10 Count of Graduating Physicians, by Sex, 1993 to 2004 63

Figure 3.11 Physicians' Average Weekly Hours Worked, by Sex and Age Group, 2000 63

Figure 3.12 Population of Canada, 1966 and 2006, by Age and Sex 64

Figure 3.13 Age Distribution of Registered Nurses in Canada, 1980 and 2005 67

Figure 3.14 Proportion of Health Occupations and of the General Population, by Ethnic Group, Canada, 2001 68

Figure 3.15 Top Places of Work by Percentage, for Selected Health Occupations, Canada, 2003 to 2005 70

Figure 3.16 Full-Time Versus Part-Time Work, by Selected Occupation, 2005 71

Figure 3.17 Head Counts and Full-Time Equivalent Estimates for Part-Time and Full-Time Nurses, Canada, 2005 72

Figure 4.1 Percentage of Employed and Unemployed Canadians and Health Care Workers Reporting Fair/Poor General Health, Canada, 2003 80

Figure 4.2 Percentage of Nurses Reporting Fair/Poor General Health, by Selected Characteristics, Canada, 2005 81

Figure 4.3 Average Lost Days for All Occupations and Health Occupations, 25-to-54-Year-Olds, by Sex, Canada, 1987 to 2006 82

Figure 4.4 Average Lost Days for Health Occupations, 25-to-54-Year-Olds, by Province, 2006 83

Figure 4.5 Average Lost Days per Full-time Worker, by Health Occupation, Canada, 2006 84

Figure 4.6 Percentage of All Workers and Health Care Workers Physically Injured at Work, Canada, 2003 85

Figure 4.7 Number of Accepted Time-Loss Injury Claims, by Industry, Canada, 2003 and 2005 86

Figure 4.8 Number of Accepted Time-Loss Injury Claims, Health Industry, per 100,000 Population, by Province, 2001 and 2005 87

Figure 4.9 Percentage of Accepted Time-Loss Injury Claims, Health Industry, by Nature of Claim, Canada, 2005 88

Figure 4.10 Job Satisfaction for Regulated Nurses and All Workers, Canada, 2005 91

Figure 4.11 Percentage of Regulated Nurses Dissatisfied or Very Dissatisfied, by Area of Responsibility, Canada, 2005 92

Figure 4.12 Percentage of Primary Care Physicians Somewhat or Very Dissatisfied With Medical Practice, by Country, 2006 93

Figure 4.13 Percentage of Family Physicians Very Satisfied or Somewhat Satisfied With Professional Life, by Workplace Setting, Canada, 2004 93

Figure 4.14 Percentage of Regulated Nurses Satisfied or Very Satisfied With Present Job, by Workplace Setting and Nurse Type, 2005 94

Figure 5.1 Timeline for the Establishment of Mutual Recognition Agreements for Selected Health Professions, Canada 102

Figure 5.2 Migrants as a Percentage of Total Population, General Canadian Workforce and Select Health Care Occupation Groups, 1996 to 2001 103

Figure 5.3 Net Interprovincial Migration Rates (Percent) for Health Care Occupations, by Province, 1986 to 1991 and 1996 to 2001 104

Figure 5.4 Number of Physicians Migrating to and From Each Province, 2006 105

Figure 5.5 Percent of Health Care Providers in Rural Areas, Canada, 2001, and Absolute Change in Percentage From 1991 to 2001 106

Figure 5.6 Rural and Small-Town Net-Migration Rates (Percent) for Selected Health Care Occupational Groups, and All Non-Health Care Occupations, Canada, 1986-to-1991 and 1996-to-2001 Migration Periods 107

Figure 5.7 Canadian Versus Internationally Educated Physicians Working in Canada, 1970 to 2005 109

Figure 5.8 Countries With a Critical Shortage of Health Service Providers (Doctors, Nurses and Midwives) 110

Figure 5.9 Number of Physicians Who Moved Abroad or Returned From Abroad, Canada, 1969 to 2006 111

Figure 5.10 Exit Rates for Registered Nurses, by Years Since Graduation, Canada, 2004–2005 112

Figure 5.11 Factors Cited by Registered Nurses Living Outside of Canada as Encouraging Them to Return to Ontario 113

Figure 6.1 An Overview of Health Human Resources Planning 119

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- **Erik Markhauser**, Senior Policy Analyst, Health Canada
- **Gail Tomblin Murphy**, Associate Professor, Dalhousie University
- **Jillian Oderkirk**, Director, Statistics Canada
- **Linda O'Brien-Pallas**, Professor, Director and Co-Principal Investigator, Nurse Effectiveness, Utilization and Outcomes Research Unit, University of Toronto
- **Myriam Gagné**, Direction de la planification et des soins infirmiers, ministère de la Santé et des Services sociaux du Québec
- **Stephen Birch**, Professor, McMaster University
- **Terry Goertzen**, Acting Assistant Deputy Minister, Manitoba Health and Healthy Living
- **Yola Dubé**, Chef de Service, ministère de la Santé et des Services sociaux du Québec

The CIHI project team responsible for the development of this report includes:

- **Adam Rondeau**, Senior Analyst
- **Andrea Porter-Chapman**, Program Lead
- **Annie Walker**, Program Lead
- **Babita Gupta**, Senior Analyst
- **Barbara Loh**, Quality Assurance Assistant
- **Brent Barber**, Program Lead
- **Daniela Panait**, Senior Analyst
- **Deborah Cohen**, Manager
- **Francine Anne Roy**, Director
- **Jean-Marie Berthelot**, Vice President
- **Julie Goulet**, Senior Analyst
- **Lori Kirby**, Senior Analyst
- **Michael Rajendram**, Senior Analyst
- **Paul Sajan**, Program Lead
- **Rahme Youssef**, Analyst
- **Richard Lam**, Analyst
- **Robert Pelletier**, Senior Analyst
- **Robin Carrière**, Program Lead
- **Rummy Dhoot**, Project Manager
- **Ruzica Subotic-Howell**, Project Manager
- **Sarah Wibberley**, Program Consultant
- **Tiffany Semple**, Analyst
- **Tobi Henderson**, Senior Analyst
- **Yasmine Léger**, Administrative Assistant
- **Yvonne Rosehart**, Program Lead

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The Report

In 2001, CIHI released *Canada's Health Care Providers*, which provided an overview of the health human resources (HHR) landscape in Canada at the time. The report described the health care workforce and highlighted trends based on available data. In 2005, CIHI provided an update entitled *Canada's Health Care Providers: 2005 Chartbook*.

This third report in the series—*Canada's Health Care Providers, 2007*—builds on the work of the first two reports. We look at how the landscape has evolved, current key challenges facing HHR and what we know and don't know. We take a look at the complexities of HHR planning and management in the current environment and how various jurisdictions are finding innovative ways to collect and use HHR information. We also talk about education and training, workplace environment, distribution and migration, and provide updated data and information on supply-side trends for health professions, where available.

The intent of this report is not to provide an exhaustive list of the data, activities and projects under way in Canada—there are too many to do them justice. Rather, we hope to provide an overview of the available information on HHR in Canada—a snapshot for 2007.



Chapter 1

Health Human Resources—A Priority in Canada

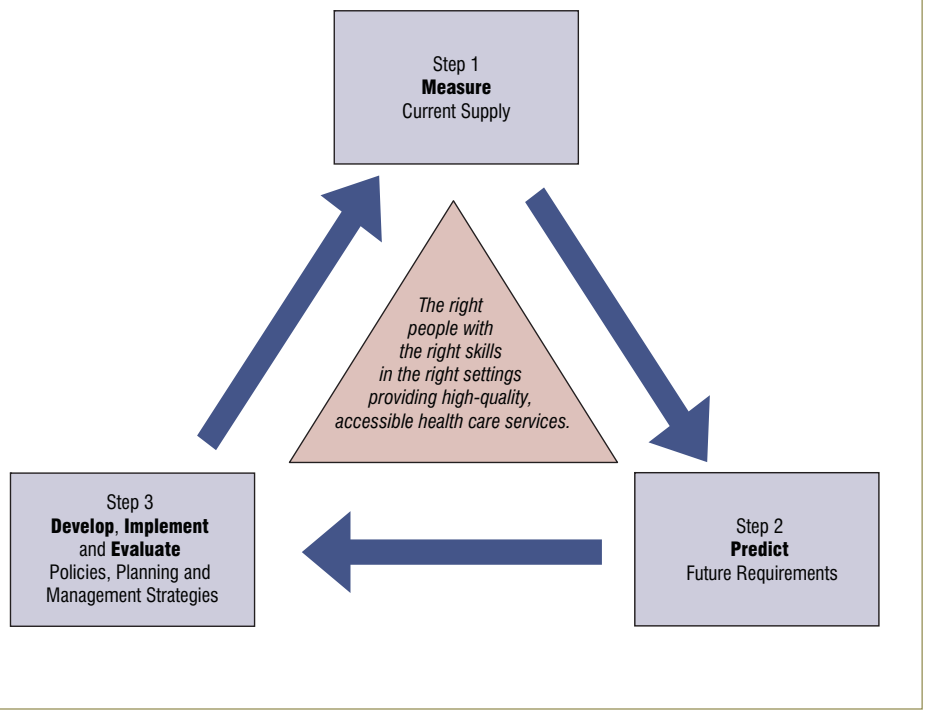
Health Human Resources—A Priority in Canada

Are there enough health care providers in Canada? Will they be there when I need them?

These questions convey, in a nutshell, the importance of health human resources (HHR) in Canada. They highlight the important perspective of the Canadian public and the concerns of members of the public about their contact with the health care system and the provision of quality health care services. The questions remind us that health workforce planning and management is of critical importance in order to ensure that health services are available for all Canadians.

These seemingly simple questions also highlight the complex nature of HHR planning and management in Canada. Health care planning in its most simple form compares the existing health workforce supply with the expected future health care requirements of the population. This helps inform the development, implementation and evaluation of HHR policies, planning and management strategies, to ensure that the **right people**, with the **right skills**, in the **right settings** are providing high-quality, accessible health care services.[1] The simplicity of this description, however, masks the complex challenges that exist within and between each step.

Figure 1.1 An Overview of HHR Planning



This report focuses primarily on the first step: measuring current supply. Over the past several years, significant efforts to measure the current supply of health care workers have been undertaken across the country. Determining the number of health care providers, the mix of health care providers and the nature of the work they do are a few examples of such measurement efforts.

The second step looks at predicting future requirements. Questions in this step focus on what is needed in the future: Do we need the same numbers of health care providers? What will the population health needs be in a few years? How will services be delivered in the future—is the environment changing? Are health care provider roles evolving? If so, how will this impact the provision of services in the future? These, again, are but a few examples.

The third step aims to develop, implement and evaluate policies, planning and management strategies that will ensure health human resources are in place to meet the changing needs of the population. Questions to be asked in this step: What are the types of policies and strategies that will ensure an appropriate supply in all regions of the country? How do health care planners and managers collaborate between and amongst provinces and territories within Canada and internationally? What are the levels and types of resources required for the implementation of the policies, strategies and initiatives? What is the impact or influence of the health policies and strategies for HHR planning and management?

Although all three steps are very important in understanding the complexity of HHR planning and management, the focus of this report is on step one: providing a supply-focused overview of HHR in Canada—a snapshot of HHR in 2007.

Planning for Health Human Resources: An Overview of Forecasting Approaches

HHR planning involves determining the numbers, mix and distribution of health providers that will be required to meet the health needs of a population at some identified, future point in time. Planners have used a variety of approaches to forecast HHR supply and demand to present the most cost-effective and appropriate solutions. Three common approaches to planning for HHR in Canada are supply-based, utilization-based and needs-based forecasting.[2] In each approach, planners think differently about the delivery of health care, the provision of services, the population's needs and the commitment of resources.[3]

Supply-based forecasting—How many resources are required to continue to serve populations the way they are currently being served?

- Supply-based forecasting counts the number of providers at a given point in time in a particular geographic area and projects forward in time based on maintaining the current level of services. This method often uses simple head counts of personnel, provider-to-population ratios and demographic projections.

Utilization-based forecasting—How many resources are required to satisfy the expected development and plans for the future provision of health care services?

- Utilization or demand forecasting builds on supply-based forecasting by also taking into consideration patterns of service delivery and health service utilization. With this approach, the quantity, mix and population distribution of current health care resources are used to estimate future requirements. The level of utilization of HHR services is described relative to a demographic profile of the population.

Needs-based forecasting—How many resources are required to support the services for a proportion of the expected needs of the population?

- Needs-based forecasting approximates future requirements based on estimated needs of the population. The potential for addressing relative needs is assessed using indicators of health and disease prevalence and by forecasting provider requirements based on age, sex and health-related indicators of the population.

Currently, the most common approach used in Canada is the supply-based model because of its simplicity and minimal requirements for data. As data availability and linkage increase, all three approaches can be combined to generate a more global approach.

The Emergence of HHR in Canada

Although the recognition of HHR issues could be tracked back twenty years or more, we will focus on important changes since 2001. Some of the key events link back to the First Ministers' Accord in 2003, in which the provinces, territories and federal government made a commitment to work together to improve HHR planning.

"Appropriate planning and management of health human resources (HHR) is key to ensuring that Canadians have access to the health providers they need, now and in the future. Collaborative strategies are to be undertaken to strengthen the evidence base for national planning, promote inter-disciplinary provider education, improve recruitment and retention, and ensure the supply of needed health providers."[4]

A number of reports have contributed to the growing momentum (for example, those of Romanow, Kirby, Fyke, Clair and Mazankowski). Nationally, reports from the Health Council of Canada and the Federal/Provincial/Territorial Advisory Committee on Health Delivery and Human Resources (ACHDHR) have highlighted key themes and recommendations. In 2007, *Listening for Direction III: National Consultation on Health Services and Policy Issues* identified HHR as 1 of 10 priority research themes.[5]

In addition to the above, there have been a number of priorities identified at the national, provincial/territorial and regional levels, complemented by the efforts of HHR researchers, research organizations and many others that have contributed to the growing body of knowledge. This body of knowledge is too vast to list, but examples are provided throughout the report.

The reports, initiatives, policy papers and research highlight several themes, including:

- Enhanced data and information;
- Collaborative planning approaches;
- Linking education/training requirements to HHR planning and service provision;
- Workplace environment and job satisfaction;
- Recruitment and retention efforts; and
- Needs-based planning approaches.

In the last five years, funding has been allocated to help achieve success in these areas and move the HHR agenda forward at the federal, provincial/territorial and regional levels.

Did You Know?

- Approximately 1 in 10 people work in the broadly defined field of health and social services in Canada.[6]
- In 2006, just over 1,000,000 people in Canada worked directly in health occupations; this represented 6% of the total Canadian workforce.[7]

World Health Organization—The Decade of HHR

Recognizing the importance of HHR is not something that Canada is undertaking alone. In 2006, the World Health Organization (WHO) declared this to be the decade of HHR. As stated in the report, "at the heart of each and every health system, the workforce is central to advancing health."[8]

The World Health Report 2006—Working Together for Health launched the Health Workforce Decade (2006 to 2015), with a 10-year action plan. The plan calls for national leadership to initiate and maintain country-based initiatives addressing health workforce needs for:

- Increased implementation of effective workforce strategies;
- Increased investments in the workforce;
- Elimination of waste; and
- Strengthening of educational institutions.

The plan also presents priorities on "strengthening the workforce so that health systems can tackle crippling diseases and achieve national and global health goals."[8]

Health Workforce Population

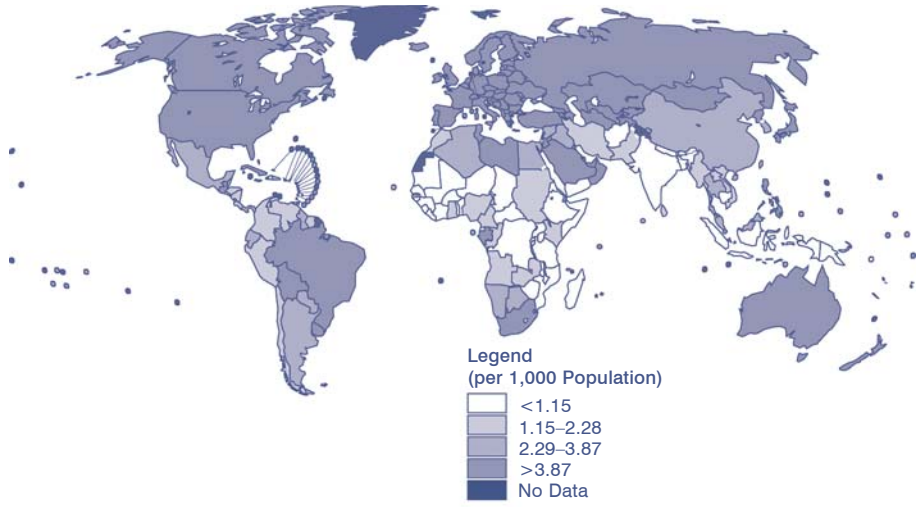
The global impact and importance of HHR can be observed through a look at health care provider densities and mortality. The WHO estimates that there are a total of 59 million full-time paid health workers[i] worldwide with widely varied distribution across the globe.[8]

On a global scale, this macro-level analysis also shows that regions with higher health care provider-to-population densities (Figure 1.2) tend to have lower maternal mortality ratios (Figure 1.3).

i. In this case, a health care worker is defined as one whose primary role is to improve health (including health providers as well as managers and support workers). For the purposes of the map, only paid health service providers are included: physicians, nurses, midwives, dentists, pharmacists, lab workers, environment and public health professionals, community health workers, etc.

Figure 1.2

Health Care Providers per 1,000 Population

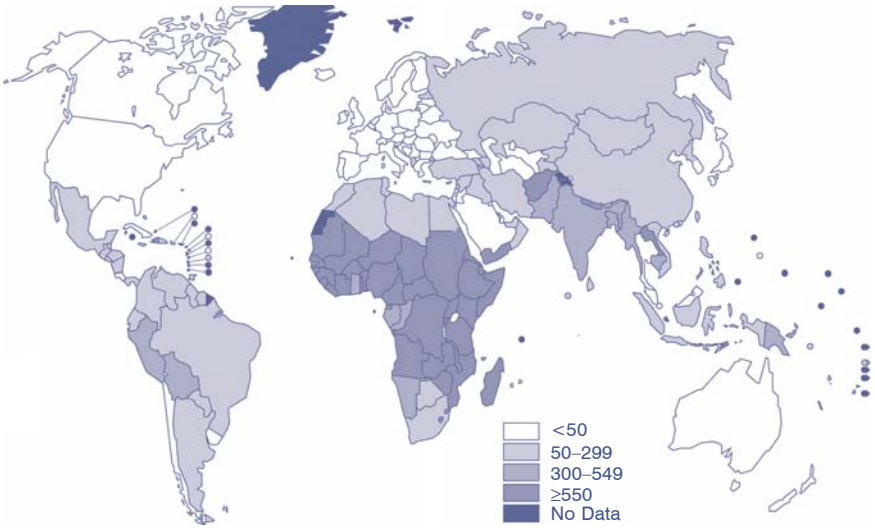


Note: Source data year varies and is based on most recently available data from various WHO sources.

Source: World Health Organization. *Global Atlas of the Health Workforce* (http://wwww.who.int/globalatlas/default.asp). Used with permission.

Figure 1.3

Maternal Mortality Ratio per 100,000 Live Births in 2000

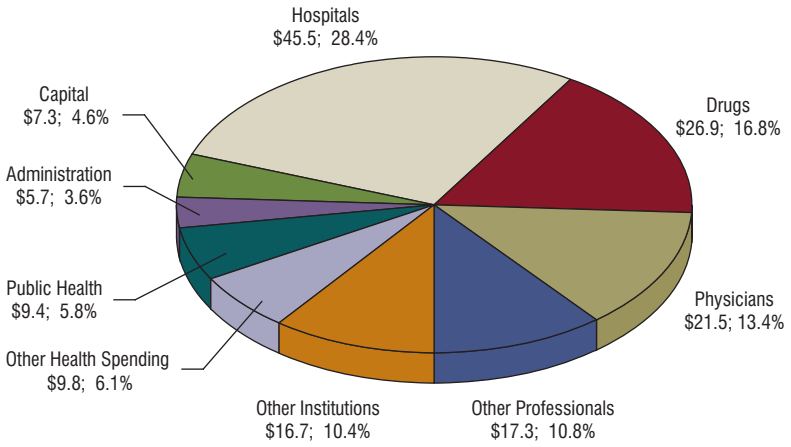


Source: World Health Organization. *World Health Report 2005, Make Every Mother and Child Count*, 2005 (http://www.who.int/whr/2005/whr2005_en.pdf). Used with permission.

Health Care Expenditures

In 2007, Canada spent $160 billion on health care.[9] The following figure provides an overview of some of the HHR costs within the health care system. The graph shows that the largest category of spending was for hospitals ($45.5 billion), followed by drug spending, with physicians and other professions coming in third and fourth. It's important to note, however, that there is a proportion of HHR cost included in almost all of the categories presented.

Figure 1.4 Total Health Expenditure by Use of Funds, Canada, 2007 (in Billions)



Source: National Health Expenditure Database, Canadian Institute for Health Information, 2007.

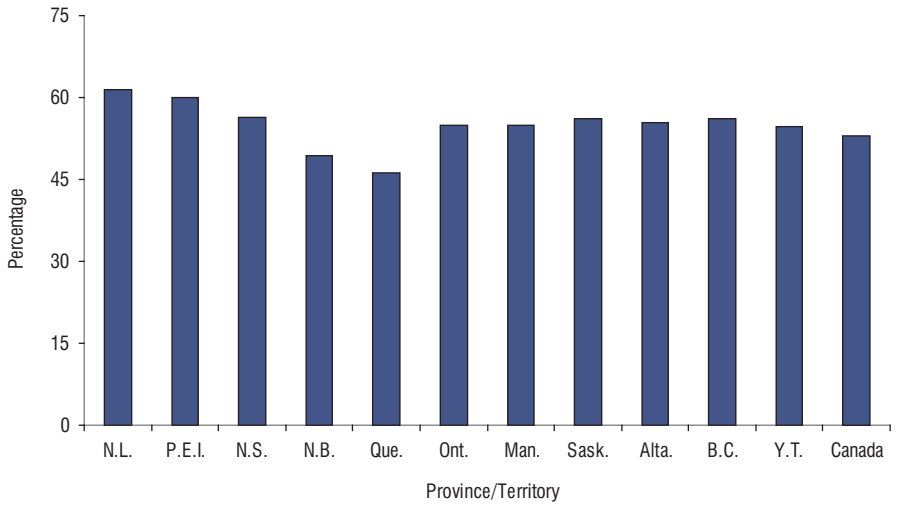
Although it is not an easy task to quantify precisely how much money goes directly into HHR in Canada, people are recognized as the single greatest cost in the system. It's estimated that between 60 and 80 cents of every health care dollar in Canada is spent on HHR—and this doesn't include the cost of educating health care providers.[10] This means that for the $160 billion that Canada spent on health care in 2007, $96 to $128 billion of that went towards HHR.

Did You Know?

In Canadian hospitals, the cost of worked salaries, benefits and purchased salaries for those personnel whose primary function is in the provision of direct care ranged from 46% to 62% of total operating costs across the provinces and territories for 2004–2005.[11]

Figure 1.5

Unit-Producing Personnel Compensation as a Percentage of Total Operating Cost in Canadian Hospitals, by Province, Territory and Canada, 2004–2005



Notes:
Northwest Territories data were not reportable.

Nunavut did not report data.

Quebec's ministère de la Santé et des Services sociaux submits its financial and statistical data to CIHI's Canadian MIS Database (CMDB) using the accounting structure of the AS-471 and AS-478 reports, based on Quebec's Manuel de gestion financière framework and accounts. Data reported to CIHI from Quebec are mapped from Quebec's provincial account codes to the MIS Standards chart of accounts for the purposes of comparative reporting from the CMDB.

Source: Canadian MIS Database, Canadian Institute for Health Information.

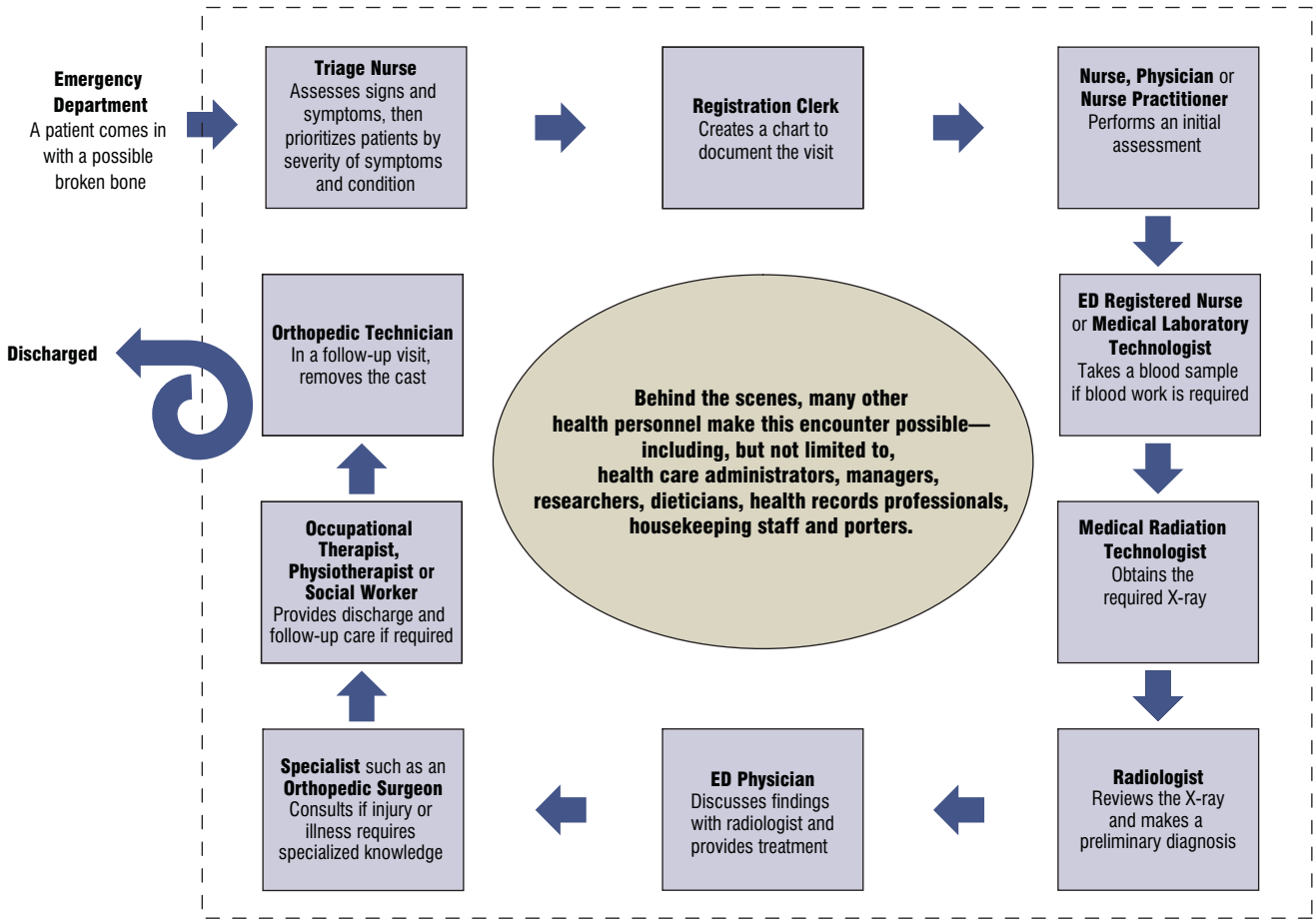
Health Human Resources— Touching Every Part of the Health Care System

HHR is about having the **right people**, with **the right skills**, in **the right settings** to provide high-quality, accessible health care services.[1] Each time a patient comes in contact with the health care system, he or she is exposed to a myriad of health personnel.

HHR in the Emergency Department

Although the health care path will vary based on a multitude of factors, here we present one example of the numerous possible contacts with HHR made each day.

Figure 1.6 Health Human Resources in the Emergency Department (ED)



Health human resources are integral to the health care system. As a result, HHR is connected with many of the challenges, strategies and solutions within the health care system, including:

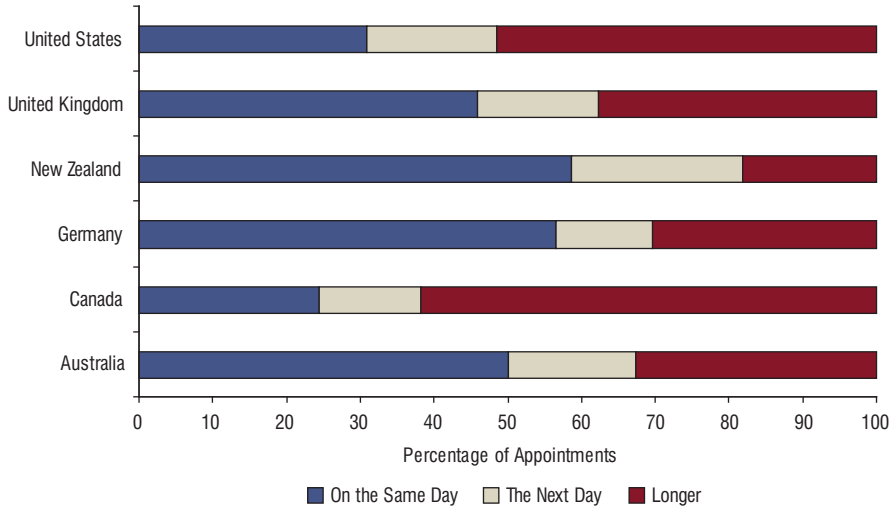
- Management of wait times;
- Access to services;
- Health promotion and disease prevention;
- Planning for pandemics (such as severe acute respiratory syndrome or SARS);
- Patient safety, via prevention, detection and reporting of incidents, errors and adverse events;
- Health outcomes; and
- Provision of a continuum of care as population health needs change.

Did You Know?

The Commonwealth Fund 2005 International Health Policy Survey of Sicker Adults asked respondents the following question: "Last time you were sick or needed medical attention, how quickly could you get an appointment to see a doctor?" The results, in the graph below, highlight that 23% of Canadian respondents indicated they could get an appointment to see the doctor on the same day. According to this survey, Canada ranked last in the proportion of same-day visits compared with the other countries in the survey.

Figure 1.7

Wait Time to Obtain an Appointment With a Doctor, by Country, 2005



Source: The Commonwealth Fund 2005 International Health Policy Survey of Sicker Adults.

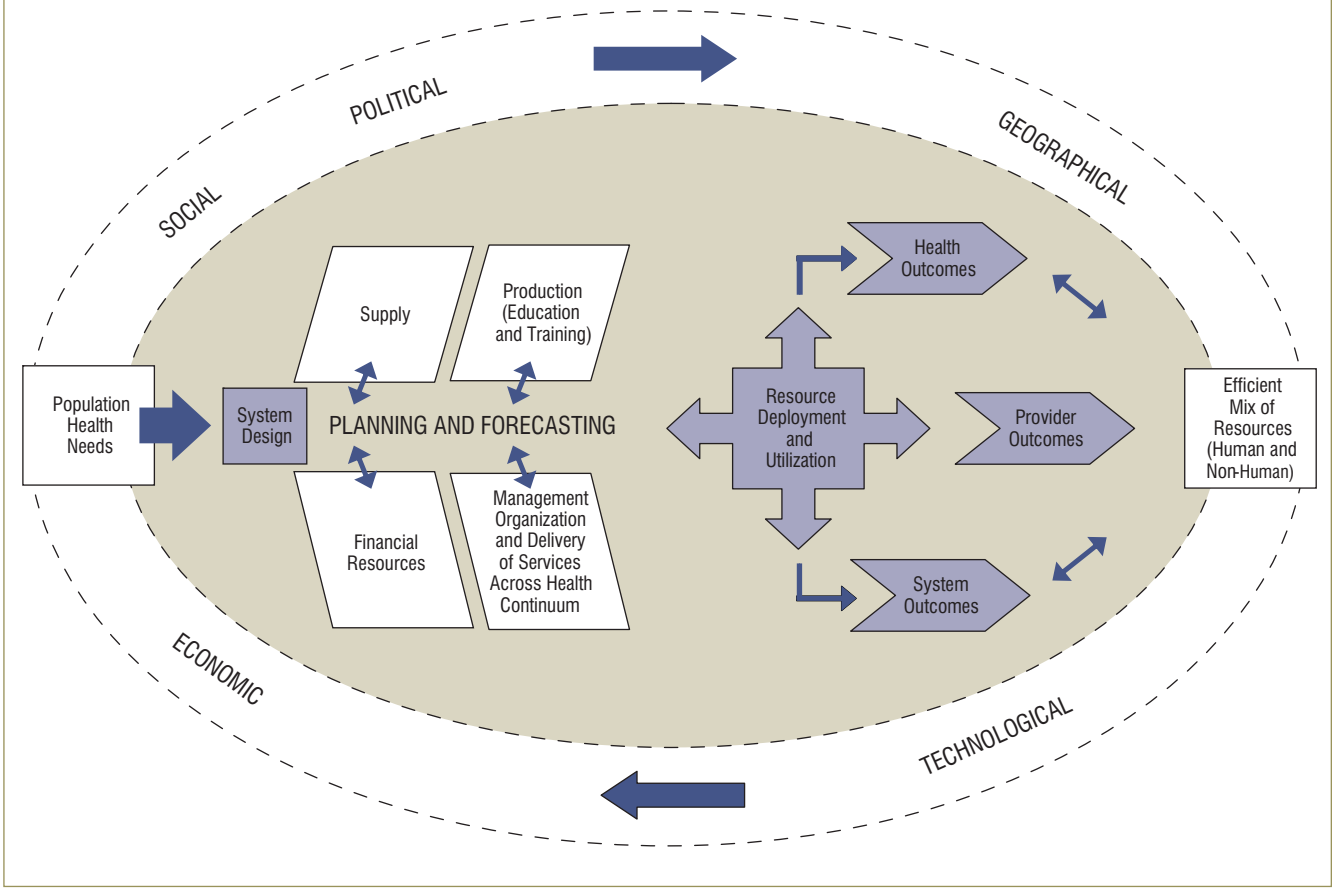
HHR Planning—A Conceptual Model

Data are the basis of information, and information is the basis for knowledge. The process of turning data into information and subsequently into knowledge to help inform decisions and policies brings with it a number of challenges and opportunities for HHR planning.

The complexity of HHR planning lies in the ability to bring together all the various components that affect HHR and use this information to help plan for an efficient mix of resources. Complex approaches to HHR planning that are driven by population health needs have greater data requirements. Part of the challenge lies in finding the right type and level of information for factors within the model; the remaining part lies in determining the complex inter-relationships between the factors and predicting future population health needs in an ever-changing health care environment.

The conceptual model on the following page[12] helps to illustrate these complexities and puts into perspective the number of areas where knowledge can help inform this planning. Figure 1.8 reminds us that consideration must be given to population health needs, traditional components (such as supply, financial resources and utilization), the environment within which the system functions (social, political, geographic, economic and technological factors) and the importance of outcomes (health, provider and system).

Figure 1.8 Health System and Health Human Resources Planning Conceptual Framework



Source: L. O'Brien-Pallas, G. Tomblin-Murphy and S. Birch, "Health System and Health Human Resources Conceptual Model," A Framework for Collaborative Pan-Canadian HHR Planning (figure adapted) (ACHDHR, 2005), p. 29, cited fall 2007, from <http://www.hc-sc.gc.ca/ahc-asc/alt_formats/ccs-scm/pdf/public-consult/col/hhr-rhs/PanCanHHR_Framework_sept-05_e.pdf>.

HHR Planning Initiatives and Collaboration

"Health human resources planning does not occur in isolation."[12]

In 2005, the Advisory Committee on Health Delivery and Human Resources (ACHDHR) indicated that HHR planning should be collaborative and based on population health needs. Also, the need was identified to improve the information available to health system planners, managers and researchers, in order to support health system renewal.

The collaborative approach has been implemented by many researchers, policy-makers, organizations, jurisdictions and individuals with a vested interest in HHR planning and management. Many jurisdictions have undertaken the development of frameworks, databases and other tools to support HHR-related monitoring, evaluation, planning and research. The following section highlights some of the many collaborative programs and initiatives occurring across the country at all levels that are designed to improve our understanding of HHR within the health care system.

The Pan-Canadian HHR Framework

What Is it?

A vision of "improved access to appropriate, effective, efficient, sustainable, responsive, needs-based health care services for Canadians and a more supportive, satisfying work environment for health care providers through collaborative strategic provincial, territorial and federal HHR planning."[13]

In June 2002, the Conference of Deputy Ministers of Health established the Advisory Committee on Health Delivery and Human Resources (ACHDHR). This committee of federal, provincial and territorial representatives provides policy and strategic advice on the planning, organization and delivery of health services, including HHR. This advisory committee has developed the Pan-Canadian HHR Framework that is being used to help guide the future of HHR planning and health service delivery. Funding for a number of the action items has been approved, and progress is being monitored by ACHDHR.

The four goals of the framework can be summarized as follows:

1. Improving information sources and capacity for HHR planning;
2. Linking education to HHR planning;
3. Getting the right mix of HHR; and
4. Improving the HHR work environment.

Atlantic Health Human Resources Planning Study

What Is it?

An examination of existing and previous HHR planning work in each of the four Atlantic provinces, to consolidate available data, to create an inventory of education and continuing education programs, to develop a scenario-based HHR simulation model and to identify related recommendations.[14]

The Atlantic Advisory Committee on Health Human Resources (AACHHR) is comprised of representatives from Newfoundland and Labrador, Prince Edward Island, Nova Scotia and New Brunswick. AACHHR's role is to serve as a resource and to provide policy advice to Atlantic deputy ministers of health and of education to enhance cooperation on issues relating to HHR planning. In 2004, the committee launched the Atlantic Health Human Resources Planning Study; this simulation work went beyond traditional HHR models by integrating key factors such as indicators of the population's health status as well as in-migration, productivity and attrition.

The Western and Northern Health Human Resources Planning Forum

What Is it?

"A forum where western provincial and northern territorial ministries of health and advanced education can explore opportunities for co-ordinated planning and joint initiatives in the area of health human resources."[15]

The forum is comprised of the western provinces (British Columbia, Alberta, Saskatchewan and Manitoba) and the territories (Yukon Territory, the Northwest Territories and Nunavut [since 2005]). Since its inception in 2002, the forum has undertaken many regional projects with funding received from Health Canada's Health Human Resources Strategy. Projects funded through the forum include the development of a standardized approach to describing core competencies for licensed practical nurses (LPNs), best practices for clinical education, a health science clinical placement network and an assessment process for international medical graduates.

A Plan for Public Health Human Resources

What Is it?

A vision that, "through collaborative planning, all jurisdictions in Canada will have a flexible, knowledgeable public health workforce working in safe supportive environments to meet the population's public health needs, and reduce health and social disparities."[16]

The Pan-Canadian Framework for Public Health Human Resources Planning was published in October 2005. The framework follows a systems- and needs-based approach to HHR planning and takes into account the population's public health needs. The plan, similar to the Pan-Canadian Framework on HHR, includes a set of specific goals and objectives that span the short, medium and long term. The collaborative approach relies on the combined efforts of the Public Health Agency of Canada, the Public Health Network, Health Canada, the Canadian Institutes of Health Research, ministries of health and key sectors within the health care system (educational institutions, local governments and private-sector organizations).

Cancer Care: Canadian Strategy for Cancer Control and Other Initiatives

What Is it?

A strategy focused on establishing and operating a high-quality national cancer surveillance system that brings together epidemiological cancer data and cancer control information from the provinces and territories to facilitate effective planning, implementation, monitoring and evaluation of Canadian cancer control efforts.[17]

The Canadian Strategy for Cancer Control identified the need for a surveillance system that focused on the provision of health care needs and services for cancer in Canada. Early efforts have led to the development of further initiatives aimed at improving cancer care in Canada. In 2007, the Canadian Association of Provincial Cancer Agencies (CAPCA) teamed up with the Canadian Partnership Against Cancer (CPAC) to initiate, among other things, development of a human resource planning database and a coordinated approach to planning in the broad areas of cancer control. The aim is to help address challenges facing the cancer workforce.

Aboriginal Health Human Resources Initiative (AHHRI)

What Is it?

An initiative that will "develop and implement health human resource strategies that respond to the unique needs and diversity among First Nations, Inuit and Métis."[18]

This five-year initiative has identified two priority areas for improving health human resources: "increasing the number of First Nations, Inuit and Métis health human resources and improving the retention of health care workers who provide services to First Nations, Inuit and Métis."[18] The AHHRI for the long-term intends:

1. "To provide conditions for optimizing the future supply, mix and distribution of the First Nations, Inuit and Métis health workforce in ways that are responsive to the unique and diverse health needs of First Nations, Inuit and Métis.

2. To achieve and maintain an adequate supply of qualified First Nations, Inuit and Métis health care providers who are appropriately educated and supported to ensure culturally competent and safe health care for First Nations, Inuit and Métis people.

3. To facilitate the adaptation of health care educational curricula so that the cultural competence of graduates, providing health care services to First Nations, Inuit and Métis is improved."[18]

Saskatchewan's Health Workforce Action Plan

What Is it?

A plan to focus on an "integrated and coordinated workforce . . . reflecting the value of a workforce that can respond to changes in health needs, skill-mixes and service delivery."[19]

After broad consultation, and building on earlier work, Saskatchewan Health developed an evolving plan that reflects a common vision, common goals and objectives to strengthen HHR planning in the province. The last version was released in 2005 and outlines some of the progress made over the years and future planned initiatives.

The Health Workforce Action Plan identified five goals:

1. "A sufficient number and effective mix of health care professionals are used fully to provide safe, high-quality care.
2. Safe, supportive and high-quality workplaces help to retain and recruit health care professionals.
3. Aboriginal people fully participate in the health sector in all health occupations.
4. Education and training for the workforce is aligned with projected workforce requirements and health service needs.
5. The workforce is innovative, flexible and responsive to changes in the health system."[19]

HealthForceOntario Strategy

What Is it?

A strategy focusing on obtaining the right number and mix of health care providers to meet the health needs of the province.[20]

In May 2006, the Minister of Health and Long-Term Care announced the HealthForceOntario Strategy, which builds on other provincial initiatives. The collaborative multi-year strategy includes initiatives designed to help the province identify its HHR needs, develop new provider roles to meet changing health needs and work closely with the education system.

The HealthForceOntario Strategy has sparked the following initiatives and programs,[21] among others:

- Four new roles—physician assistant, nurse endoscopist, surgical first assistant and clinical specialist radiation therapists;[21]
- A coordinated marketing and recruitment centre;
- A fund to support innovative inter-professional mentoring and education programs; and
- An allied health professional development fund to support ongoing professional education for six selected professions (physiotherapists, occupational therapists, medical laboratory technologists, medical radiation technologists, speech language pathologists and audiologists).[22]

The Quebec Ministerial Action Plan

What Is it?

A provincial strategy on HHR planning and management for 2007–2008.[23]

Specific targeted actions for 2007–2008 include:

- Development of a concerted strategy to promote jobs in the health and social services network;
- Harmonization of education programs between and amongst professions such as registered nurses, licensed practical nurses and health care aides;
- Provision of support for the commencement of training programs in some areas;
- Update of professional practice competencies in mental health and human relations;
- Appropriate training for the clientele of Emploi Québec;
- Support for the professional regulators to facilitate the recognition of equivalencies of diplomas and training of foreign-trained individuals.[23]

Health Human Resources—Where Are We Going?

Recognizing the importance of HHR, the complexity of the task at hand and the inherent challenges to HHR planning and management, those involved in HHR planning are finding new and innovative ways to overcome the challenges.

As shown in this first chapter and further demonstrated throughout the report, a great deal is happening in the field of HHR. Some projects are just getting under way, and there are many opportunities for further progress.

In the subsequent chapters, we will discuss some of the factors that contribute to the supply of HHR. In Chapter 2, we will provide an overview of the path to become a health care provider through training programs within Canada and through education elsewhere. Chapter 3 will discuss the supply of health care providers, including demographic elements such as gender, age, ethnicity and the location. Chapter 4 will examine the work environment, including information on absenteeism and injury. Chapter 5 will look at the movement of health care professionals across geographic areas. Finally, Chapter 6 will identify some of the sources of HHR planning information and describe some of the challenges related to data collection and data access.

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Chapter 2

The Making of Health Human Resources in Canada

The Making of Health Human Resources in Canada

Who are we referring to when we talk about health human resources (HHR)? Typically, we think of nurses and doctors; however, there are many paid and unpaid, regulated and unregulated health personnel who provide care and contribute to the health care system. This broad range of health care providers forms the backbone of the health care system. Without them, the health care system would not exist.

The term "health care provider" can be considered in many ways, and no one approach is necessarily better than the others. In a recent report by the World Health Organization (WHO), health care providers are defined as "all people engaged in actions whose primary intent is to enhance health."[1] This definition would include a whole host of players—including family members providing care in the home, volunteers providing care in the community, regulated and unregulated health professionals and so on.

It's also important to remember that HHR includes people working in a health field who perform tasks that don't involve direct patient care. Even though they don't provide direct patient care, biomedical engineers, health researchers, public health inspectors, housekeeping staff, health policy planners and administrators and many others have a critical impact on access to care, a safe care environment and the quality of care delivered.

Statistics Canada often limits its definition (via Statistics Canada and Human Resources and Skills Development Canada's National Occupational Classification) of health care providers to health occupations in paid positions.[2] This definition is considerably more limited than that of the WHO. However, in order to put some boundaries around the broad topic of HHR for the purposes of this report, we will primarily use the National Occupational Classification definition.

Becoming a Health Care Provider

How do people become health care providers? Formal education programs are often the entry point into many health occupations. These programs vary in length and requirements, depending on the health occupation. Even within a health occupation, program requirements vary depending on the province/territory or regulatory body. This section explores some of the routes of entry into a health occupation, including training and education, and the regulatory environment for health care providers in Canada.

Education and Training in Canada

In Canada, health education programs are available in each province across the country for some health occupations, including registered nurses, dietitians and medical radiation technologists. Conversely, for other health occupations, education programs are offered only in a few locations. For example, in 2004, education programs for midwifery were offered only in Ontario, Manitoba, Quebec and British Columbia. The number and location of training programs are important to understand because they provide information on the potential supply and mobility patterns of new graduates into various health professions within Canada.

Table 2.1

Availability of Training Programs and Graduate Statistics Across Canada, 2004

Occupations	No. of Grads 1995	No. of Grads 2000	No. of Grads 2004	Change Between 1995 and 2004	Availability of Training Programs Across Canada, 2004												
					N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nun.
Audiologists	...	...	86	n/a			✓		✓	✓				✓			
Chiropractors	135	197	195	⇧					✓	✓							
Dental Hygienists	608	718	677	⇧			✓		✓	✓	✓	✓	✓	✓			
Dentists	554	459	439	⇩			✓		✓	✓	✓	✓	✓	✓			
Dietitians	…	339	352	n/a	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Health Information Managers*	266	157	153	⇩			✓		✓	✓	✓	✓	✓	✓	✓	✓	
Medical Laboratory Technologists†	545	265	725	⇧	✓			✓	✓	✓	✓	✓	✓	✓			
Medical Radiation Technologists‡	630	575	855	⇧	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Midwives§	..	7	37	n/a					✓	✓	✓			✓			
Nurse Practitioners**	..	..	149	n/a	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	
Occupational Therapists	590	584	590	≈			✓		✓	✓	✓		✓	✓			
Optometrists	110	104	108	≈					✓	✓							
Pharmacists	787	875	686	⇩	✓		✓		✓	✓	✓	✓	✓	✓			
Physicians	1,739	1,578	1,757	≈	✓		✓		✓	✓	✓	✓	✓	✓			
Physiotherapists	665	622	630	⇩			✓		✓	✓	✓	✓	✓	✓			
Registered Nurses††, ‡‡	7,203	4,816	7,910	⇧	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
Social Workers	…	…	2,856	n/a	✓		✓	✓	✓	✓	✓	✓	✓	✓			
Speech-Language Pathologists	…	…	295	n/a			✓		✓	✓			✓	✓			

Notes:

.. Information not available.
… Information not collected by HPDB.
* 1995-to-2000 grads are Health Information Management graduates who became certificants and associates. From 2001 onwards, they are Health Information Management graduates.
† Number of the CSMLS General Certificate Exam candidates who obtained General certification.
‡ Number of medical radiation technologist candidates who passed the CAMRT National Certification Exam.
§ The University of British Columbia program graduated its first class in 2005.
** Nurse practitioner (NP) results were not collected until 2001; NP results are under-reported where the reporting school offered an master's NP stream but was unable to report graduate results for that stream.
†† Represents entry to practice (diploma and basic baccalaureate) graduates. Graduate data may include supplemental data received from the Ordre des infirmiers et infirmières du Québec (OIIQ) to offset under-reporting. Training programs represent baccalaureate nurse training programs. For more detailed notes, please refer to the Student and Faculty Survey of Canadian Schools of Nursing Survey Methodology document available from the CNA and CASN.
‡‡ 1995, 1996 and 1997 are not Student and Faculty survey results, but instead are taken from data of first-time takers of RN licensing examinations due to unreliability of Student and Faculty statistics from 1986 to 1996.
n/a Non applicable; change cannot be calculated due to unavailable data.
⇧ Number of graduates increased.
⇩ Number of graduates decreased.
≈ Number of graduates remained consistent (changed less than 20 graduates).

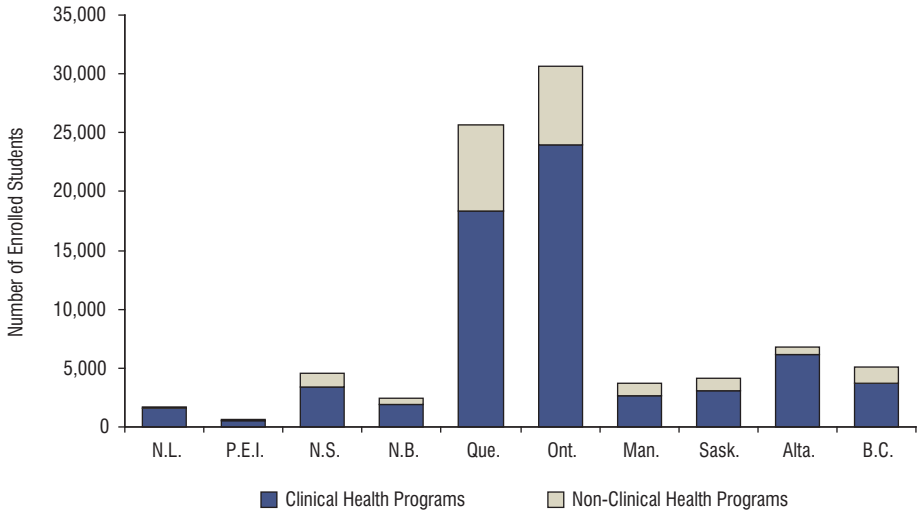
Sources: Health Personnel Database (HPDB), CIHI; Canadian Nurses Association (CNA); Canadian Association of Schools of Nursing (CASN).

During the 10-year period from 1995 to 2004, many of the health professions listed in Table 2.1 saw an increase in the number of graduates. Many factors influence the overall increases and decreases in health professionals, including the number of seats, the location and availability of school, retirement rates and entry-to-practice credentials. Health professions that have experienced a decline in the number of graduates over this decade include dentists, pharmacists and physiotherapists.

Attracting the next generation to health care involves attracting students to health education programs. In 2004–2005, over a million students in total were enrolled either full-time or part-time in Canadian universities. Of that total, 8.4% (just over 85,000) students were enrolled in health-related programs.[i] The majority of these students were enrolled in programs for health professions and related clinical studies.

Figure 2.1

Students Enrolled in Canadian Universities in Health Programs, by Province, 2004–2005



Source: Enhanced Student Information System, Statistics Canada, 2005.

While the number of students in health programs varies by the size of the province, the proportion of students in health care programs out of all university students ranged from 5.8% in B.C. to 15.3% in Prince Edward Island.

i. "Health-related programs" are defined as programs for health professions and for related clinical sciences or public administration and social service professions.

Funding of Seats for Education Programs in Health Care

The number of "seats" in a training program is just one of several factors that influence the number of new graduates for a given profession. The length of the training program, the attrition rate of the program and the rate of entry to the profession of new graduates also influence the graduate entry to the stock of providers. It becomes even more complicated if we consider that not all provinces and territories necessarily have the educational institutions to train each type of health care provider required. As a result, provinces and territories often have to negotiate for seats in other provinces.[3]

For the past several years, the Eastern Regional Health Authority (ERHA), the largest integrated health network in Newfoundland and Labrador, has been purchasing seats in medical radiation technologist education at the Michener Institute for Applied Health Sciences in Ontario. The ERHA advertises the seats in local papers, and selected students are asked to sign a return-in-service agreement (that is, graduates agree to work where directed by the ERHA for a specified period of time in return for having a portion of their education funded). The ERHA tries to find graduates a job within a specific time frame. If there is no position to offer, graduates are released from the agreement without penalty. If graduates break the agreement, they are required to pay the ERHA the cost of their education.[4]

Accreditation

Accreditation ensures that an education program meets certain standards and that it is effective in preparing students for entry into a profession. Examples of accredited programs at universities and/or colleges are those for nurses, physicians, pharmacists, dietitians, occupational therapists, physiotherapists, opticians, medical radiation technologists and others.

Did You Know?

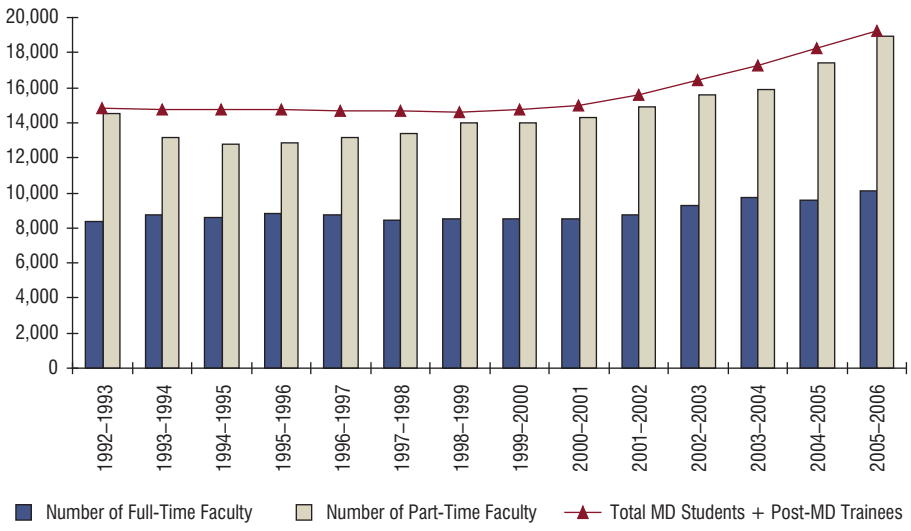
The Council on Accreditation for Respiratory Therapy Education (CoARTE) is the national accrediting body for respiratory therapy programs; a list of approved and accredited schools can be found on the website of the Canadian Society of Respiratory Therapists. For this profession, the CoARTE conducts site visits every six years to ensure that national accreditation standards are met. Along with an annual program accreditation fee, schools are required to submit annual reports to demonstrate requirement compliance.[5]

Are There Enough Faculty for Medical Students?

At a high level, it would appear that the number of faculty are keeping pace with the number of medical students. As illustrated in Figure 2.2, the total number of students for medical doctorates (MD) and post-MD trainees remained relatively constant from 1992–1993 to 1999–2000, but increased yearly since 2000–2001. Correspondingly, the number of full-time and part-time faculty in Canadian faculties of medicine also increased. Between 2000–2001 and 2005–2006, the number of students/trainees increased by 29%, and the total number of full-time and part-time faculty increased by a similar amount—27%. The availability of faculty to train new health professionals is one of the many components of HHR supply.

Figure 2.2

Number of Faculty and Number of Medical Students and Post-MD Students, Canada, 1992–1993 to 2005–2006



Notes:
Full-time faculty include professors, associate and assistant professors, instructors and other faculty.
Part-time faculty includes paid and volunteer faculty members.
Faculty counts for 2005–2006 are preliminary.

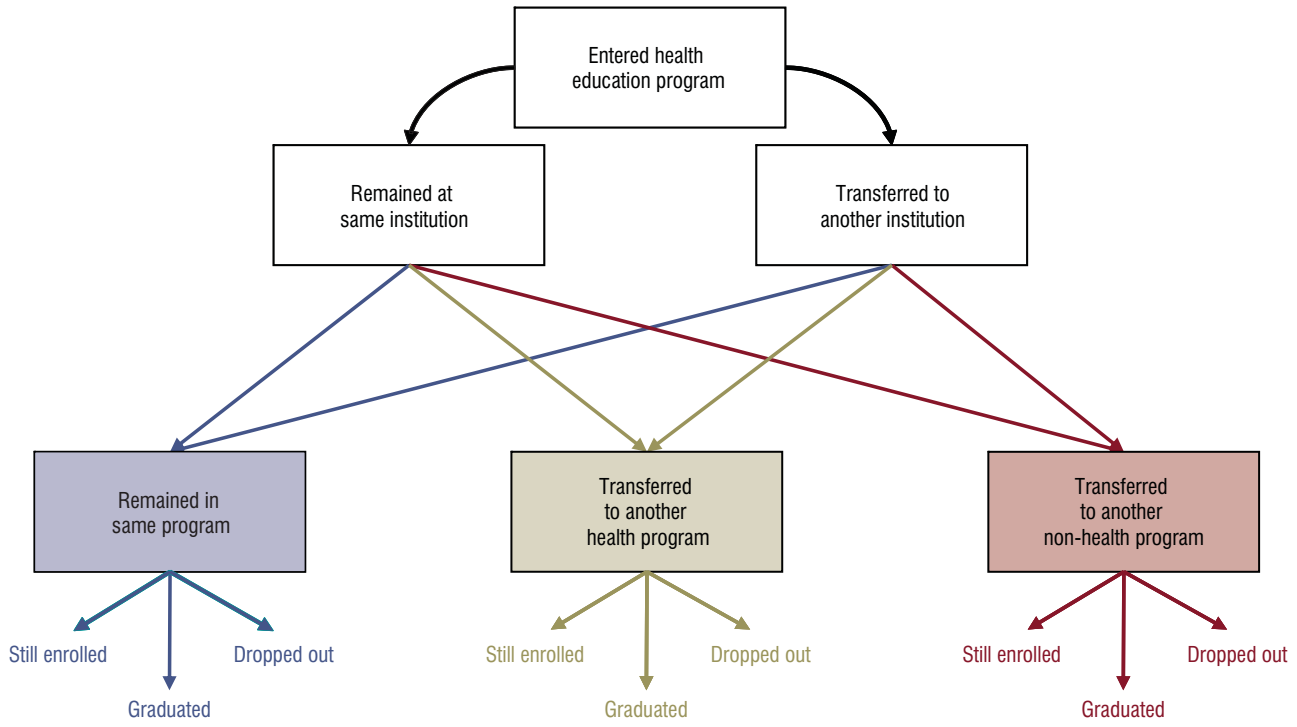
Sources: Office of Research and Information Services (ORIS); Canadian Post-M.D. Education Registry (CAPER); Association of Faculties of Medicine of Canada, 2007.

Attrition From Programs

Not all students who enrol in college or university complete their studies or training. Family and financial circumstances, time commitments, career suitability and personal health are some of the reasons that may contribute to students dropping out of a program. One study of students in baccalaureate nursing programs showed that nursing students who leave their programs do so more commonly in the first or second year of their undergraduate studies.[6]

Attrition levels are not always easy to determine. A student may transfer from one program to another or from one institution to another for many different reasons. Therefore, attrition from a program or an institution may not necessarily mean attrition from the field of study. See Figure 2.3 for the various pathways through the health education system.[7]

Figure 2.3 Possible Pathways Through the Health Education System



Source: Adapted from *Health Human Resources and Education: Outlining Information Needs,* Statistics Canada, April 2006.

Use and Role of Clinical Placements

From Learner to Professional

Clinical placements are important components of the education process for a variety of health personnel. Some occupations, depending on the jurisdiction or regulation, require a clinical placement as a graduation or licensing condition. Clinical placements prepare students for practising in their chosen fields. The placements provide hands-on experience so that students gain confidence in their abilities and enhance their skills and knowledge. However, while the clinical placement experience provides a variety of benefits, many health professions struggle to ensure adequate access to appropriate training environments and preceptors.[8]

What Is a Preceptor?

Preceptors are clinical professionals appointed by the faculty to supervise students during their clinical placement. Preceptors facilitate and evaluate students' learning and performance; the way they interact with students can influence the efficacy and quality of learning.[9] Preceptors represent another component of the supply of HHR.

Recruiting preceptors can be challenging. Some staff may be reluctant to take on teaching responsibilities due to high workloads or the lack of administrative support and recognition. However, at least one study suggests that many preceptors enjoy the teaching process and sharing their professional knowledge and skills, in spite of their workload.[8]

Matching Medical Graduates to Residency Programs

Postgraduate Training (Residency)

Postgraduate medical training, also called residency, "prepares physicians for independent practice in a medical specialty (family medicine or other specialties). Residency programs focus on the acquisition of detailed factual knowledge and the development of clinical skills and professional competencies in a particular specialty. These programs are based in hospitals or other health care institutions, and in most specialties, utilize both inpatient and outpatient settings for teaching purposes."[10] The availability of residency positions is important to study, as they can have an impact on the HHR supply.

The Canadian Resident Matching Service (CaRMS), originally called the Canadian Interns Matching System (CIMS), was established in 1982. CaRMS is a not-for-profit organization that provides an electronic application service and a computer match for entry into a variety of postgraduate medical residency positions throughout Canada. CaRMS also provides Canadian medical students with access to the U.S. electronic application system for postgraduate medical training (ERAS).

The CaRMS matching algorithm attempts to align the applicants with their most preferred program, and the program with the best fit. If the applicant's most preferred program is not available, then the algorithm moves on to the next preferred program and continues until a match is obtained or the applicant's choices have been exhausted.

Over the past 13 years, over 90% of applicants have been matched, with more than half receiving their first choice of program and over three-quarters receiving a match in their preferred discipline.

Table 2.2 Medical Graduate and Residency Program Matches, by Year, 1993 to 2005

Year	Participants	Positions	Percent Matched	Percent Matched to First-Choice Program	Percent Matched Within Third-Choice Program	Percent Matched to First-Choice Discipline
2005	1,405	1,508	94.5	61.5	83.4	85.2
2004	1,285	1,404	94.5	61.8	82.4	84.4
2003	1,231	1,317	90.7	56.5	76.7	81.2
2002	1,117	1,260	95.6	50.9	73.4	77.3
2001	1,132	1,219	94.2	58.6	79.8	86.3
2000	1,154	1,187	93.9	57.5	80.6	88.2
1999	1,149	1,186	94.3	56.7	78.3	88.6
1998	1,172	1,196	94.0	55.8	79.0	87.0
1997	1,169	1,214	95.4	57.4	80.1	88.0
1996	1268	1,279	94.3	55.4	77.5	88.4
1995	1,305	1,330	94.9	56.1	79.4	87.3
1994	1,307	1,280	90.3	53.9	74.7	84.0
1993	1,300	1,309	96.4	50.9	73.4	77.3

Source: The Canadian Resident Matching Service, 2005.

Alternative Placements

Clinical placements have often been assigned within traditional settings such as hospitals and public health units. In response to the diversity of settings in which health care is delivered, colleges and universities are now considering alternative placement settings.[11]

The nursing profession, for example, is looking towards alternative settings for clinical placements such as correctional institutions, community centres and Aboriginal reserves.[11] Early trials have shown that alternative settings have enabled students to expand their knowledge, to operate with a high degree of autonomy and to identify community needs and intervene accordingly. Results also suggest that many students have felt empowered by their experience and have been engaged in learning.[11]

Clinical Placement Collaboration Across Canada

The availability of clinical placements is a key consideration and sometimes a bottleneck when increasing training seats. A number of government initiatives are aimed at improving and standardizing the clinical placement process. B.C.'s Health Sciences Placement Network[12] (HSPnet) is an example of such an initiative.

HSPnet was launched in April 2003 by the British Columbia Academic Health Council (BCAHC) to provide a province-wide system for improving the management of clinical placements and related procedures. HSPnet is a web-enabled suite of tools that support:

- "Increased availability and quality of practice education opportunities for students
- Streamlined processes and improved communications among those involved in practice education
- Enhanced access to a greater range of placement opportunities including underutilized sites, rural communities and interprofessional placements
- Evaluation and improvement of learner and agency outcomes
- Enhanced profile and priority of practice education."[12]

HSPnet is now being used by six Canadian provinces (B.C., Alberta, Saskatchewan, Manitoba, Ontario and Nova Scotia), supported by a shared infrastructure under the governance of the National HSPnet Alliance, established by the health council in 2005. More than 100,000 placement requests in 16 disciplines including nursing, paramedics, occupational therapy, medical laboratory technology and social work, have been entered into HSPnet across Canada.

The Regulatory Environment for Health Care Providers in Canada

Once education programs have successfully been completed, health care providers often also need to fulfill additional requirements before they can practise. Some need to meet certain requirements such as passing national exams or completing a set number of clinical placement hours. Regulated health professionals need to register with a regulatory body in order to become licensed to practise in their jurisdiction.

Roles of Regulatory Authorities and Professional Associations

Regulatory authorities are granted authority by provincial and territorial governments to protect the rights of the public and are self-governing. These bodies are established through provincial and territorial legislation and have the authority to determine the process of licensing members. Members of a regulatory body are licensed to work within a regulatory framework.

Professional associations primarily represent the health professions and work to establish and protect the rights of the health care providers.[13]

Professions such as physicians, registered nurses, pharmacists, occupational therapists and physiotherapists are regulated in each province of Canada. This means that it is mandatory for initiates to register with a provincial or territorial regulatory authority to become licensed to practise within their respective jurisdictions.

Other professions, such as medical radiation technologists and medical laboratory technologists, are regulated in some provinces but not in others.[14] The following table summarizes for 2004 which professions were regulated and in which province or territory registration was mandatory. As regulations differ by jurisdiction, the mobility for inter-jurisdictional practice may be affected.

Table 2.3

The Regulatory Environment for Selected Heath Professions in Canada, 2004

Professions	Provinces										Territories		
	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nun.
Audiologists				✓	✓	✓	✓	✓	✓				..
Chiropractors	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	..	..
Dental Hygienists	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Dentists	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Dietitians	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	..	..	..
Health Infomation Management Professionals													
Licensed Practical Nurses	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Medical Laboratory Technologists			✓	✓	✓	✓		✓	✓				
Medical Radiation Technologists			✓	✓	✓	✓		✓	✓		..	..	..
Medical Physicists													
Midwives					✓	✓	✓		✓	✓		✓	
Nurse Practitioners	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
Occupational Therapists	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	..	..	..
Optometrists	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Pharmacists	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Physicians	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Physiotherapists	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		..	..
Psychologists	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
Registered Nurses	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Registered Psychiatric Nurses	n/a	n/a	n/a	n/a	n/a	n/a	✓	✓	✓	✓	n/a	n/a	n/a
Respiratory Therapists					✓	✓	✓		✓		..	..	..
Social Workers	✓	✓	✓	✓	✓	✓			✓	✓			
Speech Language Pathologists				✓	✓	✓	✓	✓	✓				

Notes:
The above list is not a comprehensive list of all health care providers.
A blank cell indicateds that the profession is not regulated.
.. Indicates that the information is not available.
n/a indicates that the category is not applicable (that is, registered psychiatric nurses are educated and regulated separately in the four western jurisdictions: British Columbia, Alberta, Saskatchewan, Manitoba.

Source: *Health Personnel Trends in Canada, 1995–2004*, Canadian Institute for Health Information.

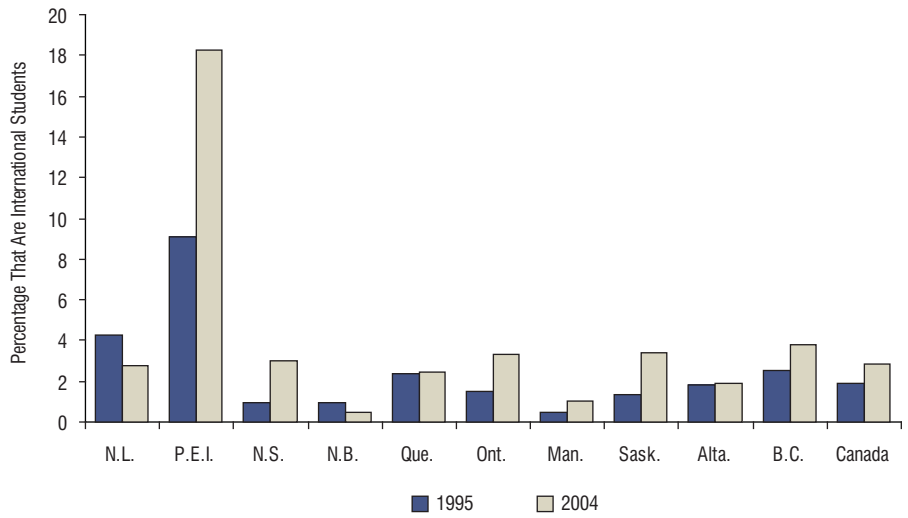
Canada's International Students

Canadian-born students are not the only ones who attend Canadian universities. In 2004, 7.4% of university students enrolled in Canada were from abroad.[15] Students from other countries who have trained in health occupations in Canada are important to study because they have the credentials to be part of the supply of Canada's health workforce. Canada has been a destination country for international students for several reasons—tuition is competitively priced, many Canadian degrees are internationally recognized and for some programs, international students are able to work in Canada for up to two years after graduation.[16]

A breakdown of the proportion of international students in Canada shows that we are training more international students in health-related professions than we were 10 years ago, by a relative increase of 50%. Most provinces have seen an increase in the proportion of international health students, with the exception of Newfoundland and Labrador and New Brunswick. In fact, over the 1995-to-2004 period, the proportion of international students in health-related programs at least doubled for P.E.I., Nova Scotia, Ontario and Saskatchewan.

Figure 2.4

Proportion of International Students in Canadian Universities, in Health-Related Programs, 1995 and 2004



Source: Enhanced Student Information System, Statistics Canada, 2007.

Where do most of the international students go to school in any field? Not surprisingly, international students tend to be located in provinces with the highest population densities. According to Citizenship and Immigration Canada, in 2006, 37.1% were located in Ontario, 28.5% were in B.C. and 15.7% were located in Quebec.[17]

Table 2.4 Number of International Students, in General, by Province or Territory, 2006

Provinces	2006	Percentage
Newfoundland and Labrador	1,111	0.7%
Prince Edward Island	382	0.2%
Nova Scotia	4,967	3.2%
New Brunswick	2,911	1.9%
Quebec	24,582	15.7%
Ontario	58,308	37.1%
Manitoba	4,815	3.1%
Saskatchewan	3,254	2.1%
Alberta	11,748	7.5%
British Columbia	44,799	28.5%
Yukon	32	0.0%
Northwest Territories and Nunavut	51	0.0%
Province/territory not stated	0	0.0%
Total	**156,955**	**100.0%**

Note: Includes health-related and non health-related international students.

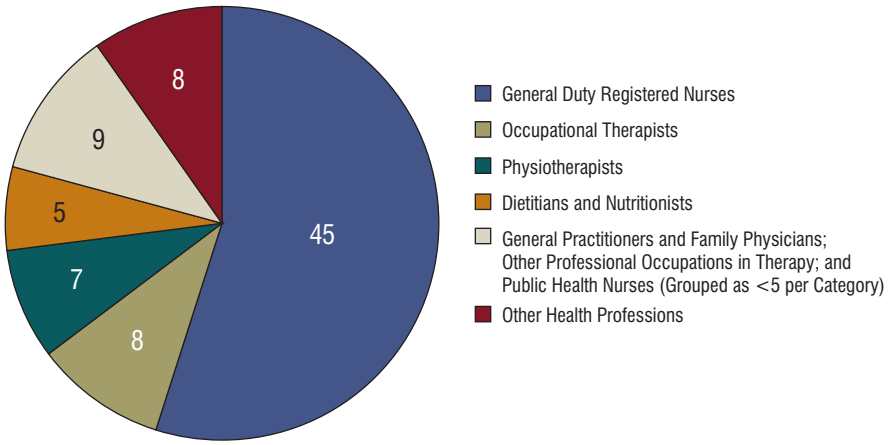
Source: Citizenship and Immigration Canada, 2006.

Citizenship and Immigration Canada Post-Graduation Work Program

The Citizenship and Immigration Canada Post-Graduation Work Program was implemented in the 1970s. The program permits international students graduating from Canadian schools to work for up to two years after graduation, depending on their length of study. The objective of the program is to enable international students to gain work experience in Canada. In addition, the program serves as an incentive for these students to apply for permanent work and residence in Canada.

In 2005, Citizenship and Immigration Canada issued a total of 82 work permits under the Post-Graduation Work Program to international student graduates from health-related fields.

Figure 2.5 Total Number of Postgraduate Work Program Permits Issued in 2005



Source: Citizenship and Immigration Canada: work permits issued under the professional health care occupations—exemption C-43 only in Canada, January–December, 2005.

Internationally Educated Health Care Providers

As discussed earlier, there are two primary routes to becoming a health care provider in Canada: education and training programs within Canada and education and training programs outside of Canada. Individuals who come to practise health care in Canada who have already acquired their education abroad are often referred to as "internationally educated health care professionals" (IEHPs).

Credential Assessment and Recognition

While health care providers trained abroad already have the competencies to practise in their profession in their respective country of origin, their routes of entry into practice within Canada can sometimes be complex and take several years. If the profession is regulated in Canada, IEHPs need to be licensed by a provincial or territorial regulatory body.[18]

Some IEHPs also have their skill sets assessed through a Prior Learning Assessment and Recognition (PLAR) program. A PLAR program recognizes skills, knowledge of competencies acquired through work and social experience, including volunteer activities and hobbies.[19]

Did You Know?

- To help evaluate internationally educated registered nurses, the College of Nurses of Ontario uses the PLAR process to evaluate the skill sets of internationally educated nurses (IEN) against a Canadian baccalaureate degree in nursing for practice in Ontario.[20]
- In an academic setting, Algonquin College in Ontario also uses a PLAR program to assess IEHPs applying to various health programs, including the cardiac diagnostic, polysonography and respiratory therapy programs.[21]

For non-regulated professions, there are no provincial or territorial licensing requirements prior to practice. Registration with professional associations is voluntary. In non-regulated professions, employers decide on the equivalency value of the international credentials and may sometimes require that successful job applicants register with the relevant professional association.[18]

Licensing for International Graduate Physicians

Canadian medical graduates must complete their medical school training (MD), which takes from two to four years; complete their residency, which takes from two to seven years; and pass their final exams.[22]

International medical graduates have to pass several tests in order to attain a licence to practise medicine in Canada. They need to demonstrate competency in basic medical knowledge by passing the Medical Council of Canada's Evaluating Examination. This exam enables the Medical Council of Canada (MCC) to evaluate the readiness of the candidate to write the MCC Qualifying Examination Parts I and II, which includes Canadian content and clinical reasoning.[23] In addition to these MCC exams, graduates must fulfill examination or residency requirements set by the provincial or territorial medical regulatory body/authority. Some of these requirements include up to six years of postgraduate medical training at a Canadian university and the successful completion of certification exams set by the College of Family Physicians of Canada or the Royal College of Physicians and Surgeons of Canada.[24]

In Quebec, the process is unique. International medical graduates seeking licensure in Quebec must obtain recognition of equivalence of their degree. The Collège des Médecins du Québec (CMQ) ensures that the competence of a candidate with a medical degree from outside of Canada and the United States matches that required of medical graduates in Quebec for purposes of providing quality medical services to the province's population.[25]

Integration for Internationally Educated Health Care Providers

Newcomers to Canada face a variety of challenges when looking for employment in Canada, including differences in language, cultural expectations and employment regulation. Often, there are challenges in finding basic information about the regulation and licensure procedures within each of the provinces and territories. Once found, studies have suggested that this information can be confusing, or the language level may be too difficult to be understood by IEHPs.[19]

Initiatives to Support Internationally Educated Health Care Providers

To help IEHPs overcome the challenges of integrating into the Canadian health workforce, national, provincial, territorial, regional and local projects and programs have been launched.

National Example

In April 2005, the Government of Canada allotted $75 million dollars over five years for the Internationally Trained Workers Initiative, which is aimed at integrating internationally educated Canadians and immigrants, including health professionals, into the Canadian workforce. Another $68 million over six years was allotted to facilitate the assessment and recognition of foreign credentials.[26]

Provincial Example

The HealthForceOntario Strategy provides a single point of access for internationally educated health professionals. The goal is to develop Ontario's workforce by setting up a one-stop centre for internationally educated health professionals to obtain the information they need to work in Ontario.[27]

Where Are Canada's Internationally Educated Health Care Professionals From?

IEHPs working in Canada come from a range of countries. The top five countries of graduation for internationally educated physicians are the United Kingdom, South Africa, India, Ireland and Egypt. The top five countries of graduation for registered nurses and licensed practical nurses are the Philippines, the U.K., the U.S., India and Hong Kong, whereas the top five countries of graduation for occupational therapists are the U.K., the U.S., India, the Philippines and South Africa.

Table 2.5 Canada's Internationally Educated Health Care Professionals, 2006

Country	2006 Count				
	Licensed Practical Nurses (LPNs)	Registered Nurses (RNs)	Physicians	Occupational Therapists (OTs)	Total
Philippines	177	6,102	224	45	6,548
United Kingdom	424	3,556	2,122	108	6,210
India	39	1,104	1,334	78	2,555
South Africa	10	211	1,939	28	2,188
United States	146	1,273	465	103	1,987
Ireland	*	132	1,092	19	**
Hong Kong	72	936	202	25	1,235
Poland	34	670	410	0	1,114
France	0	398	428	*	**
Egypt	0	18	563	0	581
Australia	9	363	176	6	554
Jamaica	24	351	182	0	557
Pakistan	12	131	364	5	512
New Zealand	9	231	100	17	357
Germany	**	197	120	**	331
Other Countries	267	4,163	3,959	82	8,471
Total	**1,232**	**19,836**	**13,680**	**524**	**35,272**

Notes:
* Value suppressed in accordance with CIHI privacy policy; cell value is from 1 to 4.
** Value suppressed to ensure confidentiality; cell value is 5 or greater.
LPNs and OTs: Quebec data were not available and are therefore excluded from this analysis.
OTs: Findings do not include data from Alberta and Nova Scotia, as country of graduation is not collected.

Sources: Regulated Nurses Database, Canadian Institute for Health Information; Scott's Medical Database, Canadian Institute for Health Information; and Occupational Therapists Database, Canadian Institute for Health Information, 2006.

The Changing Environment of Education

As noted earlier, the availability of faculty or preceptors has an impact on training. Changes to requirements for training and evaluation also have an impact on both Canadian graduates and internationally educated health care professionals and thus are a component of planning for HHR supply.

Changes in Education and Training Requirements

All health professions have different entry-to-practice requirements. "Entry-to-practice" refers to the minimum training and education required to become a particular type of health care provider. Over time, these requirements have evolved to reflect the growing body of professional knowledge and technology, greater accountability for practice decision, changes in settings and other factors.

Changes in entry-to-practice requirements are ongoing and constant. Table 2.6 provides an overview for selected health professions that have undergone or are undergoing changes to their entry-to-practice requirements.

Table 2.6

Changes in Education and Training Requirements, by Profession

Profession	Training Requirements
Physiotherapists	In June 2001, discussions led by the Canadian Physiotherapy Association produced a vision statement: by 2010, all Canadian physiotherapy programs will offer master's entry-level credentials. Currently, a bachelor's degree is the entry-to-practice requirement.[28]
Occupational Therapists	In 2002, the Canadian Association of Occupational Therapists, in a position statement, announced that, "Effective 2008, the association will only grant academic accreditation to those occupational therapy educational programs that lead to a professional master's degree in occupational therapy as the entry credential."[29, 30]
Pharmacists	Currently, a degree in pharmacy and a practical training component are required to practise as a pharmacist. In January 2007, a new component called "Collaboration and Teamwork" was added to the National Association of Pharmacy Regulatory Authorities' Professional Competencies for Canadian Pharmacists at Entry to Practice.[31]
Audiologists	Currently, the Canadian Association of Speech-Language Pathologists and Audiologists recognizes a master's degree as a minimum entry-to-practice requirement. Based on a 2003 survey of Canadian audiologists, discussion began on moving entry-to-practice to a clinical doctorate in audiology.[32]
Licensed Practical Nurses	In 2002, the College of Nurses of Ontario (CNO) council passed a regulation to change entry-to-practice requirements from certificate- to diploma-level education. Diplomas in practical nursing were to be obtained from a CNO-approved program. The change took place in January 2005.[33]
Registered Nurses	Prior to the implementation of the degree requirement, the avenue into practice included a two- or three-year community college diploma. As shown in Table 2.7, each province is at a different stage of the transition from diploma entry level to baccalaureate entry level. The Atlantic provinces were the first to complete the transition in 1998; the Alberta Association of Registered Nurses target date for transition completion is December 2009.[34]

Changes in Requirements for Registered Nurses

The table below shows the different stages of the transition from diploma entry level to baccalaureate entry level for registered nurses.

Table 2.7

The Transition From Diploma to Baccalaureate Entry-to-Practice Requirements for Registered Nurses

Province/Territory	Target	Status
Atlantic provinces	1998	Completed
Saskatchewan	2000	Completed
Ontario	2005	Completed
British Columbia	2005	Completed
Manitoba	2005	In progress: a few diploma programs remain in Manitoba
Alberta	2009	In progress: Alberta converted to degree programs with a diploma exit option for some students and has proposed that the transition to baccalaureate be complete by the end of December 2009
Northwest Territories and Nunavut	2010	In progress: The Registered Nurses Association of the Nortwest Territories and Nunavut (RNANT/NU) will complete the transition to baccalaureate as entry to practice by the year 2010
Quebec		In progress: Quebec continues to provide diploma programs while supporting the development of baccalaureate partnerships between Collège d'enseignement général et professionnel (CEGEP) and universities
Yukon Territory		The Yukon has no entry-level educational programs

Source: Canadian Nurses Association, 2007.

Changes to Scope of Practice and Competencies

In the field of HHR, definitions of "scopes of practice" and "working to full competencies" are often greatly debated. There is an important distinction between the concept of changing the scope of practice for a health profession versus the concept of practising to full competency for a health profession. "The scope of practice for a profession refers to the range of activities that a qualified practitioner may practice. It establishes the boundaries of a profession in relation to other professions where similar activities may be performed. A scope of practice may be established through legislation or through internal regulations adopted by a regulatory body."[35] Working to full competency is ensuring that all existing areas of tasks and duties of a health professional are explored and practised. Both concepts have been suggested in the context of discussions that explore improving access to care, efficiency of care, recruitment and retention, intercollaborative practice and team-care models, to name just a few.

There is considerable dialogue and activity in this area. For example, the scope of practice for nurse practitioners is expanding in certain provinces and territories. Nurse practitioners are able to diagnose and manage diseases, disorders and conditions and to communicate the diagnosis to the patient; order diagnostic and screening tests and interpret results; prescribe certain medications; and perform other procedures as allowed under their respective provincial/territorial legislation.[36]

In Quebec, registered nurses are seeing an expansion of their scope of practice. The Quebec Order of Nurses and the Federation of General Practitioners announced that specialized RNs will be able to carry out follow-up for patients with chronic diseases, including ordering diagnostic tests and adjusting medications.[37]

The Alberta College of Pharmacists is a provincial regulatory body in the process of evolving the scope of practice for clinical pharmacists to include prescribing. Alberta awaits the passing of regulations which details the prescribing practices of pharmacists for Schedule 1 drugs and blood products. This legislation authorizes clinical pharmacists to adapt an existing prescription or provide a drug for a known patient who is unable to see his or her physician immediately.[38] Prior to this change in practice, all clinical pharmacists are expected to complete an orientation session or online exam.[39]

From Training to Practice—What Happens Next?

This chapter's discussion on education, training and licensure of the health care providers provided insight into the educational programs that are available to individuals entering health professions and to additional elements of the training process. Elements presented included the accreditation process, availability of faculty and programs, attrition, clinical placements and preceptors.

The education route for a student to become a health care professional and then to provide service was then reviewed; from regulation to licensing procedures, becoming an internationally educated health professional, credential assessment and recognition. Finally, some of the proposed changes for entry to practice for selected professions were highlighted.

But once regulated to practice, what do we know about these health care providers? Where are they working? Chapter 3 will provide information about demographics and the distribution of Canada's health care providers.

What We Know

- The number of students enrolled in and graduating from many health professional programs within Canada.
- The ratio of medical faculty to medical students in Canada.
- The number of Canadian and foreign students in health-related and non health-related university programs.
- The regulatory environment for a variety of health professions in each province and territory in Canada.

What We Don't Know

- How changes to entry-to-practice educational requirements will influence the supply of HHR and the quality of care delivered.
- The number of internationally trained health care workers who are not working as health care professionals in Canada.
- The rate of attrition from health education programs in Canada.
- The proportion of graduates from health programs who pursue a career in health.
- The proportion of international students who apply for permanent resident status and work in Canada in their field of study.

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Chapter 3

Health Care Providers—A Demographic Profile

Health Care Providers—A Demographic Profile

Supply of Health Care Providers

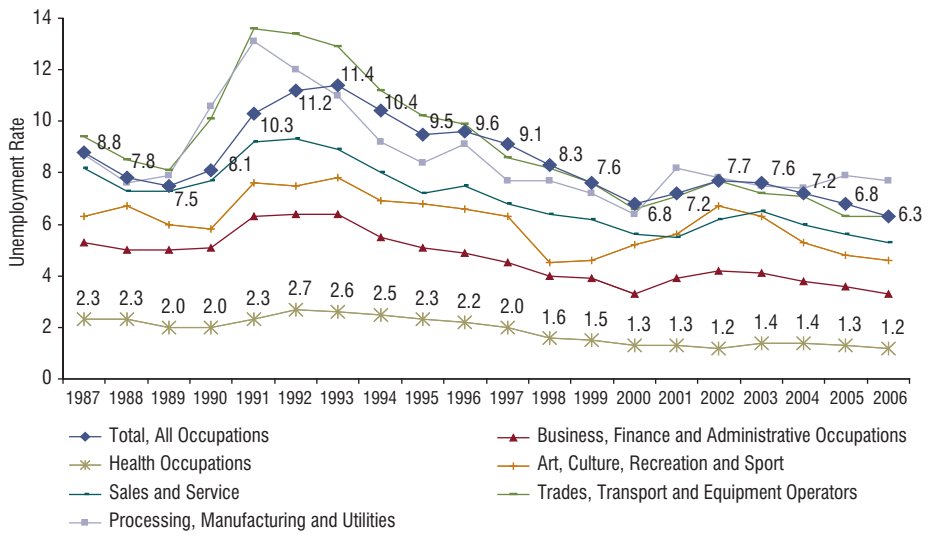
As outlined in Chapters 1 and 2, many factors influence the supply of health care providers, such as education, demographics and population health needs. In this chapter we provide a demographic profile for a range of health care providers in Canada. Understanding the data on the distribution of health care providers across Canada, as well as their gender, age and ethnicity, helps to quantify and measure the HHR supply.

Health Industry and Unemployment

Unemployment rates for most occupational categories have been variable over the past two decades, stabilizing after 2000. Despite this variability, health occupations consistently have the lowest unemployment rate among all occupations in Canada, an indication of the steady demand for health care professionals.

In 2006, the unemployment rate for all occupations in Canada was at an all-time low of 6.3%, the lowest rate in three decades. The unemployment rate for health occupations in 2006 was 1.2%.[1]

Figure 3.1 Unemployment Rate Across Occupations in Canada, 1987 to 2006

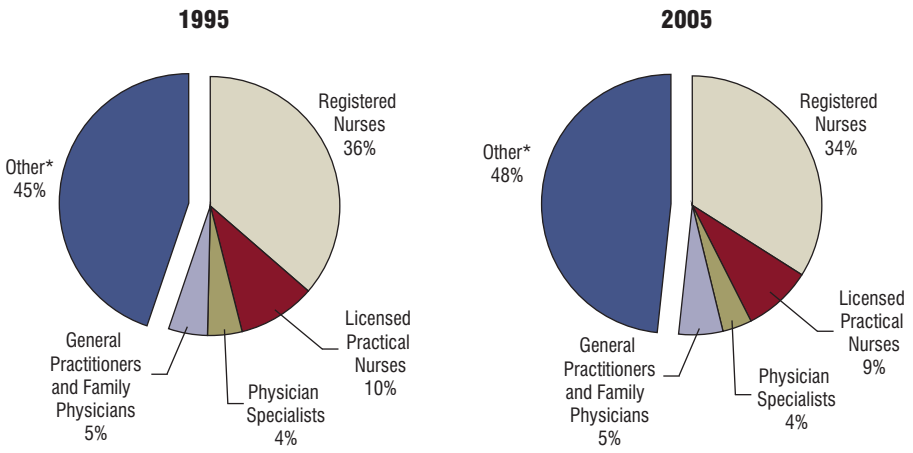


Source: Labour Force Survey, Statistics Canada, 2006.

Changes in the Distribution of Health Care Providers in Canada

The make-up of health care providers in major categories of health care employment has stayed relatively stable over the past decade. The following breakdown provides a synopsis of the data: the percentages provide a sense of how many members of the paid, regulated and unregulated health professions comprise the health workforce; the broad groupings help us to see how those numbers have changed over time. In general, the nursing and physician professions together continue to make up about half of the paid health workforce.

Figure 3.2 Distribution of Health Personnel in Canada, 1995 and 2005



Note:

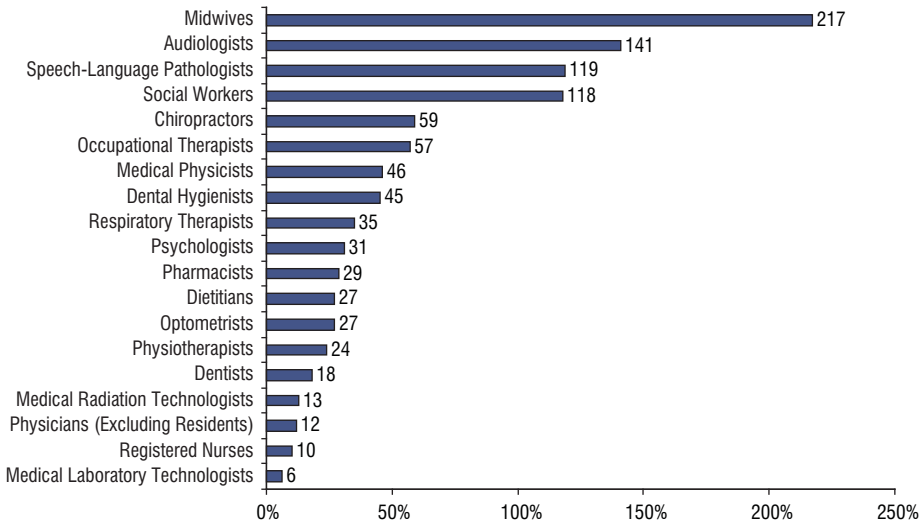
* Other includes dentists, optometrists, chiropractors, other professional occupations, pharmacists, dietitians/nutritionists, audiologists, physiotherapists, occupational therapists, medical laboratory technologists, medical laboratory technicians, respiratory therapists, medical radiation technologists, medical sonographers, cardiology technologists, electroencephalographic and other diagnostic technologists, denturists, dental hygienists, dental technicians, opticians, midwives, ambulance attendants, dental assistants, health records administrator, psychologists and social workers.

Source: Labour Force Survey, Statistics Canada, 2005.

Over the period from 1996 to 2005, the number of health care providers in Canada increased. However, the range of growth between health professions is quite varied. Numbers of medical laboratory technologists, for example, grew by 6% between 1996 and 2005, whereas midwives experienced a growth of 217% in members of their profession.

Figure 3.3

Percentage Increase in Selected Health Occupations, 1996 to 2005



Notes:

1. Due to the variation in regulatory requirements, interprofessional comparisons should be interpreted with caution.
2. Audiologists, medical laboratory technologists, medical radiation technologists, midwives, respiratory therapists and speech-language pathologists are not regulated in all provinces. Data include some provincial data in which registration with a regulatory authority may not be a condition of practice.

Source: Health Personnel Database, Canadian Institute for Health Information.

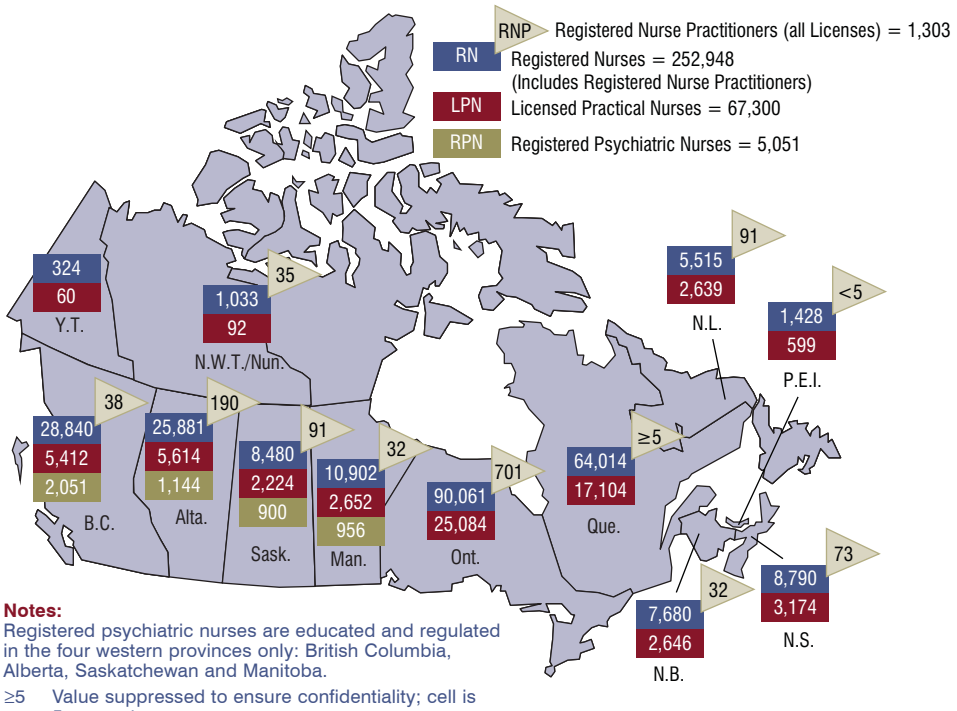
Registered Nurse Practitioners: Emerging Roles and Responsibilities

As the health care system continues to evolve, new roles and responsibilities continue to emerge for various health professions. Nurse practitioners (NPs) are one such example. A registered nurse practitioner is a registered nurse with additional education in health assessment, diagnosis and management of illness and injuries allowing her or him an expanded role in health care delivery. The NP's scope of practice is one that focuses on providing services to manage the health needs of individuals of all ages, families, groups and communities. NPs can provide care in diverse health care settings, from community clinics and health care centres, to hospitals, medical practices, nursing homes and home care, and can autonomously perform the following:

- Diagnose selected diseases, disorders or conditions;
- Order and interpret diagnostic and screening tests; and
- Prescribe certain medications.[2]

Figure 3.4

Nurses Employed in Nursing, Canada, 2006



Notes:
Registered psychiatric nurses are educated and regulated in the four western provinces only: British Columbia, Alberta, Saskatchewan and Manitoba.

≥5 Value suppressed to ensure confidentiality; cell is 5 or greater.

<5 Value suppressed in accordance with CIHI privacy policy; cell value is from 1 to 4.

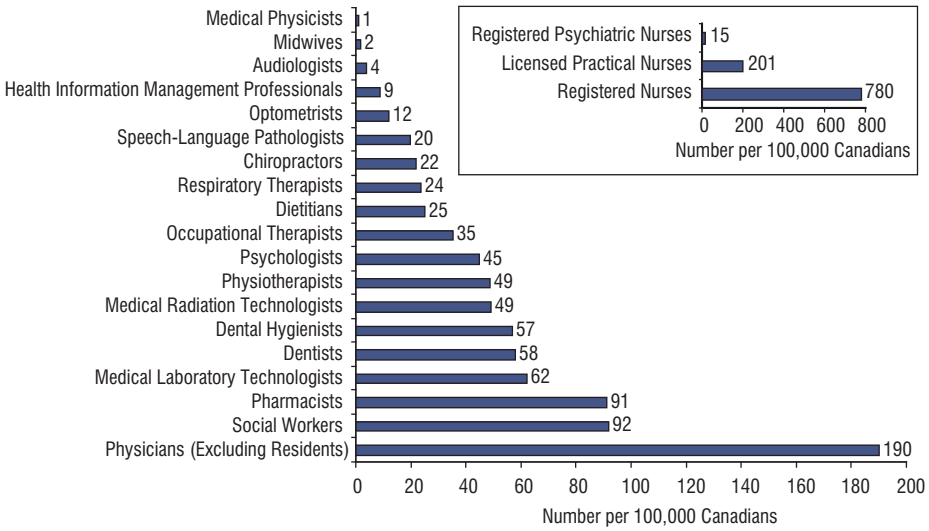
Source: Canadian Regulated Nurses Database, Canadian Institute for Health Information, 2007.

As of 2006, nurse practitioners have been licensed across Canada, with the exception of the Yukon.[3] Their growth has been steady, with an overall increase of 79.7% between 2003 and 2006 (from 725 in 2003 to 878 in 2004, 1,026 in 2005 and 1,303 in 2006).[4] Over the same time period, the number of jurisdictions licensing nurse practitioners increased from 7 to 12. The figure above is a portrait of the proportion of nurses in Canada, including the number of registered NPs in 2006.

Health Care Provider-to-Population Ratios

Health care provider-to-population ratios give a sense of the relative number of a particular type of health professional within a certain geographic area. This is done by standardizing head counts with the population. Using these ratios allows for a more comparable view of the supply of health professionals at the local, regional, provincial/territorial, national or international level.[i] The chart below shows the number of selected health professionals per 100,000 Canadians in 2005.

Figure 3.5 Number of Health Professionals per 100,000 Canadians, 2005



Notes:
"Optometrists" refers to those with an active registration.

Although the proportion per population of registered psychiatric nurses (RPNs) is given for Canada, RPNs are educated and regulated in the four western provinces only (B.C., Alberta, Saskatchewan and Manitoba); thus the relative number of RPNs may be higher than that suggested at the national level.

Source: Health Personnel Database, Canadian Institute for Health Information.

i. Health care provider-to-population ratios represent supply-based planning only and do not include the data required for utilization-based planning (that is, the population figures reflect only gross numbers and not the utilization patterns, health status, age/gender distribution or regional population density of those studied; the number of professionals does not reflect the scope of practice, mix of support personnel or the regional distribution of the professionals).

So Where Are They?
A Look at Health Provider Distribution Using Census Data

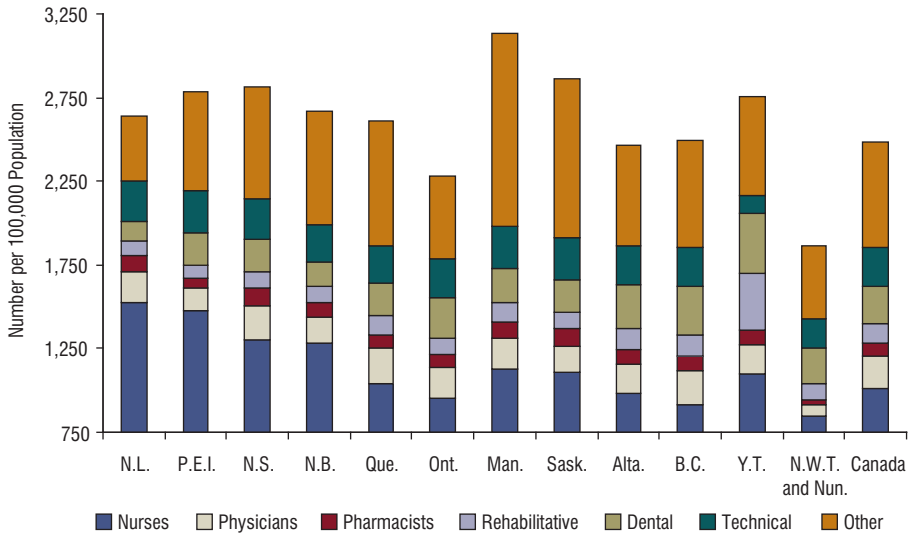
In general, the distribution of the health workforce follows a pattern that is similar to the overall population in Canada. High-level views of the country emphasize that health care providers are most present in the highly populated areas of Canada, typically in large urban centres. Unsurprisingly, where there are more people, there are more health care providers.

A closer look at the provincial/territorial level, however, presents a slightly different story. In some instances, it would appear that the higher the population of the province, the fewer health care providers per 100,000 population. One possible reason for this is geographic accessibility to health care providers. Some provinces have a larger proportion of the population dispersed into rural areas. In these cases, the number of providers per population may increase to allow access to the population within reasonable distances.

Provinces may also differ on their provider-to-population ratios because of different health service delivery models. For example, different regions across the country utilize their own unique mix of health service providers. The following figure presents the provider-to-population ratio and the breakdown of the different mix of health provider groups in each province and territory.

Figure 3.6

Health Care Provider Types per 100,000 Population, by Province and Territory, Canada, 2001



Notes:
The workforce categories include the following occupations: **Nurses:** Licensed practical nurses, registered nurses (including head nurses and supervisors) and registered psychiatric nurses; **Physicians:** General practitioners/family physicians and specialist physicians; **Pharmacists:** Pharmacists; **Rehabilitative:** Audiologists and speech-language pathologists, occupational therapists and physiotherapists; **Dental:** Dentists, dental assistants, dental hygienists and dental therapists, denturists, dental technologists and technicians and laboratory bench workers; **Technical:** Medical laboratory technicians, medical laboratory technologists and pathologists' assistants, medical radiation technologists, medical sonographers, respiratory therapists, clinical perfusionists and cardiopulmonary technologists, cardiology technologists and electroencephalographic and other diagnostic technologists; **Other:** Chiropractors, nurse aides, orderlies and patient service associates, optometrists, opticians, dieticians and nutritionists and ambulance attendants and other paramedical occupations.

Nunavut and Northwest Territories are combined in the Census data.

Scale does not start at zero.

Source: Census of the Population, 2001, Statistics Canada; Scott's Medical Database, Canadian Institute for Health Information.

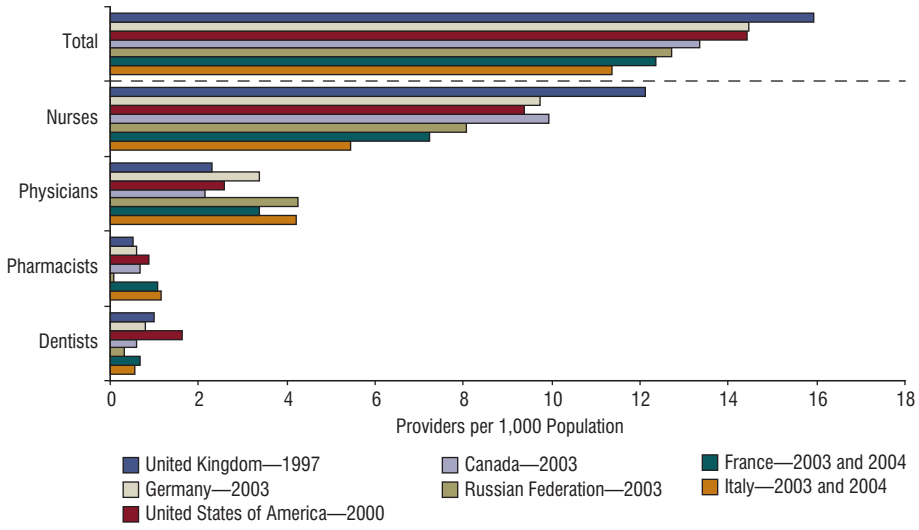
International Supply of Health Occupations

The mix of health care providers also differs by country. One way of studying the mix of health care providers is to look at what is going on internationally.

When compared with western G8 countries, (excluding Japan) in 2006, Canada had a nursing supply that is second only to that of the United Kingdom for nurses per 1,000 population. However, Canada placed last for its supply of physicians. In pharmacist and dentist occupations across the G8 (excluding Japan), data illustrate that the population ratios in Canada approached the average of all the countries combined. Although some of the variation may be explained by different scopes of practice, models of care and health care provider definitions in each country, the figure underscores the diversity of approaches for combining health care professionals to deliver health care to the population.

Figure 3.7

Distribution of Health Care Providers Within G8 Countries (Excluding Japan), per 1,000 Population, 1997 to 2004



Note: Japan not included within the G8 countries; data not available.

Source: World Health Statistics 2007 and *The World Health Report* 2006 Edition, World Health Organization.

General Characteristics of Health Care Providers

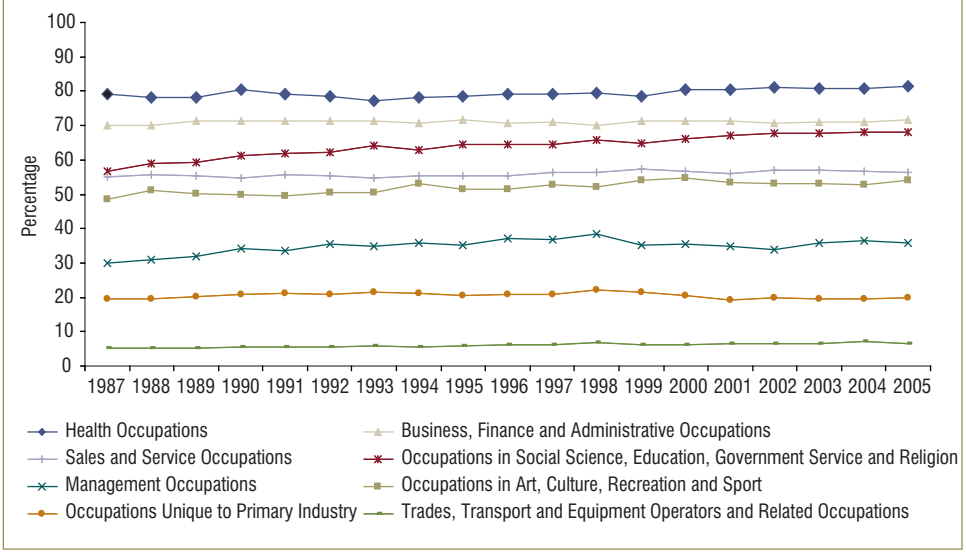
The demographic characteristics of the health care workforce are important to study because the information provides critical insights that can be used for HHR planning and management. Changes in the characteristics of the workforce can have impacts on health service delivery.

Sex

In 2005, health occupations ranked fourth out of 10 industry categories in volume of women employed in Canada. Sales and service occupations topped the list with business, finance and administrative occupations a close second.

But in terms of percentage of women employed, the health occupations category was the highest of all, averaging around 80% of the total health workforce being female across the last 20 years.[5]

Figure 3.8 Percentage of Women Employed Across Industries, Canada, 1987 to 2005



Source: Labour Force Survey, Statistics Canada, 2005.

A Closer Look at the Sex Split of Specific Health Occupations

According to census data from Statistics Canada, the occupations with the highest proportion of women included the nursing professions; dental assistants, hygienists and therapists; dietitians and nutritionists; and audiologists and speech-language pathologists. The predominately male occupations included the physician groups, optometrists, chiropractors, dentists and denturists and ambulance attendants. More detail is provided in Table 3.1.

Table 3.1

Percent Female of Health Occupations, 2001

Health-Related Occupations	Female
Total—All Occupations	47%
Total—Health-Related Occupations	77%
Dental Assistants	98%
Dental Hygienists and Dental Therapists	98%
Registered Nurses/Registered Psychiatric Nurses	94%
Dietitians and Nutritionists	93%
Head Nurses and Supervisors	93%
Licensed Practical Nurses	92%
Audiologists and Speech-Language Pathologists	92%
Occupational Therapists	90%
Cardiology Technologists	90%
Medical Sonographers	86%
Nurse Aides and Orderlies	86%
Other Aides and Assistants in Support of Health Services	84%
Medical Laboratory Technicians	82%
Records and File Clerks	82%
Other Technical Occupations in Therapy and Assessment	81%
Medical Laboratory Technologists and Pathologists' Assistants	81%
Medical Radiation Technologists	80%
Other Professional Occupations in Therapy and Assessment	80%
Physiotherapists	79%
Social Workers	79%
Electroencephalographic and Other Diagnostic Technologists	76%
Midwives and Practitioners of Natural Healing	75%
Psychologists	67%
Respiratory Therapists and Clinical Perfusionists	65%
Other Professional Occupations in Health Diagnosing and Treating	61%
Other Medical Technologists and Technicians (Except Dental Health)	59%
Opticians	58%
Pharmacists	57%
Senior Managers—Health, Education, Social and Community Services	51%
Other Administrative Services Managers	49%
Dental Technicians and Laboratory Bench Workers	46%
Optometrists	44%
Physicians	30%*
Chiropractors	28%
Dentists	27%
Ambulance Attendants and Other Paramedical Occupations	26%
Denturists	22%

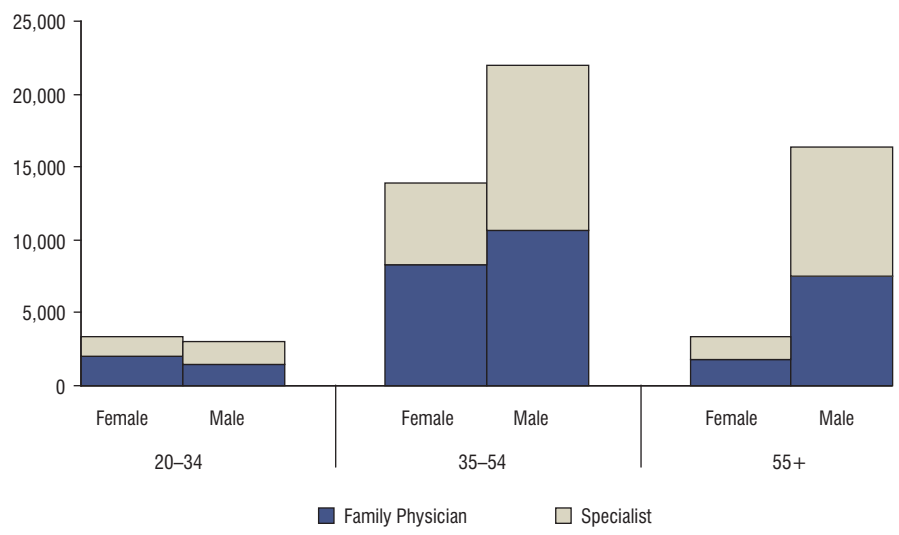
Note: * According to data from R. J. Pitblado and Canadian Institute for Health Information, *Summary Report: Distribution and Internal Migration of Canada's Health Care Workforce,* CIHI, 2007.

Source: Census of the Population, 2001, Statistics Canada.

Medical School Cohorts

Not only are the vast majority of health occupations comprised of more female health care providers than male, but even those professions that are predominately male are shifting in their gender breakdown to move towards a more even distribution. For example, over the past five years, there has been a shift in the gender distribution of physicians: female physicians represented 33.3% of the total physician workforce in 2006, compared to 30.2% in 2001. Projections have indicated that by the year 2015 women will make up 40.0% of the physician workforce.[6]

Figure 3.9 Number of Physicians, by Age Group and Sex, 2006

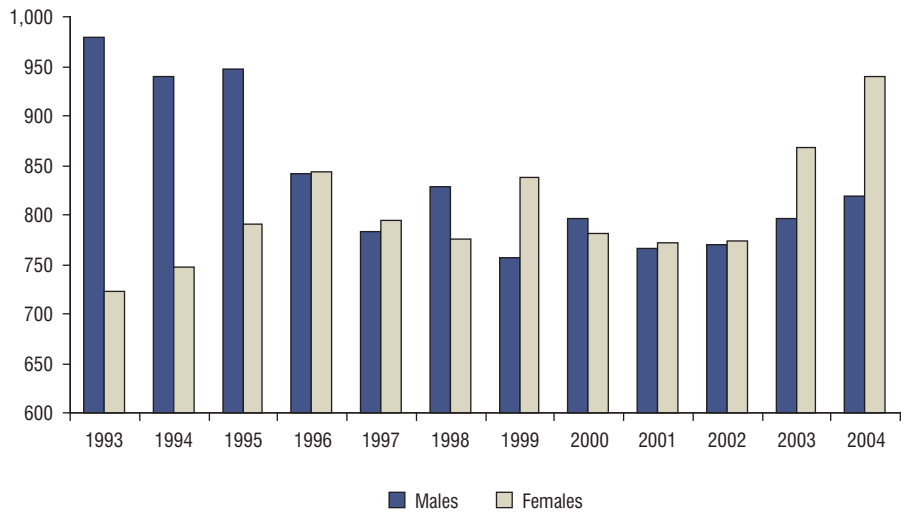


Source: Scott's Medical Database, Canadian Institute for Health Information.

If we take a closer look at younger physicians in the figure above, the proportion of physicians in the 20-to-34 age group is fairly evenly split between women and men. In fact, for this age group, the number of female physicians slightly exceeds the number of their male counterparts in 2006.

Data from CIHI's Health Personnel Database show the gender split in medical school graduates. In 2004, female medical students represented 53% of graduating medical students, outnumbering male students by 121.

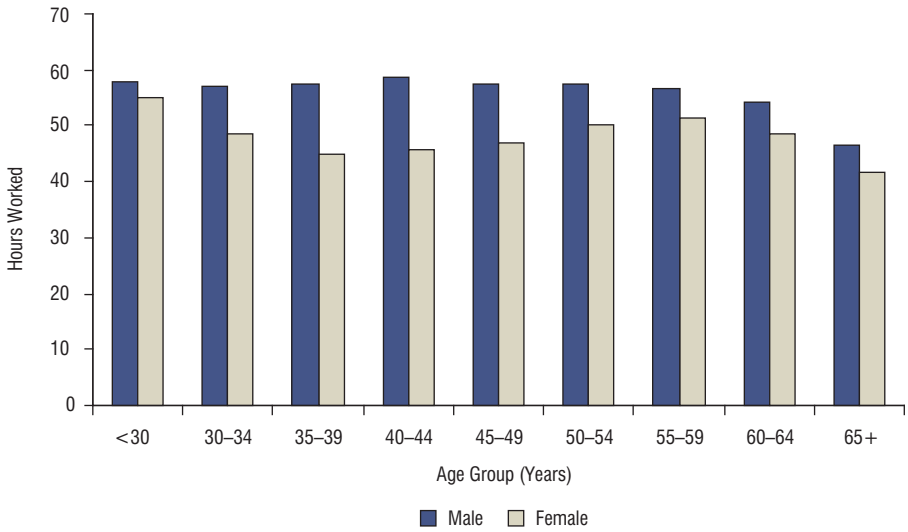
Figure 3.10 Count of Graduating Physicians, by Sex, 1993 to 2004



Note: Scale does not start at zero.

Source: Health Personnel Database, Canadian Institute for Health Information.

Figure 3.11 Physicians' Average Weekly Hours Worked, by Sex and Age Group, 2000



Source: The 2001 Janus Survey, College of Family Physicians of Canada.

Did You Know?

A recent report suggests that the change in gender composition of the physician workforce has had—and is likely to continue to have—an impact on the number of work hours and work practices.[7] Female physicians worked 21% fewer hours than male physicians.[8] The difference in work hours between men and women was lowest at age 25 to 29 and was the most noticeable during the ages of 35 to 44. Male physicians reached their peak work hours at age 40 to 44 and females slightly later, at 55 to 59.[7]

Canada's Aging Population and Aging Health Workforce

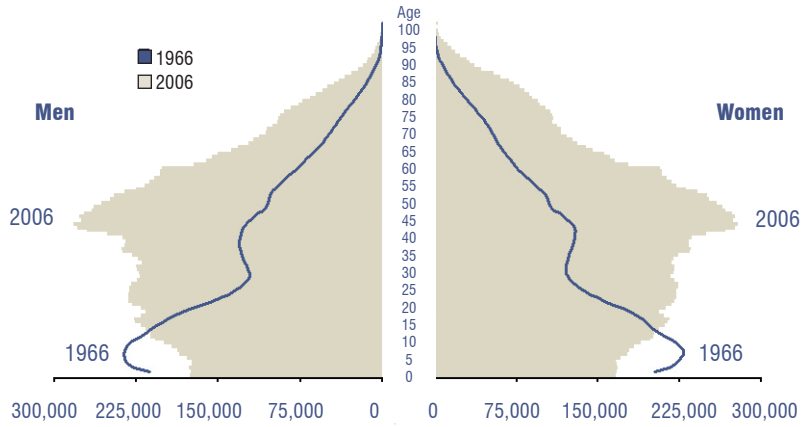
Along with that of other G8 countries, Canada's population is aging. In 2006, the median age of the population reached a record high of 39.5 years, compared to 37.6 in 2001. According to population projections by Statistics Canada, seniors (individuals aged 65 and over) could account for more than one out of every four individuals in the population by 2056.[9]

Cohort Effect

Gender differences may be associated with different work patterns for HHR. One must also remember that some differences may also be attributed to the cohort effect. The cohort effect is the variation in attributes of a group arising from factors to which the group is exposed as environment and society change.

In the case of gender analysis, the differences in hours worked must be considered for the particular generations of women and men under study.

Figure 3.12 Population of Canada, 1966 and 2006, by Age and Sex



Sources: Adapted from *The Daily*, October 26, 2006, Census of the Population 2006 and Historical Census of Population, Statistics Canada.

Each generation, and its constituent age groups, will have different expectations for work environment, hours worked, retirement and health care needs. For example, the priorities of baby boomers, in established careers, may differ greatly from those of members of generation Y who are just entering the workforce.[ii] A challenge for HHR planning is to measure how those age and generational differences impact both supply—in the provision of health care services—and demand—the utilization of health care services.

ii. Baby boomers are defined as people born between approximately 1946 and 1964, during a period of increased birth rates following the end of World War II. As the baby boomers became old enough to have their own children (in the 80s and 90s), another mini population spike was created, often referred to as "Generation Y." Generation X includes people born between the two population spikes in the 60s and 70s.

Did You Know?

In 2006, the oldest of the baby boomer generation turned 60 years old. In 2006, seniors accounted for approximately 13.2% of Canada's population.[10] This is almost double the proportion at the outset of the baby boom, 7.2% in 1946.[10]

Average Age of People in the Health Occupations

The average age of people in health occupations in Canada was 41.9 in 2005. That is 2.3 years older than the average age of the general Canadian workforce. However, specific health occupations have workforces of varying average ages. Examining the average age of a workforce can be useful information for planning. The average ages of people in the 33 health occupations listed in Table 3.2 range from 32.6 years to 46.4 years.

The "younger age" occupations include many of the rehabilitation professions (such as occupational therapists, audiologists, physiotherapists and respiratory therapists), dental hygienists and technicians, ambulance attendants, opticians and health records administrators/technicians. Some of the "older age" occupations include the physician groups, optometrists, dentists and denturists, chiropractors, psychologists, nursing professions, midwives and managers in health care.

Table 3.2

Average Age of People in Health Occupations and All Occupations Between 1995 and 2005

	1995	2005	Change (Years)
Electroencephalographic and Other Diagnostic Technologists		32.6	
Dental Assistants	32.5	35.8	3.3
Occupational Therapists	34.7	37.0	2.3
Dental Hygienists	33.7	37.6	3.9
Ambulance Attendants	34.2	38.0	3.8
Opticians	35.8	38.1	2.3
Audiologists	38.0	38.2	0.2
Health Records Administrators/Technicians	39.3	38.4	-0.9
Physiotherapists	37.5	38.9	1.4
Respiratory Therapists	33.6	39.0	5.4
Dental Technicians	37.1	39.5	2.4
All Occupations	37.7	39.6	1.9
Medical Radiation Technologists	37.2	40.6	3.4
Medical Laboratory Technicians	39.1	40.9	1.8
Medical Laboratory Technologists	39.5	41.1	1.6
Pharmacists	38.7	41.4	2.7
Registered Nursing Assistants	40.5	41.4	0.9
Social Workers	39.6	41.6	2.0
Dietitians/Nutritionists	38.7	41.7	3.0
Nurse Aides/Orderlies	39.7	41.7	2.0
Medical Sonographers	34.2	41.8	7.6
Health Occupations	39.6	41.9	2.3
Optometrists	36.9	42.4	5.5
Registered Nurses	39.6	42.9	3.3
Head Nurses	41.9	43.5	1.6
Dentists	42.2	44.2	2.0
Chiropractors	40.3	44.6	4.3
Cardiology Technologists	38.6	44.7	6.1
Managers in Health Care	43.5	45.1	1.6
Psychologists	43.1	45.7	2.6
General Practitioners	42.5	45.8	3.3
Denturists	48.3	45.9	-2.4
Midwives	45.2	46.0	0.8
Specialist Physicians	42.7	46.4	3.7
Other Professional Occupations	45.8	50.4	4.6

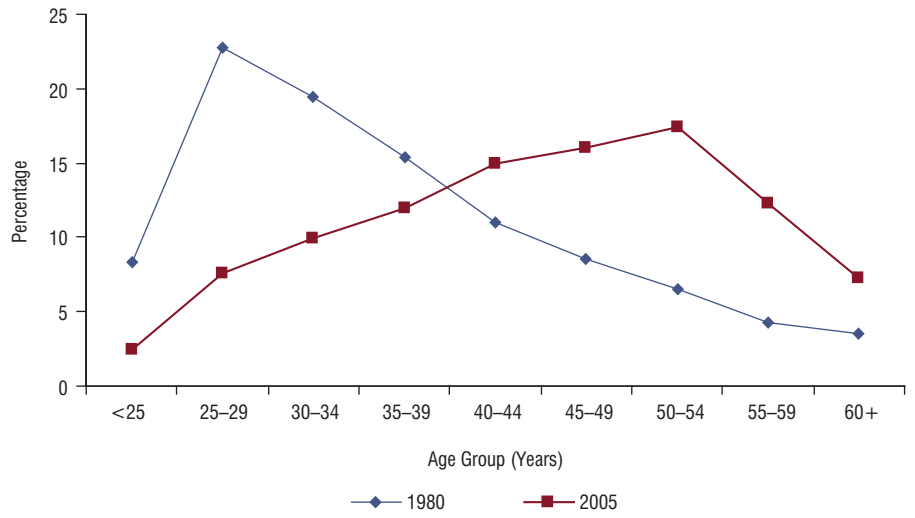
Source: Labour Force Survey, Statistics Canada, 2005.

A Closer Look at the Age of Registered Nurses

Canada's nursing workforce is aging. For the most part, there has been an upward trend in the numbers of RNs within the age groups of 35 and higher since 1985. In contrast, the proportion of nurses in the 20-to-34 age range has steadily declined over the past 20 years.

Figure 3.13

Age Distribution of Registered Nurses in Canada, 1980 and 2005



Source: Regulated Nurses Database,Canadian Institute for Health Information.

The impact of aging on the nursing workforce is felt in particular by nurses taking on management roles. Registered nurses in manager or assistant manager positions are, on average, five years older than registered nurses in staff nurse or community health nurse positions.[11]

On average in 2005, nurses in staff nurse or community health nurse positions spent almost all of their time (97%) on direct patient care, while nurses in management positions spent 58% of their time on patient direct care[iii] and 37% of their time on administrative tasks.[11]

Did You Know?

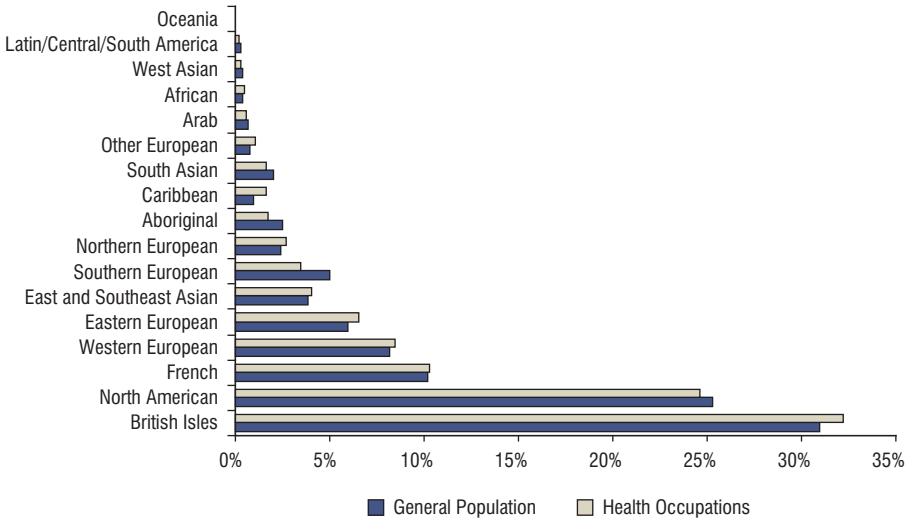
An example of one strategy for retaining nurses is the Late Career Initiative,[12] launched by the Ministry of Health and Long-Term Care in Ontario, to encourage nurses over 55 to stay in the profession. Under this program, nurses over 55 focus more on teaching and mentoring, rather than on more physical front-line nursing. Staff and patients benefit from the knowledge and experience of nurses who might otherwise have retired.

iii. Direct care refers to medicine/surgery, psychiatry/mental health, pediatrics, maternity/newborn, geriatrics/long-term care, critical care, community health, ambulatory care, home care, occupational health, operating room/recovery room, emergency care, several clinical areas, oncology, rehabilitation, palliative care, developmental habilitation/disabilities, addiction services clinical services, crisis/emergency services, acute services, forensic services and other.

Ethnic Origin

Along with differences due to age and sex, cultural differences are an area of investigation for HHR planning. The population of Canada comes from a diverse background of ethnic groups. As expected from the general population, people in health occupations come from a similar variety of backgrounds (shown in the following figure). The diversity of both the population and of health care providers enables the provision of culturally sensitive care, where possible.

Figure 3.14 Proportion of Health Occupations and of the General Population, by Ethnic Group, Canada, 2001



Notes:
Respondents could enter more than one category/country.

Census categories for ethnic origin:

British Isles: English, Scottish, Irish, Welsh, British

North American: Canadian, American (USA), Quebecois, Newfoundlander

French: French, Acadian

Western European: German, Dutch (Netherlands), Austrian, Belgian, Australian, Flemish

Eastern European: Ukrainian, Polish, Russian, Hungarian (Magyar), Romanian, Czech, Slovak, Czechoslovakian, Lithuanian, Latvian, Estonian

Southern European: Italian, Portuguese, Greek, Spanish, Croatian, Yugoslav, Serbian, Macedonian, Maltese, Slovenian, Bulgarian, Bosnian, Albanian

East and Southeast Asian: Chinese, Filipino, Vietnamese, Korean, Japanese, Taiwanese, Cambodian, Laotian

Aboriginal: North American Indian, Métis, Inuit

Northern European: Norwegian, Swedish, Danish, Finnish, Swiss, Icelandic, Scandinavian

South Asian: East Indian, Pakistani, Sri Lankan, Punjabi, South Asian, Tamil, Bangladeshi

Caribbean: Jamaican, Haitian, West Indian, Guyanese, Trinidadian/Tobagonian, Barbadian, Caribbean

Other European: Jewish, European

Arab: Lebanese, Arab, Egyptian, Syrian, Moroccan, Iraqi, Palestinian, Algerian

African: African, Black, Somali, South African, Ghanaian, Ethiopian

West Asian: Iranian, Armenian, Turk, Fagan

Latin/Central/South America: Latin/Central/South American, Chilean, Mexican, Salvadorian, Peruvian, Colombian

Oceania: Fijian

Source: Census of the Population, 2001, Statistics Canada.

Did You Know?

In a recent survey,[11, iv] the majority of nurses identified that they could carry on a conversation in English (85.0%) and 34.0% could converse in French.

- Nurses also indicated notable conversational ability in German (1.6%), Spanish (1.4%) and Tagalog, one of the major languages spoken in the Philippines (1.2%).
- Other languages nurse respondents mentioned (at <1.0%) included Italian, Polish, Chinese, Ukrainian, Portuguese, Punjabi, Arabic, Hungarian, Vietnamese, Cree, Korean, Persian and Greek.

Aboriginal Health Care Providers

According to census data from 2001, over 1.3 million Canadians identify their ethnic origin as Aboriginal: almost half of these identify themselves as North American Indian (46.0%), almost one-quarter Métis (22.0%) and 3.0% Inuit.[13, 14]

Table 3.3 Aboriginal and Non-Aboriginal Population in the General and Health Labour Force, 2001

	Total Population Any Age	Total Labour Force Aged 15 and Older	Working in a Health Occupation
Total Population	29,639,035	15,872,070	812,000
Total Non-Aboriginal Population	28,319,145	15,471,635	799,450
Total Aboriginal Population	1,319,890	400,435	12,750
Solely Reponded as:			
North American Indian	46%	57%	50%
Métis	22%	36%	43%
Inuit	3%	4%	3%
Multiple Aboriginal Response	2%	1%	1%
Other Aboriginal	26%	3%	3%

Source: Census of the Population, 2001, Statistics Canada.

When we break down the information further, we can look at health professions. Of the 400,435 Aboriginal persons aged 15 and older in the labour force in 2001, 12,750 (3.0%) worked in a health occupation.[14]

iv. The National Survey of the Work and Health of Nurses was undertaken by CIHI in partnership with Statistics Caanda and Health Canada. Statistics Canada provided CIHI with a share file for use in the development of analytical products. The share file contains records for only those nurses who agreed to share their information with CIHI and Health Canada; the share rate for the survey was 98.2%. As a result, the analysis generated by CIHI using the share file may differ from the findings presented in the report entitled *Findings from the 2005 National Survey of the Work and Health of Nurses*.

Where and How Are Health Care Providers Working?

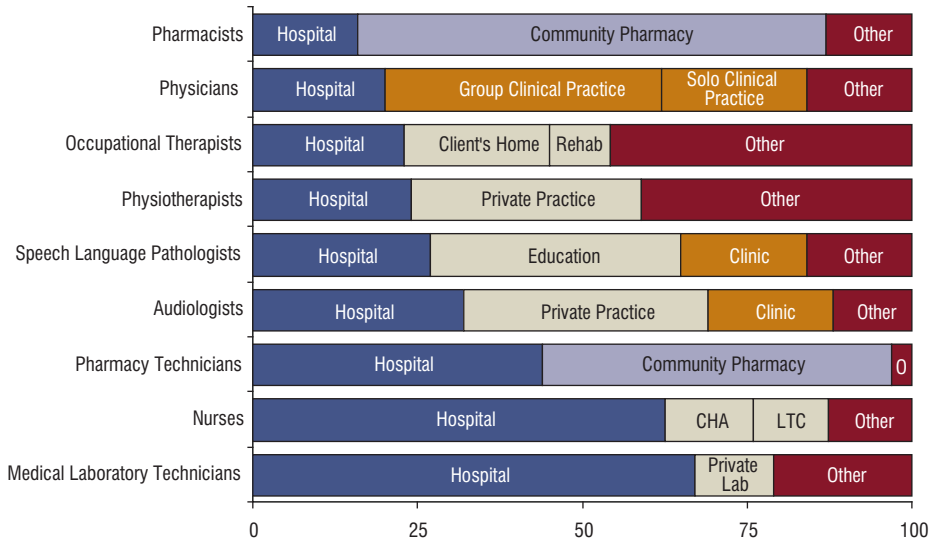
Places of work

Place of work is one of the components that can be used to understand the distribution of the supply of health care providers.

The distribution of work settings for different health care providers depends upon the client population and health needs, the area of practice and the source of funding. The places of work vary significantly across professions, but the hospital setting is a key place of work for all of the professions presented in the above figure.[15, 16, 17, 18, 19, 20, 21, 22]

Figure 3.15

Top Places of Work by Percentage, for Selected Health Occupations, Canada, 2003 to 2005



Notes:

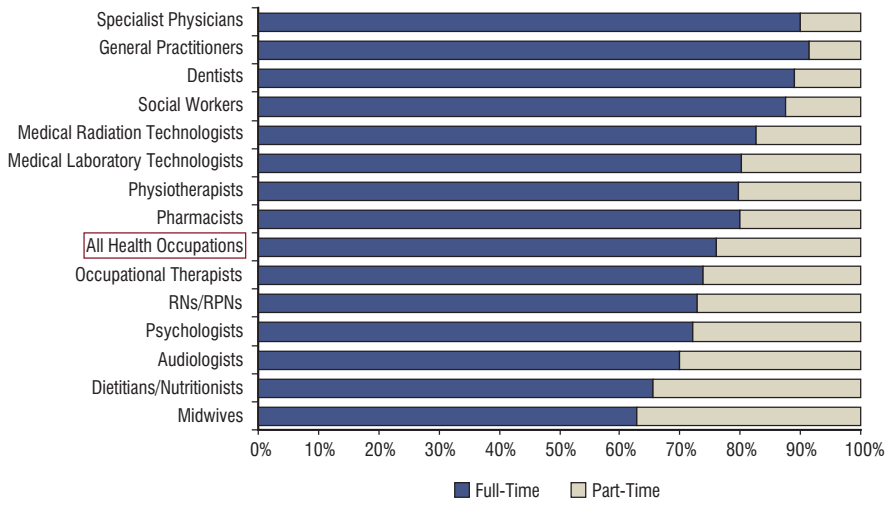
Rehab	Rehabilitation facility.
CHA	Community health agency.
LTC	Long-term care facility.
O	Other

Sources: National Association of Pharmacy Regulatory Authorities, Vision Research for the Canadian Association of Speech-Language Pathologists and Audiologists, Canadian Alliance of Physiotherapy Regulators, Canadian Association of Occupational Therapists, Canadian Society for Medical Laboratory Science and Canadian Institute for Health Information (Regulated Nurses Database and Scott's Medical Database). Data from 2003 to 2005.

Full-Time and Part-Time Work Status

The proportion of the general Canadian workforce working full-time has remained consistent over the past decade. In 2005, 82% of the Canadian labour force worked full-time and 18% worked part-time. In comparison, more members of the health care workforce worked part-time (24%).[23] Part-time work is more common in some occupations than others. Midwives, dieticians and nutritionists, audiologists, psychologists, RNs and occupational therapists all have a higher proportion of their workforce that works part-time when compared with all health occupations. In contrast, physicians (specialists and GPs) and dentists have the smallest proportions of their workforces that work part-time.

Figure 3.16 Full-Time Versus Part-Time Work, by Selected Occupation, 2005



Source: Labour Force Survey, Statistics Canada, 2005.

It is important to note that the variability within the category of part-time can make interpreting this information difficult. How do we define part-time? Those who work 30 hours or less per week are all placed in a "part-time" category within the head-count model. Using part-time/full-time analysis is useful, but can go only so far in assessing the availability of health professionals to provide patient care.

Full-Time Equivalent Methodologies

Head counts are the most readily available information to help estimate the supply of health care providers. Full-time equivalents (FTEs) are used to enhance our interpretation of the supply of health care providers by contributing to our understanding of the output of the health care workforce. Ideally, one FTE reflects the typical workload of one average health care professional.

There are several methods for calculating FTEs, because what determines typical workload can be based on a number of different things, including billings/earnings, hours worked or patients served. Ideally, measures of FTE take into consideration the influence of many factors to enhance the precision of our understanding.[7]

FTE Example—Hours Worked

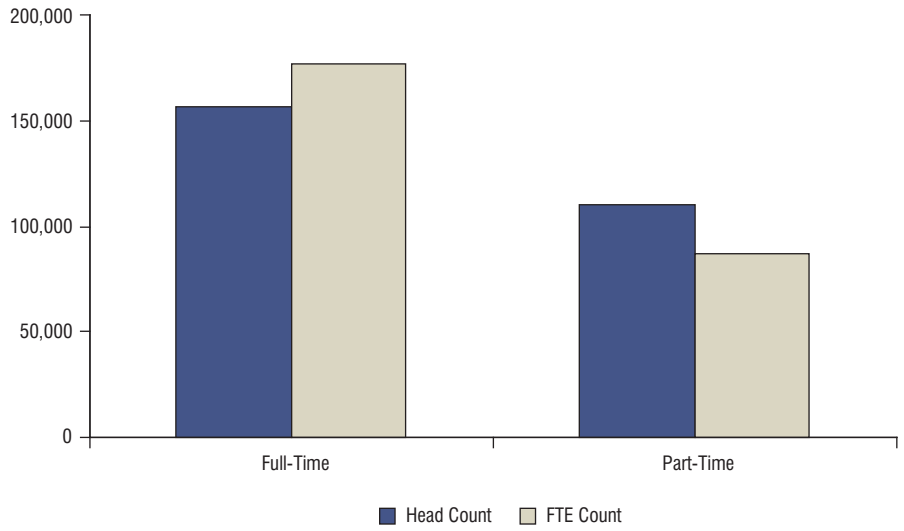
$$FTE = \frac{\text{Earned Hours}}{\text{Normal Earned Hours}}$$

One method of estimating FTE is the ratio of earned hours over "normal" earned hours, where earned hours are hours worked plus benefit.

In 2005, 39% of regulated nurses were designated as having part-time status, with an average work week of 29.2 hours.[11] Yet 16% of part-time nurses worked more than 40 hours per week. If it is assumed that a normal work week is 37.3 hours (based on the Statistics Canada definition), part-time nurses have an average FTE value of 0.78.[11]

In comparison, 57% of full-time nurses work more than 40 hours per week, contributing to an overall average work week of 42.3 hours and an average FTE value of 1.13.[11]

Figure 3.17 **Head Counts and Full-Time Equivalent Estimates for Part-Time and Full-Time Nurses, Canada, 2005**



Source: Statistics Canada, 2005 National Survey of the Work and Health of Nurses (CIHI share file).

Did You Know?

- Physician FTEs can be estimated using hours worked in a methodology developed by the Australian Institute of Health and Welfare.
- Another methodology measures physician output based on fee-for-service (FFS), that is, through clinical billings. This method, developed by Health Canada, is used by the National Physician Database at CIHI.[v] Head counts present a higher count of physicians in Canada than the FTE measure based on fee-for-service billing information.
- The average fee-for-service FTE estimate for physicians in 2004 was 0.80.[vi, 24]

v. This method does not indicate the time spent in the delivery of service, only the quantity of services produced.

vi. This methodology excludes alternative modes of payment, so 0.80 is likely an underestimation of physician FTE in Canada.

Counts and Characteristics—Will HHR Be There for Me?

Information used within the right context is vital to inform HHR planning and management. The complexity of the information required is evident from the topics discussed in this chapter alone: the mix and location of health care providers for maximum impact and the effects of demographic characteristics on hours worked.

But what about the people behind the head counts? Are they healthy? Do they work in healthy workplaces? Chapter 4 will continue the discussion on health care supply with a look at the work environment and how it affects the health and availability of health care providers.

What We Know

- The growth rates and employment rates of many health occupations in Canada.
- The ratio of health care providers per population.
- The demographic characteristics of some health care providers such as age, sex, ethnic origin and, in some cases, location of work.
- Measures of supply, such as full-time and part-time ratios and full-time equivalent for some health professions.

What We Don't Know

- The average retirement age and retirement profile for a variety of different health professions.
- The exit rates from most health professions and reasons for them.
- The percentage of Aboriginal Canadians in specific health professions in Canada.

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Chapter 4

The Health of Health Care Providers

The Health of Health Care Providers

The health and well-being of health care workers is critical for health human resource (HHR) planning and management in Canada. Over the last decade, there has been a growing recognition of the importance of the health of health care workers and healthy work environments.[1] The health of health care workers and healthy workplaces are tied to absenteeism, productivity and patient outcomes.[2] Work-related factors such as job stress, workload and coworker support have all been shown to affect the health and well-being of our health workforce.[3] Healthy workers and healthy work environments are critical components of recruitment and retention strategies across Canada that ensure a healthy, productive and sustainable health workforce in Canada.

While further discussion on the topic of work, health and healthy workplaces could (and has) filled volumes, in this section of the report we will elaborate on some of what we currently know about the health and well-being of Canada's health care workers, in particular:

- Overall health status;
- Rates of absenteeism;
- Rates of injury; and
- Job satisfaction rates of Canada's health provider workforce.

Did You Know?

Canada's health accreditation agency, the Canadian Council for Health Services Accreditation (CCHSA), has incorporated work–life standards related to areas such as culture, communication, decision-making, job design, learning and support into the latest version of its hospital accreditation program.

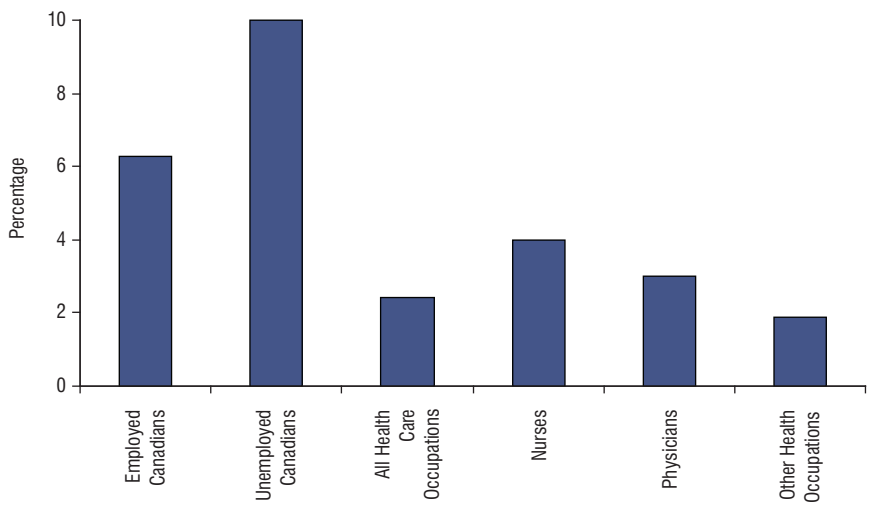
Health Status of Canada's Health Care Workforce

Individuals working in the health care sector are slightly more likely to say they are in good health than the general Canadian workforce. Data from the 2003 Canadian Community Health Survey, from Statistics Canada, showed that 94% of employed Canadians and 96% of health care professionals reported their health as being good or excellent.

The figure below shows that health occupational groups reporting general health as only fair or poor ranged from 4% for nurses to less than 2% in the "other" health occupation category grouping.

Figure 4.1

Percentage of Employed and Unemployed Canadians and Health Care Workers Reporting Fair/Poor General Health, Canada, 2003



Notes:
Physicians: Specialists physicians, general practitioners and family physicians.

Nurses: Head nurses and supervisors, registered nurses including registered psychiatric nurses and licensed practical nurses.

Other Health Occupations: Pharmacists, optometrists, opticians, ambulance attendants and other paramedical occupations, chiropractors, dietitians and nutritionists, nurse aides and orderlies, other aides and assistants in support of health service, dentists, denturists, dental hygienists and dental therapists, dental technicians and laboratory bench workers, audiologists and speech-language pathologists, physiotherapists, occupational therapists, other professional occupations in therapy and assessment, pathologists' assistants, medical laboratory technicians, medical laboratory technologists, respiratory therapist and clinical perfusionists, medical radiation technologists, medical sonographers, cardiology technologists, electroencephalographic and other diagnostic technologists, other medical technologists and technicians (except dental health).

Source: Canadian Community Health Survey Cycle 2.1, 2003, Statistics Canada.

The Value of Self-Reported General Health Questions

Questions that ask respondents to rate their general health are common in surveys examining health—but how effective are they? While some research has suggested that responses to such questions are unreliable, other research suggests the contrary.

One review of 27 research studies concluded that questions on general health are a valuable predictor for mortality. Self-reported information has been said to provide an "irreplaceable dimension of health status and in fact an individual's health status cannot be assessed without it."[4] Furthermore, a 2006 review of 22 research studies found that people reporting poor health have an almost two-times-higher risk of dying than those reporting their health as excellent.[5]

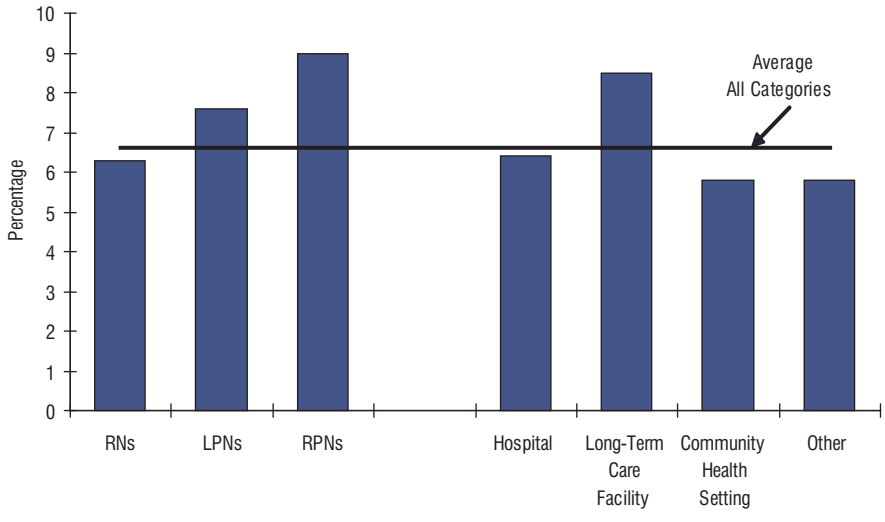
Did You Know?

Detailed information about the overall health of specific health professionals can be limited. However, the 2005 National Survey of the Work and Health of Nurses can shed some light on the individual professions within the regulated nursing profession.

According to the regulated nurses' survey,[6] differences between regulated nursing professions reporting fair or poor general health were slight; registered psychiatric nurses (9.0%) and licensed practical nurses (7.6%) were slightly more likely than their registered nurse counterparts (6.3 %) to report fair or poor general health. In the same survey, nurses working in long-term care facilities (8.5%) were also slightly more likely to report fair or poor health than nurses in other places of work (ranging from 5.8 to 6.4%).

Figure 4.2

Percentage of Nurses Reporting Fair/Poor General Health, by Selected Characteristics, Canada, 2005



Source: Statistics Canada, 2005 National Survey of the Work and Health of Nurses (CIHI share file).

Absenteeism in Canada's Health Care Workforce

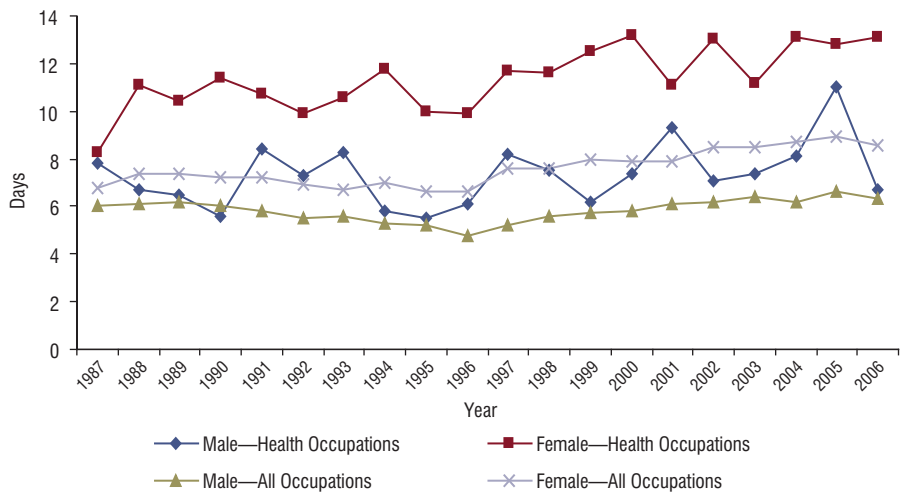
While the self-reported general health of health care providers tended to be similar to those of the Canadian workforce, this was not the case with absenteeism rates for the health workforce. Over the last 20 years, health care workers have had a higher average number of lost work days compared to the rest of the working population. In 2006, on average, the typical Canadian health care worker aged 25 to 54 missed almost 12 days of work due to his or her own illness or disability.[7] This compares to an average of seven days of work missed for all employed Canadians.

Changes in the demographic characteristics of the workforce can also have impacts on absenteeism. Thus for a more detailed perspective we provide a breakdown of absenteeism by sex, province and occupation.

Absenteeism and Gender

According to Statistics Canada's Labour Force Survey in 2006, the gender of the worker was one of the most important characteristics by which absenteeism rates differed. Females aged 25 to 54 and working in health occupations missed, on average, 13.1 days of work per year in 2006. This was 6.7 days a year more than male health providers. This trend was similar to that of the general workforce, where the average difference between the two sexes was 2.3 days.

Figure 4.3 Average Lost Days for All Occupations and Health Occupations, 25-to-54-Year-Olds, by Sex, Canada, 1987 to 2006

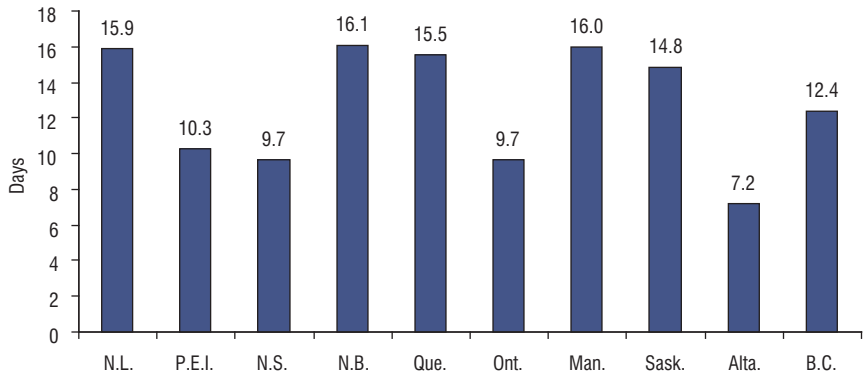


Source: Labour Force Survey 2006, Statistics Canada.

Provincial Absenteeism

It is important to note that provincial/territorial absenteeism rates vary considerably by province/territory as well. In 2006, New Brunswick had the highest number (16.1) of lost days for health workers, and Alberta had the lowest (7.2).

Figure 4.4 Average Lost Days for Health Occupations, 25-to-54-Year-Olds, by Province, 2006



	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
Male	7.0	3.1	5.7	12.5	9.6	5.3	6.5	3.4	2.5	7.5
Female	17.7	11.3	10.5	16.8	17.0	10.5	18.9	16.6	8.2	13.4

Note: Data from this analysis are not age and sex standardized.

Source: Labour Force Survey, 2006, Statistics Canada.

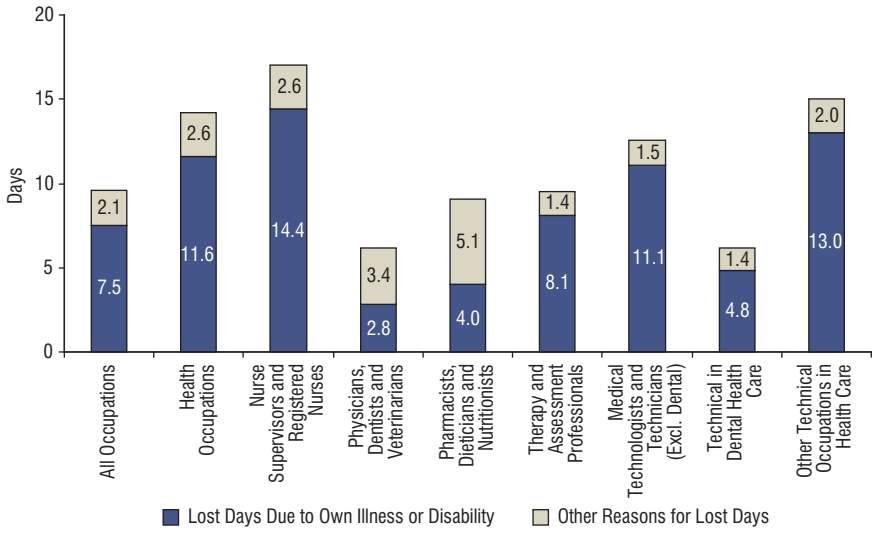
Impact of Absenteeism by Health Occupation

According to Statistics Canada's Labour Force Survey, in 2006, across health professions, nurses had the highest average number of days lost due to illness or disability, at 14.4 days lost. This is almost twice the average for all occupations.[7]

An analysis by the Canadian Nurses Association that looked at absenteeism rates for nurse supervisors and registered nurses found that on an annual basis, time lost due to illness and injuries totalled 17.7 million hours—the equivalent of 9,754 full-time, full year nursing jobs.[8]

Figure 4.5

Average Lost Days per Full-time Worker, by Health Occupation, Canada, 2006



Notes:
Days lost excludes maternity.
Other reasons for lost days include personal or family responsibilities, vacation, weather, labour dispute, job started or ended during reference week, holiday, working short time and other reasons.

Therapy and assessment professionals: Audiologists and speech-language pathologists, physiotherapists, occupational therapists and other professional occupations in therapy and assessment.

Medical technologists and technicians (excl. dental): Pathologists' assistants, medical laboratory technicians, animal health technologists, medical laboratory technologists, respiratory therapists and clinical perfusionists, medical radiation technologists, medical sonographers, cardiology technologists, electroencephalographic and other diagnostic technologists, other medical technologists and technicians (except dental health).

Technical in dental health care: Denturists, dental hygienists and dental therapists, dental technicians and laboratory bench workers.

Other technical occupations in health care: Opticians, midwives and practitioners of natural healing, registered nursing assistants, ambulance attendants and other paramedical occupations.

Source: Labour Force Survey, 2006, Statistics Canada.

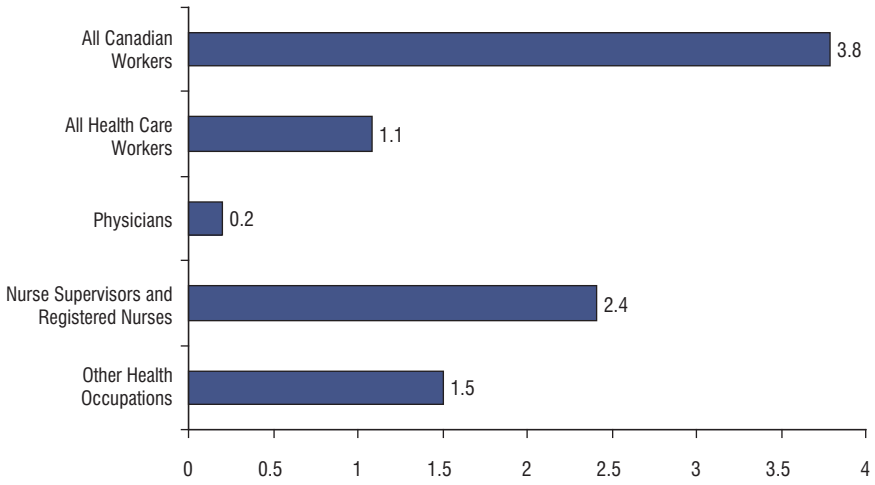
Injuries in the Workplace

Related to absenteeism, as a potential cause of absence, are injuries. Every year some of Canada's workforce is injured at work. In terms of injuries on the job, Canada's health workforce experiences slightly fewer injuries than the general labour force. According to the Canadian Community Health Survey, in 2003, 1.1% of health care workers reported being physically injured at work compared to 3.8% of the general labour force.

There appear to be slight differences, however, when examining injuries by major health occupational groupings. Registered nurses and nurse supervisors reported the highest percentage of physical injuries at work (2.4%). Doctors reported the lowest number of at-work injuries, at 0.2%.

Figure 4.6

Percentage of All Workers and Health Care Workers Physically Injured at Work, Canada, 2003



Notes:
Physicians: Specialist physicians, general practitioners and family physicians.
Nurse supervisors and registered nurses: Head nurses and supervisors, registered nurses (including registered psychiatric nurses).

Other Health Occupations: Pharmacists, optometrists, opticians, ambulance attendants and other paramedical occupations, chiropractors, dietitians and nutritionists, nurse aides and orderlies, other aides and assistants in support of health service, registered nursing assistants including licensed practical nurses, dentists, denturists, dental hygienists and dental therapists, dental technicians and laboratory bench workers, audiologists and speech-language pathologists, physiotherapists, occupational therapists, other professional occupations in therapy and assessment, pathologists' assistants, medical laboratory technicians, medical laboratory technologists, respiratory therapists and clinical perfusionists, medical radiation technologists, medical sonographers, cardiology technologists, electroencephalographic and other diagnostic technologists, other medical technologists and technicians (except dental health).

Due to sample size of the survey, it's not possible to determine which professions within the occupational groups experience the highest injury rates, or whether a particular profession is driving the average.

Source: Canadian Community Health Survey Cycle 2, 2003, Statistics Canada.

More detail on injuries can be found by exploring time-loss injury claims. The Association of Workers' Compensation Boards of Canada defines a time-loss injury as an injury or disease where an employee is compensated for a loss of wages following a work-related injury, or exposure to a noxious substance, or receives compensation for a permanent disability with or without any time lost in his or her employment.[9] Time-loss claims provide us with an opportunity to examine the types of injuries that potentially keep employees from work.

Table 4.1

Accepted Lost-Time Injury Claims, Canada, 2001 to 2005

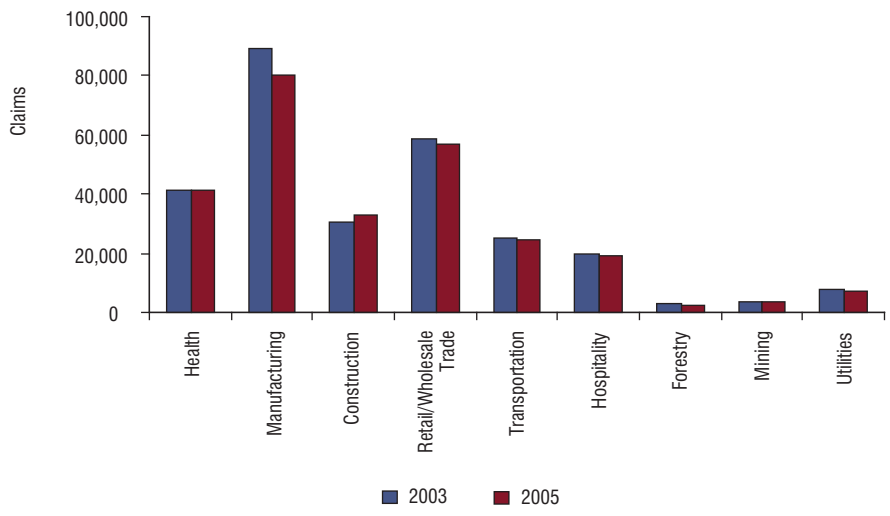
Year	2001	2002	2003	2004	2005
Health Sector	40,753	41,420	41,594	40,949	41,261
All Other Industries	332,463	317,754	307,121	299,553	296,669
Total Injuries	373,216	359,174	348,715	340,502	337,930
Percentage of Injuries in Health	10.9	11.5	11.9	12.0	12.2

Source: Association of Workers' Compensation Boards of Canada, 2006.

According to the Association of Workers' Compensation Boards of Canada, as seen in Figure 4.7, the number of time-loss injuries in the health sector[i] remained fairly constant from 2003 to 2005 as did most other sectors.

Figure 4.7

Number of Accepted Time-Loss Injury Claims, by Industry, Canada, 2003 and 2005



Note: It is important to interpret this figure with caution. The number of claims has not been weighted against the total size of each industry.

Source: Association of Workers' Compensation Boards of Canada, 2006.

i. Workers' compensation time-loss claims for the health sector include the health and social services sectors.This includes a broader range of the health care workforce than much of the data included in this chapter.

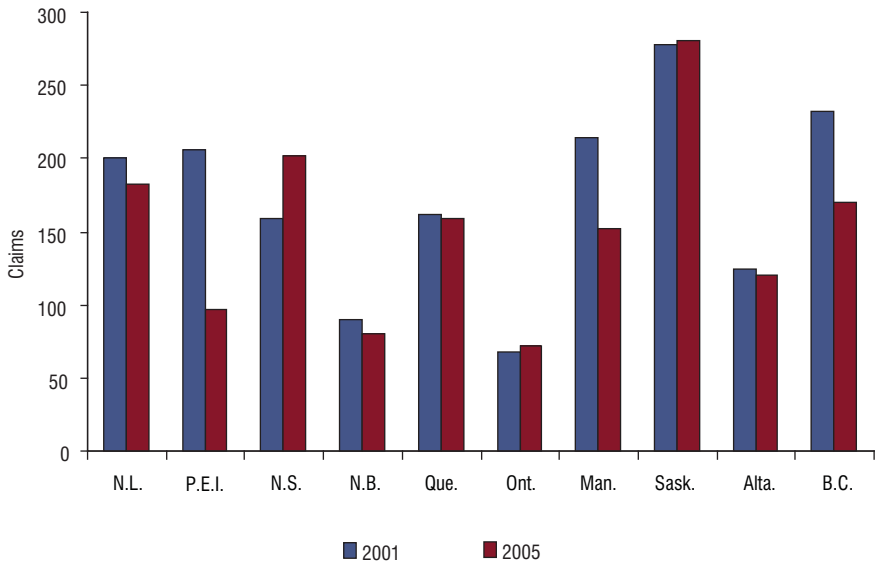
Provincial Injury Claims

The number of claims adjusted per 100,000 population varies by province. As eligibility and coverage for workers compensation differs by province, the comparison must be interpreted with caution; however it can provide insight into provincial trends over time.

When adjusted per 100,000 population, the number of claims in 2005 ranged from 72 in Ontario to 280 in Saskatchewan.

Figure 4.8

Number of Accepted Time-Loss Injury Claims, Health Industry, per 100,000 Population, by Province, 2001 and 2005



Sources: Association of Workers' Compensation Boards of Canada, 2006; Population Estimates Statistics Canada, CANSIM, table 051-0001.

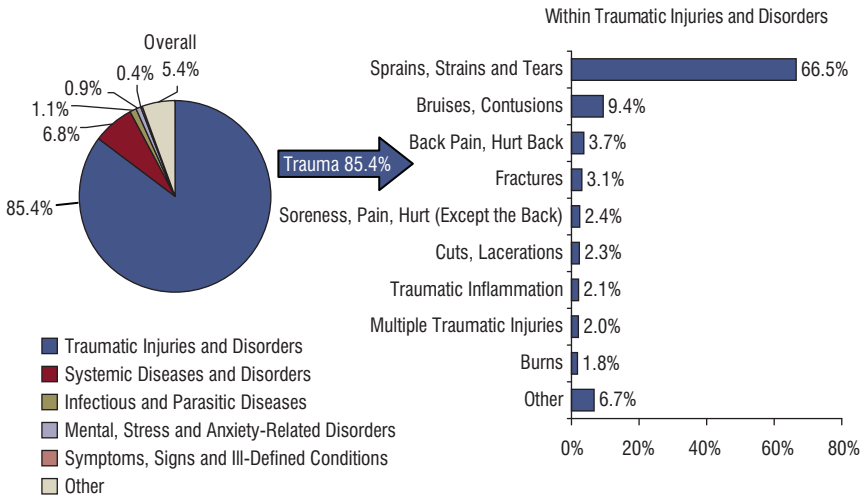
Nature of Injuries Leading to Time-Loss Claims

What do we know about the nature of the injuries that are leading to time-loss claims in health? Time-loss injuries can be divided into six distinct categories: traumatic injuries; systemic diseases and disorders; infectious diseases; mental, stress and anxiety-related disorders; symptoms, signs and ill-defined disorders; and other.

Traumatic injuries and disorders are the most common type of reported injury within the health care industry, making up 85.4% of the total claims. The second-largest category of claims is systemic diseases and disorders, at 6.8% of claims in the health care industry. Mental, stress and anxiety-related disorders make up one of the smallest categories of time-loss injury, at 0.9%.

Of the traumatic injury category, the majority of these claims (66.5%) are described as sprains, strains and tears. Bruises and contusions follow, at 9.4% of the claims for traumatic injury.

Figure 4.9 Percentage of Accepted Time-Loss Injury Claims, Health Industry, by Nature of Claim, Canada, 2005



Source: Association of Workers' Compensation Boards of Canada, 2006.

It's important to reinforce that these figures typically represent only serious injuries reported and claimed as lost-time injuries. Every day, relatively minor injuries go unreported, as they are not serious enough to warrant lost-time reporting. For example, in 2005, the National Survey of the Work and Health of Nurses reported that 11.0% of nurses had sustained an injury from a needle or other sharp object (such as scissors, a scalpel or a razor) contaminated by use on a patient in 2005.[6] Translated into actual numbers, this works out to roughly 35,900 incidents, far more than the 217 "cuts and laceration" traumatic injury claims reported for lost-time injuries in Canada.

Healthy Workplace Initiatives: Long-Term Follow-Up

Universal Precautions and Allergies

Since being first introduced by the U.S. Centers for Disease Control in 1987,[10] the use of universal precautions has become widespread in most care delivery settings. Simply put, universal precautions are "infection control guidelines designed to protect workers from exposure to diseases spread by blood and certain body fluids."[11] Protective gloves—specifically latex gloves—are widely used as part of all universal precautions strategies.

However, the widespread use of latex gloves has been correlated with a significant increase in latex and latex-related sensitivities and allergies in the health provider population. A recent French meta-analysis[12] concluded that health care workers were three times more likely to have a latex allergy when compared to the general population. Furthermore, people who had been exposed to latex "showed an increased risk of dermatitis, asthma or wheezing and rhinoconjunctivitis."

This example underscores the need for flexible and ongoing planning around healthy work environments. For example, Saskatchewan Labour has developed a policy around glove use that minimizes risk of both infection and latex allergy.[13]

Fatalities

Job-related fatalities among health care workers are very uncommon. Between 2003 and 2005, health care and social service fatalities made up 2% or less of the total fatalities across all industry sectors in Canada. This translates into 21, 15 and 6 deaths per year from 2003 to 2005.[14]

Table 4.2 **Workplace Fatalities in the Health Industry as Compared to All Industries, Canada, 2003 to 2005**

Workplace Fatalities	2003	2004	2005
Health and Social Services	21	15	6
All Industries	963	928	1,097
Percentage of Fatalities in Health and Social Services	2.18%	1.62%	0.55%

Source: Centre for the Study of Living Standards, 2006.

Planning for a Pandemic—Severe Acute Respiratory Syndrome

Planning for pandemics is inherently difficult. We cannot predict what pandemic might be coming, or how many people will be affected. Without critical information, it's a challenge to know what human resources, what drugs, what services and facilities will be required. The arrival of severe acute respiratory syndrome (SARS) in Canada was a significant example of the impact of a potential pandemic on the health care system.

In the spring of 2003, the Canadian health care system was confronted by a new type of respiratory virus, severe acute respiratory syndrome. Symptoms of the disease are similar to the flu, but with a much higher mortality rate—of approximately 15%, according to WHO estimates.[15] In Ontario, the epicentre of the Canadian SARS outbreak, 44 people died, 330 others were infected and thousands were quarantined.[16]

Focus on Job Satisfaction

As outlined in the introduction, many factors influence the health and well-being of health care providers, not just injury and illness. Healthy work environments have a positive effect on the health of health care providers—and they influence job satisfaction. Job satisfaction itself has been shown to have an impact on health.[17] Many studies have investigated the link between job satisfaction and health; characteristics of work environment such as coworker and supervisor relationships, workload and organizational structure feature prominently in the analysis.

Job satisfaction can be defined as "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experience."[18] Because workers may appraise their job experiences differently, contributors to job satisfaction will vary from person to person.

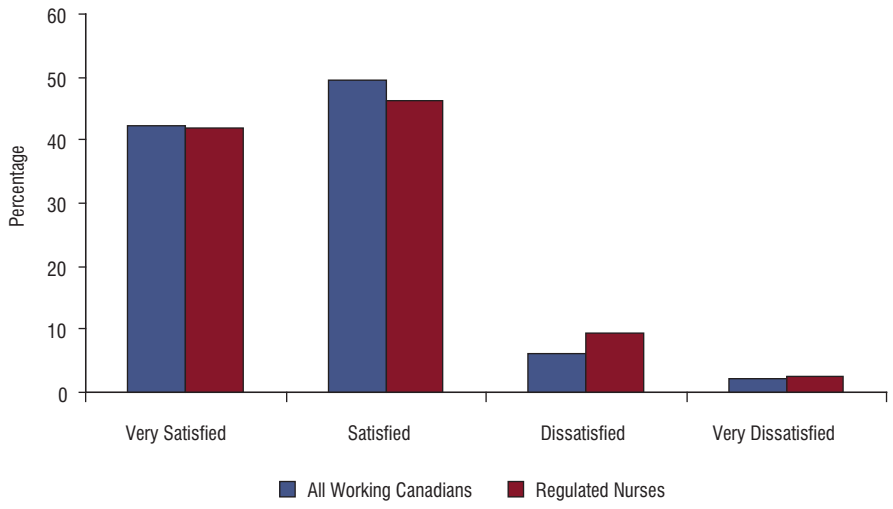
Job satisfaction is often measured globally ("Are you satisfied or not?")[17, 19, 20, 21, 22] or measured via the components of a job. Studying facets of a job as they contribute to overall satisfaction is helpful for pinpointing areas for improvement in work environments. Job components commonly assessed in terms of satisfaction are:

- Professional and patient relationships;
- Organizational structure and advancement opportunities;
- Access to training and other resources;
- Autonomy;
- Workload; and
- Compensation.

Many instruments have been designed to measure job satisfaction, but surveys are a common tool for gathering the data. Personal characteristics such as age, gender, education and family status are often analyzed along with work-specific factors. At least one study has suggested that community involvement (such as volunteering, sports and recreation, arts and culture and religious activities) also relates to worker satisfaction.[19]

The Canadian Community Health Survey from Statistics Canada asks its respondents to answer the question, "How satisfied were you with your job?" based on a four-point scale from "very satisfied" to "not at all satisfied." The 2005 National Survey of the Work and Health of Nurses asked the same question.In general, nurses had a similar job satisfaction rate when compared with all working Canadians. There were slightly fewer nurses in the satisfied category and slightly more nurses in the dissatisfied category when compared with the general workforce.

Figure 4.10 Job Satisfaction for Regulated Nurses and All Workers, Canada, 2005



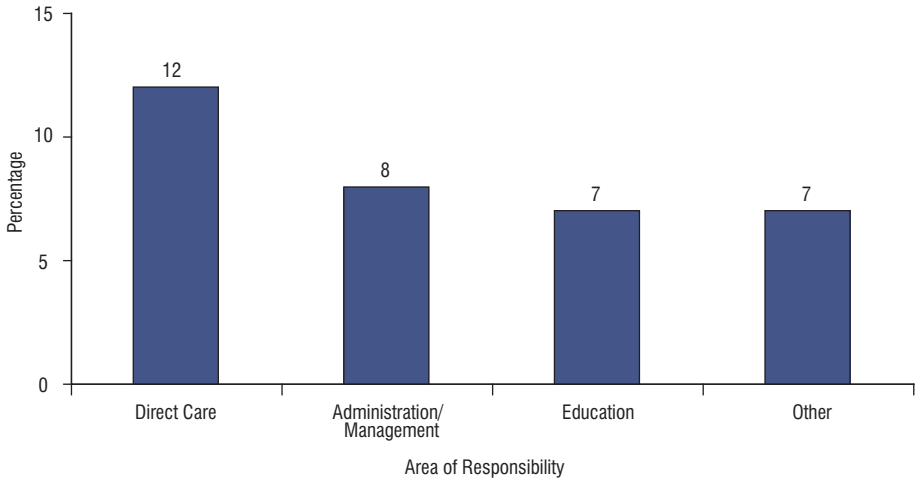
Sources: Statistics Canada, 2005 National Survey of the Work and Health of Nurses (CIHI share file); and Canadian Community Health Survey Cycle 3.1, 2005, Statistics Canada.

Nurses and Area of Responsibility: A Snapshot of Satisfaction

Further examination of the job satisfaction data from the 2005 National Survey of the Work and Health of Nurses shows that 12% of direct care nurses stated that they were dissatisfied or very dissatisfied with their current job. This is higher than the 8% for regulated nurses in administration/management positions and 7% for regulated nurses in education or the "other" job category.

Figure 4.11

Percentage of Regulated Nurses Dissatisfied or Very Dissatisfied, by Area of Responsibility, Canada, 2005



Notes:
The Nurses Survey was developed in such a way to be able to be compared to the CIHI nursing databases. According to the nursing data dictionaries, this is how the categories are defined.

Direct care: Medicine/surgery, psychiatry/mental health, pediatrics, maternity/newborn, geriatrics/ long-term care, critical care, community health, ambulatory care, home care, occupational health, operating room/recovery room, emergency care, several clinical areas, ntal habilitation/disabilities, addiction services clinical services, crisis/emergency services, acute services, forensic services, other direct care.

Administration: Nursing service, Nursing education, other administration.

Education: Teaching students, teaching employees, teaching patients/clients, other education.

Research: Nursing research only, other research.

Other: Area of responsibility not identified/described.

Source: Statistics Canada, 2005 National Survey of the Work and Health of Nurses (CIHI share file).

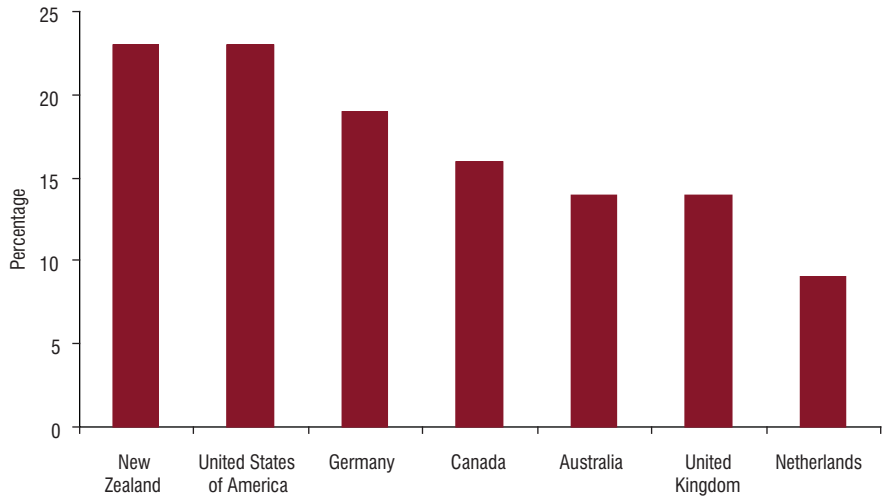
Did You Know?

Analysis of data from the 2004 National Physician Survey was conducted to determine what factors included in the survey have the largest impact on satisfaction.[23] The results show that balance between personal and professional commitments is the greatest predictor of job satisfaction.

In the 2006 Survey of Primary Care Physicians[24] in Australia, Canada, Germany, the Netherlands, New Zealand, the United Kingdom and the U.S., 16% of the Canadian doctors surveyed indicated that they were somewhat or very dissatisfied with medical practice. This puts them right in the middle of the seven countries included in the survey. New Zealand and the U.S. had the highest percentage of somewhat or very dissatisfied doctors, at 23%, while the Netherlands had the lowest, with 9%.

Figure 4.12

Percentage of Primary Care Physicians Somewhat or Very Dissatisfied With Medical Practice, by Country, 2006



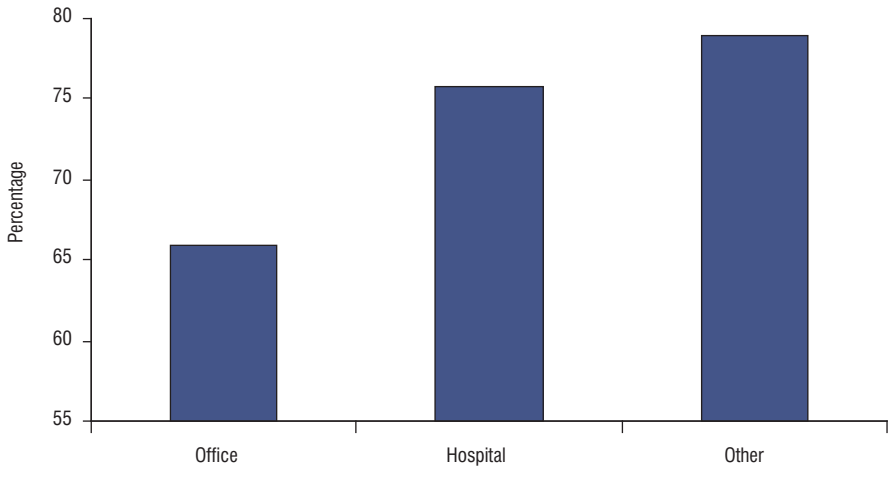
Source: 2006 Commonwealth Fund International Health Policy Survey of Primary Care Physicians.

Satisfaction and Work Setting

Research has also shown that job satisfaction differs across practice settings. Data from the 2004 National Physician Survey revealed that hospital-based family physicians were more satisfied than family physicians in office settings. Family physicians in other settings such as nursing homes, research centres, administrative offices and freestanding diagnostic clinics had the highest satisfaction rates.

Figure 4.13

Percentage of Family Physicians Very Satisfied or Somewhat Satisfied With Professional Life, by Workplace Setting, Canada, 2004

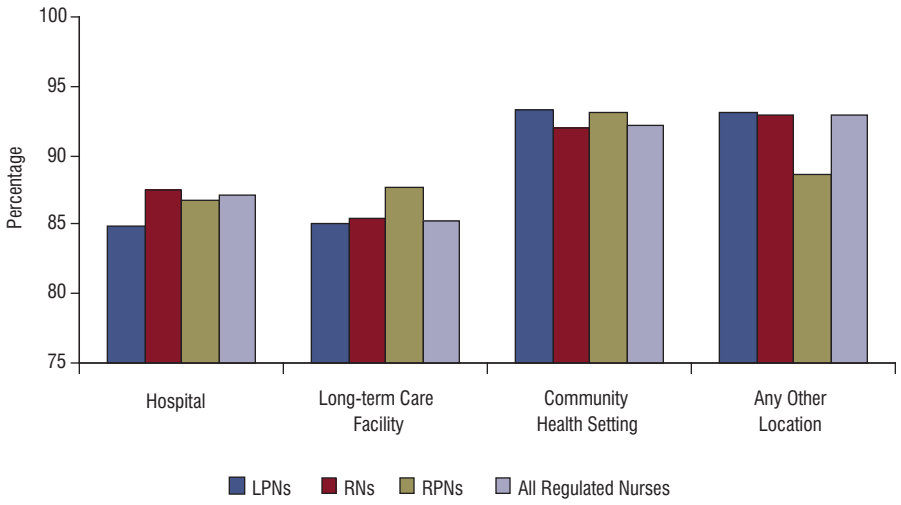


Note: Other includes nursing homes, homes for the aged, administrative offices, research/academics, freestanding lab/diagnostic clinics, other.

Source: CFPC/CMA/RCPSC National Physician Survey Database, 2004 "*Protected by Copyright*".

Of Canadian regulated nurses in long-term care facilities, 85.0% reported being satisfied or very satisfied with their jobs, compared to 92.0% in community health settings and 87.0% in hospital settings.

Figure 4.14 Percentage of Regulated Nurses Satisfied or Very Satisfied With Present Job, by Workplace Setting and Nurse Type, 2005



Note: Scale does not start at zero.

Source: Statistics Canada, 2005 National Survey of the Work and Health of Nurses (CIHI share file).

Healthy Workers—A Continued Investment

The health of health care workers and healthy workplaces have been identified as critical areas for continued investment in Canada.[1] A variety of healthy workplace initiatives exist at the national, provincial/territorial and local levels.

A national example: The Interprofessional Education For Collaborative Patient-Centered Practice, 2003 (IECPCP) initiative from the Health Human Resources Strategy at Health Canada is an example of one such national strategy. Through this initiative, Interprofessional collaboration considers the patient, professional, organization and system outcomes. Investment in health care provider outcomes includes job satisfaction and professional growth which will contribute to the overall quality of care delivered for Canadian patients.[25]

An education example: A program is being developed by Athabasca University and the Canadian College of Health Service Executives (CCHSE) to introduce new educational options for health care leaders. Those eligible will be able to receive partial credit towards the Certified Health Executive (CHE) designation while completing educational requirements of the MBA program. This collaborative approach "will ensure that its MBA participants develop the capabilities they need to tackle the issue facing health care today."[26]

A collaborative example: Leaders of 10 national organizations partnered to "coordinate, integrate and share learning aimed at more effectively and more expeditiously improving the quality of work life in healthcare." This collaborative is based on a fundamental premise that "health providers deserve and require a healthy workplace." To support the Quality Worklife Quality Healthcare Collaboration (QWQHL) mandate, an evidence-based framework and indicators were developed to assist health leaders and health organizations to prioritize, measure, implement and share knowledge to improve health care work environments.[27]

A regulatory example: The College of Registered Nurses of Nova Scotia (CRNNS) began the Practice Environment Collaboration Program (PECP) as a pilot project in 1999. Recognizing that "quality nursing care is the ultimate product of quality work environments," the PECP engages administrators and nurses to work in "building and maintaining quality practice environments." CRNNS reports from the outcome survey of 13 agencies involved in the program from 2001 to 2006 indicated "improved communications, participation in decision making affecting client care, improved staffing, increased involvement in leadership, better recruitment and retention of staff, improved morale, an increased professional awareness of RNs and LPNs, a closer RN and LPN team, and greater involvement in improving workplace issues by all staff."[28, 29]

A union example: The Canadian Union of Public Employees (CUPE) leadership for healthy workplaces includes a health and safety mandate through legislation, regulations and occupational disease prevention for its members.[30] In many provinces, CUPE members participate in joint occupational health and safety committees in which health and safety of health environments is the focus.[31]

Health Human Resources

The health and well-being of health care workers is an important component of effective health human resources (HHR) planning and management in Canada. Chapter 4 described those factors influencing the health of health care providers. Research has found that an employee's health and well-being influence his or her productivity, general satisfaction and general delivery of care.[3] Many initiatives are under way across all levels of the health care system that address different aspects of the health and well-being of the health care workforce in Canada.

Healthy workers and workplaces are also critical components of many recruitment and retention initiatives in Canada. But what other factors determine a health care provider's decision about where he or she works? How are health care workers distributed across Canada today? What are their migration patterns? The distribution and migration patterns of Canada's health care providers can provide some important information to inform recruitment and retention of Canada's health workforce. Chapter 5 will examine the distribution and migration patterns of Canada's health workforce and some of the recruitment and retention efforts for HHR planning and management in Canada.

What We Know

- Healthy workplace initiatives exist at the national, provincial/territorial, regional and local levels.
- Self-reported health status of the health workforce compared with the general workforce in Canada.
- Average number of lost days and provincial absenteeism rates for the health workforce.
- Rates of physical injury at work and some of their associated workers' compensation injury claims.
- Workplace satisfaction statistics for a select number of health professions.

What We Don't Know

- The effectiveness and impact of strategies aimed at improving the health of our health care workforce.
- If certain healthy workplace initiatives are better suited for specific health professions.
- If there are barriers for health care professionals to engage in healthy workplace initiatives and, if so, what they are.
- How differences in initial career expectations affect job satisfaction and if there is a difference between sexes.

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Chapter 5

HHR—Here, There and Everywhere

HHR—Here, There and Everywhere

When considering health human resource (HHR) planning and management in Canada, health care planners look for ways to develop policies and strategies that attract health professionals, promote satisfying work opportunities and create and maintain stimulating, safe and secure work environments.[1] HHR planners often consider recruitment and retention strategies together, recognizing that it's not enough to bring people into the workforce: they must also be encouraged to stay in the workforce and develop their careers. Recruitment and retention initiatives can be focused at many different geographic levels: international, national, provincial/territorial, across regions and even across facilities within the same neighbourhood.

The migration patterns of Canada's health workforce are influenced by many factors, both personal and professional. The study of migration patterns can help inform on the recruitment and retention of health care providers across Canada and internationally. In this chapter we explore recruitment and retention in tandem with the migration of Canada's health workforce.

Recruiting Available Health Care Workers From Within Canada

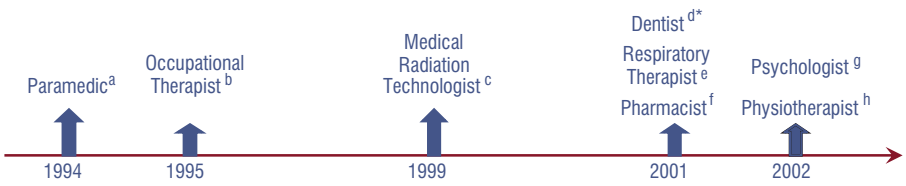
Recruitment and retention initiatives are under way across the country that encourage migration between and within provinces/territories. Health professionals are encouraged to find a work environment and location that is right for them. This may help retain health care workers within the profession as a whole. Recruitment and retention initiatives can also foster collaboration and/or competition between jurisdictions.

Impact of Mutual Recognition Agreements

In 1995, the Agreement on Internal Trade (AIT) signed by federal/provincial and territorial governments came into effect, which aimed to reduce barriers to the movement of persons, goods, services and investments within Canada.[2] The agreement was intended to enhance interprovincial/territorial mobility for health care providers under these mutual recognition agreements, individuals who were currently registered with one regulatory organization in Canada are eligible to apply to another organization in another jurisdiction of the same profession.

Figure 5.1

Timeline for the Establishment of Mutual Recognition Agreements for Selected Health Professions, Canada



Note: * 7 of 10 dental regulatory authorities had signed the Mutual Recognition Agreement as of 2001.

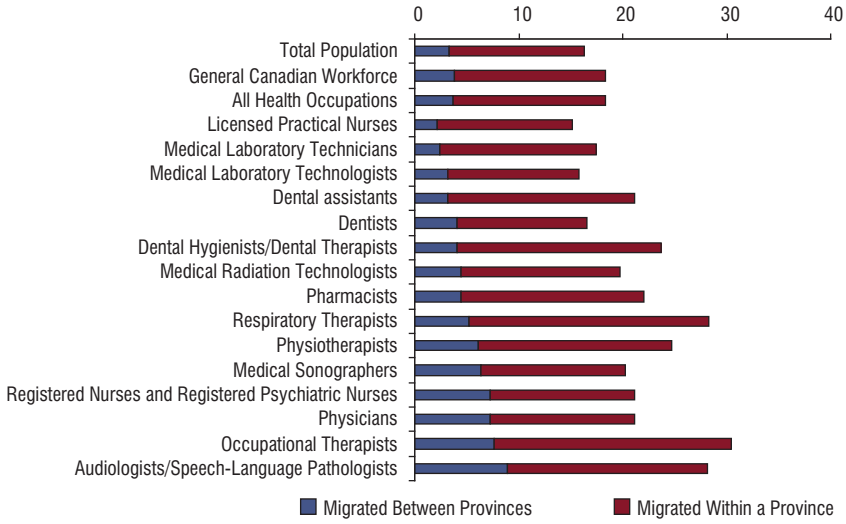
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In general, health care providers in Canada have been mobile over the last two decades. Primarily they have tended to move from one community to another within the same province or territory (intraprovincial migration); a smaller proportion has moved between provinces or territories (interprovincial migration). From 1991 to 2001, the rates of interprovincial migration by health care workers has decreased. Nonetheless, the health care workforce has tended to move more than the general Canadian population.[3]

Figure 5.2

Migrants as a Percentage of the Total Population, General Canadian Workforce and Selected Health Care Occupational Groups, 1996 to 2001

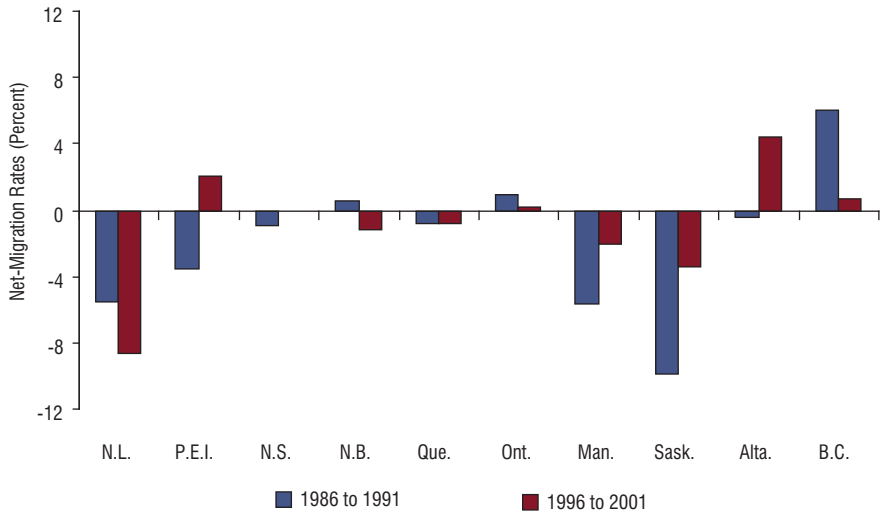


Source: Census of the Population, 2001, Statistics Canada, in R. J. Pitblado and Canadian Institute for Health Information, *Summary Report: Distribution and Internal Migration of Canada's Health Care Workforce*, CIHI, 2007.

When moving between provinces/territories from 1991 to 2001, most health care provider groups have tended to migrate to either the larger "magnet" provinces (Alberta, British Columbia and Ontario) or to their own neighbouring provinces. For a selected group of health professions, the following figures outline the provinces and territories that experienced the highest in-migration and out-migration for both the 1986-to-1991 and 1996-to-2001 census year periods. Of the magnet provinces, from 1996 to 2001, Alberta surpassed B.C. as the primary destination for the health workforce. In general, health care providers tended to move in patterns similar to the general Canadian population and the general Canadian labour force.

Figure 5.3

Net Interprovincial Migration Rates (Percent) for Health Care Occupations, by Province, 1986 to 1991 and 1996 to 2001



Note: Data from the territories have been suppressed due to small cell size.

Source: Census of the Population, 2001, Statistics Canada, in R. J. Pitblado and Canadian Institute for Health Information, *Summary Report: Distribution and Internal Migration of Canada's Health Care Workforce*, CIHI, 2007.

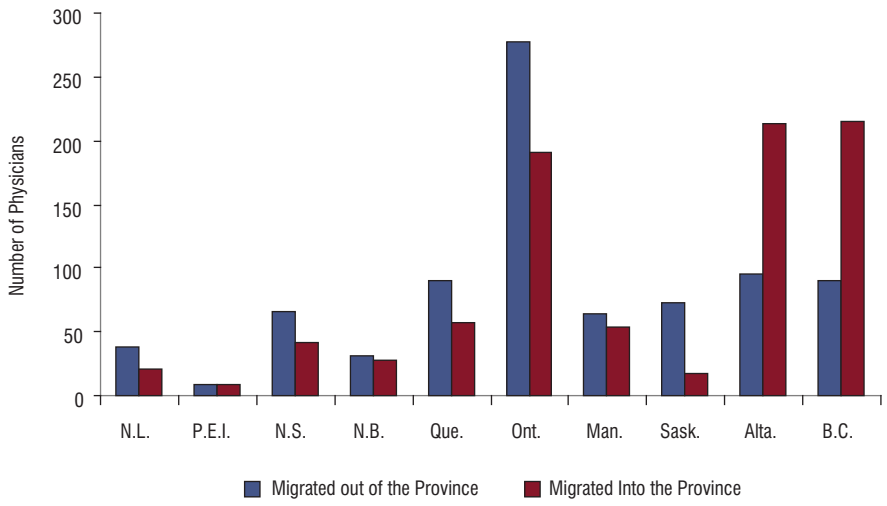
Did You Know?

Nova Scotia purchases seats for the two-year medical laboratory technologist training program in New Brunswick, where students receive a bursary ($4,000) each year in exchange for signing an agreement to return to Nova Scotia to work (a "return-in-service agreement") for at least two years after graduation.[4]

Provincial/Territorial Migration—Physicians

Data from CIHI's National Physician Database show that, in 2006, most jurisdictions were losing more physicians to migration than they were recruiting from other jurisdictions. The only jurisdictions that were recruiting more physicians than they were losing in 2006 were B.C. and Alberta. It is important to note, however, that less than 2.0% of the trained physician workforce actually moved across provinces in each of the last 20 years.

Figure 5.4 Number of Physicians Migrating to and From Each Province, 2006



Note: Physicians (including residents), identified as "active" on both December 31, 2005, and December 31, 2006.

Source: Scott's Medical Database, Canadian Institute for Health Information.

Net interprovincial losses or gains should not be viewed in isolation. The net effect of migration between jurisdictions does not necessarily signal an overall physician loss or gain because other factors contribute to the supply of the workforce—including international migration, introduction of medical graduates or change of activity status and changes in the size of the population overall. For example, while Newfoundland and Labrador tended to lose physicians due to out-migration, the province saw a 5.2% increase in the overall raw number of physicians, going from 929 physicians in 2002 to 1,018 physicians in 2006.

Did You Know?

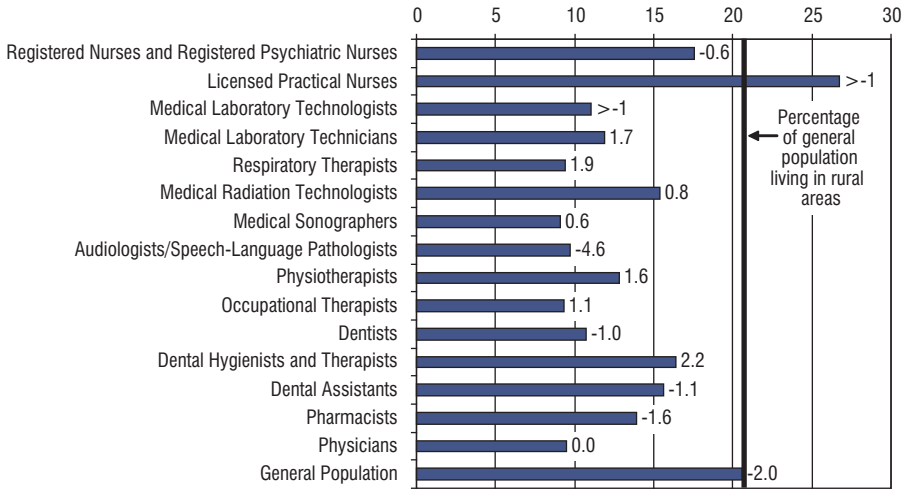
In 2005–2006, the Government of Saskatchewan, Saskatchewan Health provided $20 million to fund programs and initiatives specifically targeted at recruiting and retaining physicians[5]—including specialist bursaries, a specialist emergency coverage program, a specialist physician enhancement training program, a long-service retention program, emergency room coverage and weekend relief programs, rural practice establishment grant programs, undergraduate medical bursary programs, medical resident bursary programs, rural practice enhancement training and re-entry training programs.

Health Care Providers Migrating Across Urban and Rural Areas

Health care providers are needed not only in the right numbers across the provinces and territories, but also in the right places within each jurisdiction. Canada is a vast and diverse country with a range of urban, rural and remote locations. People located in urban, rural and/or remote areas of Canada have unique needs that reflect their unique circumstances and environment. To help inform whether or not there is an appropriate supply of health care providers in rural areas, it is important to consider the mix of health care providers in the area, the health service delivery model, the infrastructure and the health needs of the population, among other things. As a starting point, it's useful to understand how many health care providers are working in urban and rural areas. The chart below highlights the proportion of selected health professionals working in rural areas in Canada.[3] Licensed practical nurses are the only profession that exist in rural areas in a higher proportion than the general population.

Figure 5.5

Percent of Health Care Providers in Rural Areas, Canada, 2001, and Absolute Change in Percentage From 1991 to 2001

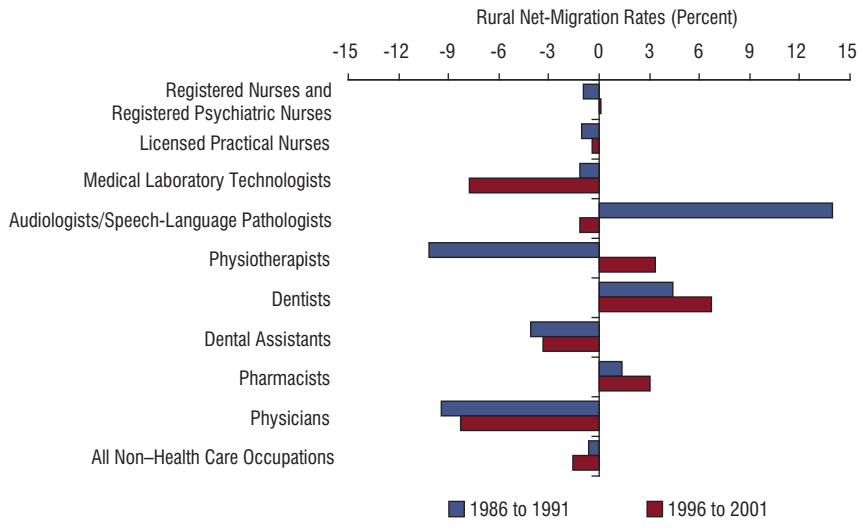


Source: Census of the Population, 2001, Statistics Canada, in R. J. Pitblado and Canadian Institute for Health Information, *Summary Report: Distribution and Internal Migration of Canada's Health Care Workforce*, CIHI, 2007.

According to census data from Statistics Canada, migration to and from Canada's rural areas has varied over the years. From 1991 to 2001, rural small towns experienced similar patterns of migration for both health care workers and the general population. However, some specific professions have shown specific migration tendencies. Physicians, medical laboratory technologists and dental assistants tended to move away from rural areas from 1991 to 2001. Audiologists and speech-language pathologists, pharmacists and dentists tended to move into rural areas over the 10-year period.[3]

Figure 5.6

Rural and Small-Town Net-Migration Rates (Percent) for Selected Health Care Occupational Groups, and All Non-Health Care Occupations, Canada, 1986-to-1991 and 1996-to-2001 Migration Periods



Sources: Census of the Population, 2001, Statistics Canada, and Scott's Medical Database, Canadian Institute for Health Information, in R. J. Pitblado and Canadian Institute for Health Information, *Summary Report: Distribution and Internal Migration of Canada's Health Care Workforce*, CIHI, 2007.

Rural Recruitment Strategies

In some rural communities, retention strategies focus on funding programs and training, providing bonuses or offering higher rates of remuneration to health care providers. Strategies focusing on issues of health provision in rural and remote locations serve to not only meet the needs of existing rural health care providers, but also to enhance the attractiveness of rural practice to prospective rural health care providers.

In B.C., physicians are paid premiums, depending on how small and remote their community is.[6]

Similarly, in Quebec, physicians receive premiums for services performed in remote areas.[6] For 2001 premiums:

- In general, physicians received 115% of the fee-schedule price for services performed in remote areas.
- For services performed within hospitals and institutions located in remote areas, physicians received 125% of the urban fee schedule after their fourth year of practice, and 130% of the urban fee schedule starting in their seventh year of rural practice.
- Within the smallest and most isolated regions in Quebec, remuneration for all work was increased to 125% after the first year of practice and rose to 130% in the fourth year of practice.
- For specialists, remote pay was 140% after three years of rural tenure.

Migration of International Graduates to Canada

Internationally educated health care professionals (IEHPs) are a part of the Canadian health care system. In Chapter 2, we discussed the path for international graduates to become licensed in Canada and described some initiatives under way to support skills assessments. In this chapter, we look at some examples of how the proportion of practising internationally educated health care providers has changed over time (for physicians and nurses) and highlight some further strategies to encourage the transition and integration of IEHPs into the Canadian health care environment.

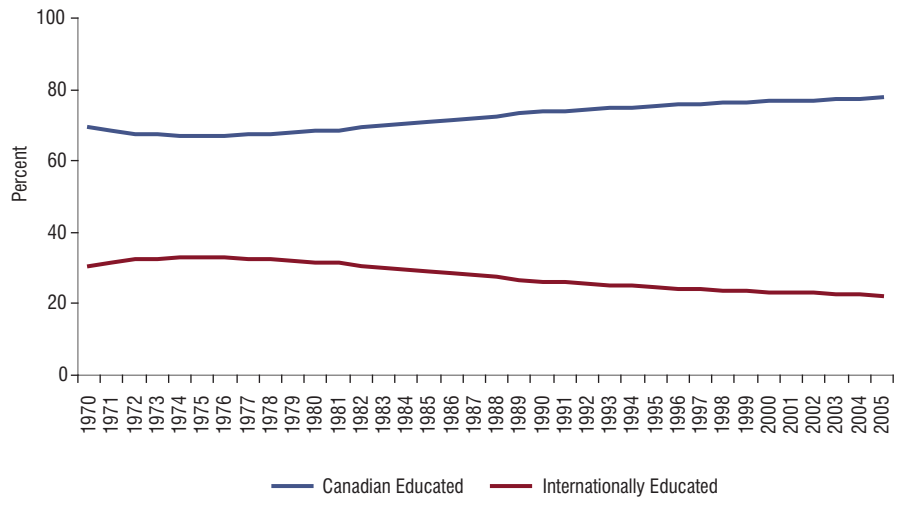
Registered Nurses—Moving In

In 2005, the registered nursing workforce was made up of 6.5% internationally educated nurses. The proportion of internationally educated RNs employed in nursing increased from 7.0% (15,659) in 2001 to 8.0% (19,230) of all RNs employed in nursing in 2005.[7] In an international context, this was comparable to the proportion of internationally educated RNs in Austria (7.0%) and the United Kingdom (8.0%), but contrasted with the proportion of internationally educated nurses in the United States (16.0% in 2000).[8]

Physicians—Moving In

In 2005, international medical graduates represented 22% of the Canadian physician workforce. From 2001 to 2005, the number of international graduates in family medicine in Canada rose from 6,622 to 7,264, an increase of 10%. During the same period, the number of international medical graduate specialists decreased by 5% from 6,786 to 6,451. Overall, in 2005, Canada registered a 2% increase in the total number of international medical graduates in Canada, compared to 2001 (13,715 in 2005 compared to 13,408 in 2001).[9]

Figure 5.7 Canadian Versus Internationally Educated Physicians Working in Canada, 1970 to 2005



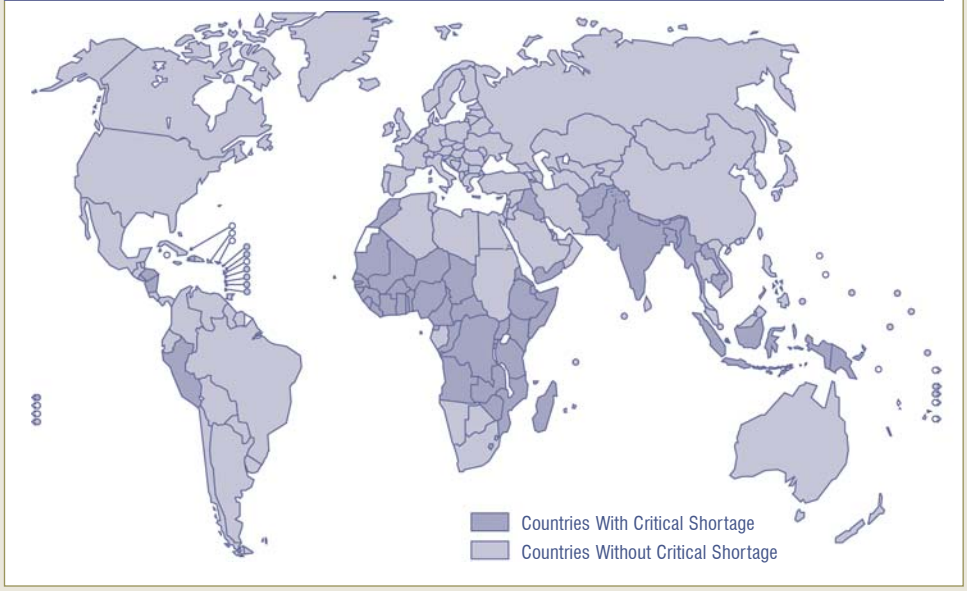
Source: Scott's Medical Database, Canadian Institute for Health Information.

International Recruitment of Health Care Providers

International recruitment is a complex issue. There are imbalances in the supply and distribution of health care providers around the world. In the 2006 World Health Report, the World Health Organization (WHO) declared a global shortage of human resources for health.[10] Within the relatively small and finite world of skilled health professionals, the gap in one region is often filled by a skilled health professional from another region.[11]

The following graph presents a map of the world with specific countries highlighted that are facing critical shortages of health service providers, according to the WHO in 2006.

Figure 5.8 Countries With a Critical Shortage of Health Service Providers (Doctors, Nurses and Midwives)



Source: World Health Organization *Global Atlas of the Health Workforce* (http://www.who.int/globalatlas/default.asp).
Used with permission.

International Migration From Canada

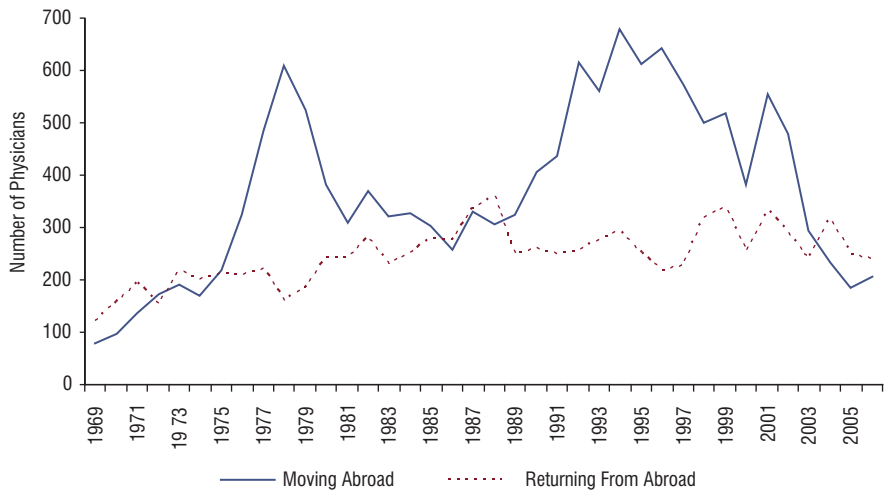
Most administrative data do not capture individuals once they have left the country or the profession, and do not track whether they return to the country or the profession. Thus the information on health professionals migrating from Canada is explored using available data focused on physicians and nurses.

Physicians—Moving Out

Over the past five years (2002 to 2006), the number of Canadian physicians moving in or out of the country decreased by 51%. The number of physicians leaving and the number returning to the country are both on the decline. It's interesting to note that in the last several years, Canada has seen fewer physicians leaving the country. As a result, the number of physicians returning to the country is now greater than the number leaving.[9]

Figure 5.9

Number of Physicians Who Moved Abroad or Returned From Abroad, Canada, 1969 to 2006



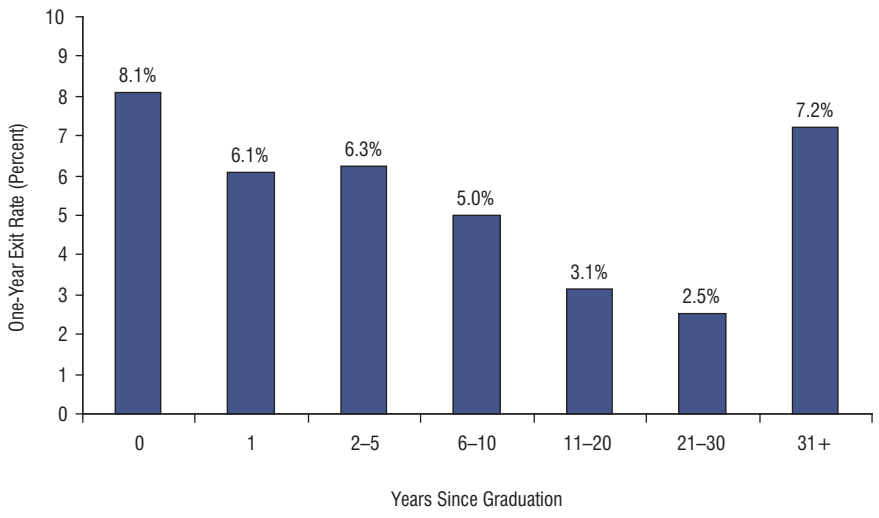
Note: Excludes residents and unlicensed physicians who requested that their information not be published as of December 31 of the reference year.

Sources: *Supply, Distribution and Migration of Canadian Physicians, 2006* and Scott's Medical Database, Canadian Institute for Health Information.

Nurses—Moving Out

Data from the Registered Nurses Database depicts exit rates by years since graduation. On the surface, it appears that registered nurses (RNs) tend to leave the nursing profession and/or move the most at the beginning and the end of their career—possibly indicating a retention issue for new RNs. However, registered nurses are not assigned a national unique identifier, thus it is difficult to tell if they are actually leaving the profession, returning to school or moving to another jurisdiction. What this analysis does show, however, is that there is considerably more movement among registered nurses who are at the beginning and end of their careers.

Figure 5.10 **Exit Rates From a Jurisdiction for Registered Nurses, by Years Since Graduation, Canada, 2004–2005**



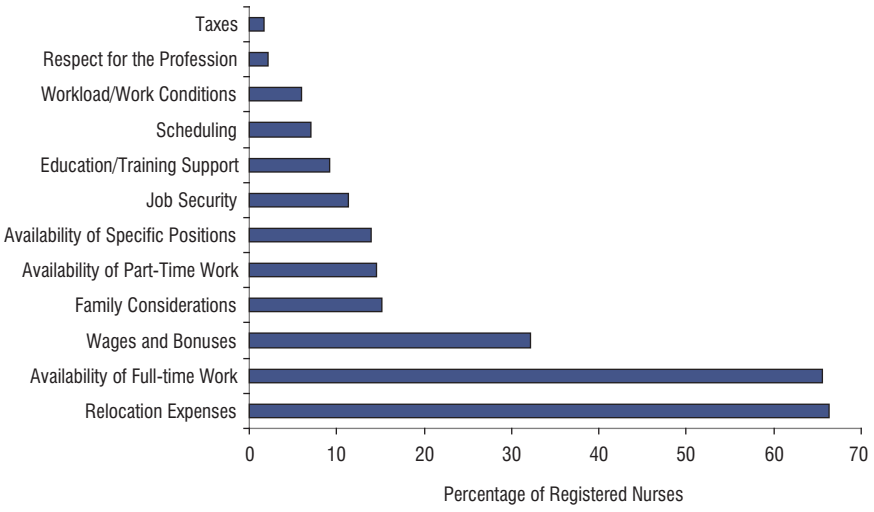
Source: Registered Nurses Database, 2005, Canadian Institute for Health Information.

A Snapshot of Ontario Registered Nurses—Why They Would Come Back to Canada

Understanding the factors that contribute to a health care provider's decision to leave Canada and/or return to Canada is important for developing recruitment and retention strategies. The Registered Nurses Association of Ontario conducted a study with 3,196 RNs who had left Canada, but still maintained their Ontario registration.[12] Overall, 1,025 RNs responded to the survey.

Figure 5.11

Factors Cited by Registered Nurses Living Outside of Canada as Encouraging Them to Return to Ontario



Notes:
Based on a study of 1,025 registered nurses living outside of Canada who still maintain their Ontario registration. Factors are based on respondents' top-of-mind responses (they were not provided with a list and could list multiple factors).

Source: Registered Nurses Association of Ontario, 2001.

Of all the nurses who had left Canada in the survey, 78.3% said they would consider returning to Canada. Two main incentives that would bring them back included availability of full-time employment (65.5%) and having relocation expenses paid for (66.3%).

Strategies for Retaining Health Care Providers

There is a great deal being done by jurisdictions in terms of implementing retention strategies. The types of initiatives and strategies in place are far too exhaustive to list in this one report; many initiatives are reflective of jurisdiction-specific circumstances or requirements. Some examples of the types of initiatives being implemented include bursary programs, retraining initiatives, return-to-service agreements, reduction of workload and physical demands, improvement of the workplace environment, role enhancement, improvement of the health and safety of work settings, continued education and professional development opportunities, development of mentoring programs, development of collaborative practices and increased salary and benefits, to name just a few.

In Ontario, the Nursing Retention Fund[13] was established to assist nurses working in hospitals where changes in service provision may otherwise have triggered layoffs or a reduction in nursing hours. This fund provides reimbursement to cover costs associated with the education and/or training provided for nurses and salary continuance (wages/salary, benefits, percentage in lieu) for a period of up to six months for nurses attending training and/or education programs (2006 to 2010).

In 2005–2006, Health Canada committed funding to a number of initiatives to promote health careers in general:

- The enhancement of the image of family medicine physicians and the role of family medicine physicians in the undergraduate medical curriculum, as well as the support provided to family physicians in primary care.
- A national conference showcasing innovative approaches to HHR planning.
- The development and implementation of a national multimedia campaign on health care providers to raise awareness of health careers.[14]

Recruitment and Retention

Health care providers are a mobile workforce. They migrate internationally, across provinces/territories, within provinces/territories and from urban to rural areas. Within Canada, health care providers primarily move from one community to another within the same province or territory. Health leaders recognize that there are many contributing factors that influence in-migration and out-migration of health care providers. Health care planners look for ways to develop policies and strategies that will attract and keep health care workers. Retention and recruitment initiatives can be specifically targeted to certain health care provider groups or can be jurisdictionally or locally based.

There is much new information in Canada and around the world related to HHR. How do we continue to get good information about HHR? What are some of the key challenges for continued enhancement of the HHR data supply? Why do data matter? In the final chapter of this report, the collection, maintenance and analysis of HHR information will be discussed as an integral component of HHR planning and management in Canada.

What We Know

- Recruitment and retention strategies exist at national, provincial/territorial, regional and local levels.
- The distribution and migration patterns of many of Canada's health professions.
- Rural in- and out-migration rates for many of Canada's health professions.
- The number and distribution of physicians moving abroad and returning to Canada, as well as the number of physicians moving between provinces/territories.

What We Don't Know

- The effect of specific recruitment and retention initiatives on the supply and distribution of Canada's health care professionals.
- Exit/retirement rates by profession.
- The reasons that explain why Canada's health workforce migrates in the way it does.

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Chapter 6

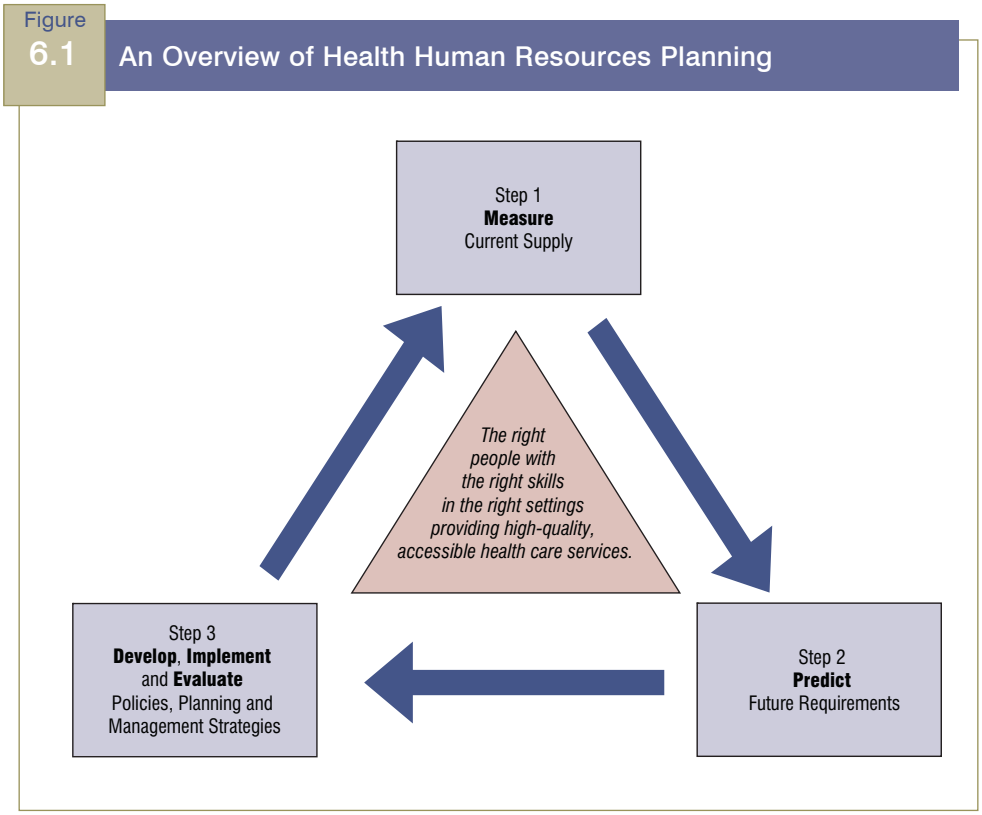
A Final Word

A Final Word

Health human resources (HHR) planning and management is about striving to provide high-quality, accessible health care services to Canadians. This final chapter will identify some of the sources of HHR planning information that are currently available, examine some of the challenges to improving the information and highlight the need to improve the data supply. Finally, some of the key themes and messages drawn from the other chapters will be summarized.

HHR Data Collection and Use—Back to the Beginning

Figure 6.1 An Overview of Health Human Resources Planning



Increasingly, HHR planning and management is being considered in terms of population health needs, patient outcomes and efficiency, safety and quality of care. In order to make meaningful connections between "measuring the current supply" and "predicting future requirements," HHR policies, planning and management strategies are constantly being developed, implemented, evaluated and revised across all levels of health care. In order to inform evidence-based decision-making, information on a number of complex factors within HHR is required. Increasingly sophisticated approaches to HHR planning, driven by population health needs that attempt to factor in multiple health system inputs, have greater and greater data requirements. Accordingly, the collection, maintenance and analysis of good-quality HHR data across health care are all critical for the successful planning and management of HHR.

Much of the HHR data in Canada come either from existing administrative data sources or from surveys. Administrative data collected on health care providers are a commonly available and utilized source of data for HHR monitoring, evaluation, planning and research in Canada today. Administrative regulatory licensing data, which are collected by health professional regulatory bodies across Canada, provide a useful source of HHR data, while administrative data from provincial and national professional associations are also

an important resource. In addition, administrative employment data collected at the health region level and/or provincial/territorial level is another important source that can be utilized for HHR planning and management.

Survey data are often used to explore and measure specific and targeted areas within HHR. Survey data from Statistics Canada such as the Census of Population, National Population Health Survey, the Canadian Labour Force Survey and the Canadian Community Health Survey can be used to understand a multitude of factors that impact HHR. Survey data collected from sector studies and other specific research studies are also critical to helping understand this complex field.

Innovations in the Collection and Use of HHR Data

Many organizations have developed effective ways to capture information for their HHR planning needs by developing new data sources or enhancing existing data sources. Some examples are listed below.

Administrative Data Collection

New Brunswick Standardized Data Collection—Since 1995, the New Brunswick Department of Health and Wellness has worked closely with regulatory bodies to collect information on selected health professions in the province. New Brunswick provides infrastructure development support for data providers, and, through data-sharing contracts, the department is able to access information from the provider organizations for use in health workforce planning. With funding assistance from Health Canada, the province has launched a project to modernize the existing system and provide information on additional health professionals.[1]

The CAPCA-HR Planning Information System—The Canadian Association of Provincial Cancer Agencies (CAPCA) has partnered with the Canadian Partnership Against Cancer (CPAC) to develop a human resource planning database and coordinated approach to planning in the broad areas of cancer control. The aim is to help address challenges facing the cancer workforce, such as inadequate information, supply of cancer health professionals, recruitment and retention and service model revisions. Through the collection of cancer incidence projections, workload planning indicators, human resources data and equipment data, the Human Resource Planning Information System (HR-PIS) seeks to predict present and future requirements for cancer at both a provincial and national level. The national HHR planning database is one of several national initiatives aimed at improving the provision of cancer services.[2]

CIHI's Health Human Resources Databases Development Project— The Canadian Institute for Health Information is developing five new national supply-based databases for occupational therapists, pharmacists, physiotherapists, medical laboratory technologists and medical radiation technologists. The new databases will address data gaps by providing a rich source of high-quality, comparable, supply-based information on geography, demographics, education and employment for these health professionals. The project is funded by Health Canada for development of the databases between 2004 and 2009.[3]

The Use of Surveys

Recent years have also seen growth in the development of sample survey instruments to complement or address information needs that cannot be adequately addressed through administrative data-collection activities. Some examples are highlighted below.

Statistics Canada's Health Human Resources and Education (HHRE) project—Health Canada and Statistics Canada are collaborating to assess and report on the education indicators necessary to monitor the supply of health professionals. The HHRE project focuses on the role of the education system in overall HHR management. The collection of this data will assist in HHR planning and will identify information needed to support efficient and effective decisions and policies about health education programs and HHR management.[4]

The 2005 National Survey of the Work and Health of Nurses (NSWHN) was undertaken through a partnership between the Canadian Institute for Health Information, Statistics Canada and Health Canada. The first of its kind for nurses in Canada, the survey was administered by telephone to a sample of licensed practical nurses (LPNs), registered nurses (RNs) and registered psychiatric nurses (RPNs) from across the country. Data from the survey help to identify relationships between selected health outcomes, the work environment and work–life experiences for the nursing profession.[5]

The National Physician Survey (NPS)—Examining trends in the physician workforce, the National Physician Survey (NPS) is a survey of the total population of physicians in Canada—practising family doctors and other specialists—as well as second-year medical residents and all medical students. Administered every three years, the survey is conducted in partnership between the College of Family Physicians of Canada (CFPC), the Canadian Medical Association (CMA) and the Royal College of Physicians and Surgeons of Canada (RCPSC), with support from the Canadian Institute for Health Information and Health Canada.[6]

Data Standards and Access to Data Are Critical

This report has highlighted some of the factors related to HHR planning and management within Canada. It has suggested that one of the key components needed to support future HHR planning and management is good data. But collecting, maintaining and using data is not an easy undertaking. Complexities are seen in many areas of data collection and utilization that range from comparability and reliability to accuracy and relevance. Two areas in particular, data standards and privacy and confidentiality, are critical for ensuring that good-quality data are the foundation for all information needs for HHR.

Data Standards

At a very basic level, standards are an agreed-upon means of describing things, that through common adoption can lead to efficiency and comparability of health information. Data standards have a tremendous impact on what analysis and reporting is possible. Standards are developed to enable relevant HHR analysis and comparison at the required levels (for example across organizations, health regions, jurisdictions or nationally).

The importance of data standards is enhanced with the emergence of new national- and provincial/territorial-level databases for HHR planning. In many cases, provincial regulatory bodies are being called upon as primary data collectors to supply the data both nationally and provincially/territorially. Alignment of the standards used across the various data sources is important in order to minimize the burden of data collection and to ensure alignment of information across the country.

Privacy and confidentiality

Limitations on access to data are a reality. Privacy guidelines and legislation ensure that there are limits placed on the collection, use and disclosure of personal health information. Many of the administrative data sources were not designed for HHR planning, and there can sometimes be restrictions on the use of that information for HHR planning purposes. It is critical to respect privacy policies set in place for the protection of personal health information; however, this sometimes results in limited access for HHR planning. For many research and analytical projects, it is a struggle to overcome these challenges.

Improving and Connecting the Data Supply

Today, more data and information about the health workforce are available to policy-makers and planners than ever before. We have information on the numbers of regulated health providers working in Canada, their educational requirements, their migratory patterns, and, for some, we even know about their work environments and work life. In order to continue to address Canada's need to monitor and understand the current supply of health care providers, there is a need to improve our data supply, but also to make effective use of existing and available data. There is no one data source that will support all the HHR planning and management needs in Canada. Instead, initiatives to enhance connections between existing data sources and to explore new data source to fill certain gaps are under way in a number of different areas. Continued investments in data standardization, data collection, data analysis and data access will help to bridge the existing gaps and to enhance Canada's knowledge base in HHR.

Summary

This report provided a snapshot of some of the issues facing HHR in 2007 and looked at how the landscape has changed in the last few years.

In Chapter 1, we provided an overview of the emergence and importance of HHR and the complexities of undertaking HHR planning in the current environment. Examples of how jurisdictions are finding innovative ways to collect and use information for HHR planning were also highlighted.

Chapter 2 looked at the different types of health care providers and the education and training paths to becoming a health care provider. The chapter explored the regulatory environment within which professions work and the changing environment in which they practise, including changes to education and training requirements and changes to scopes of practice and competencies. It also examined the important role played by internationally educated health care professionals in Canada's health care system and some of the challenges and opportunities they face.

Chapter 3 provided a more in-depth look at the various facets of supply-based data that are available to help inform HHR planning: supply-side data were the primary focus of the report. We looked at the numbers and distribution of health care providers across Canada; general characteristics, including age, gender and language; where they work; and how they work.

Chapter 4 focused on the health and well-being of health care workers. We explored the health status of the workforce, including both absenteeism and workplace injuries. The chapter also examined job satisfaction and how this varies across job settings and highlighted a variety of healthy workplace initiatives from across the country.

Chapter 5 explored issues around recruitment and retention and the importance of attracting and maintaining health care providers in certain areas. The distribution and migration patters of Canada's health workforce were addressed by looking both across and within provinces and territories. We also examined the distribution of health professionals in urban and rural areas of the country.

Finally, throughout the chapters we have looked at what we know, what we don't know and examples of innovative and effective approaches from various health leaders to using information for HHR planning and management.

Conclusion

HHR planning and management has been, and continues to be, a priority area for the health care system in Canada. The last several years have yielded a substantial body of new learning, new strategies, new successes and new challenges in HHR. Making connections between the multitude of factors that affect HHR in Canada is challenging. Information about population health needs, HHR demographic, education and employment status, recruitment and retention factors, changing social and economic environments and health system delivery models should be considered. Most challenges that are faced by the health care system have some HHR component. Managing wait times, improving access and quality of care, promoting health, preventing disease and ensuring patient safety are a few examples. Given that HHR is an integral part of the health care system, HHR will also be part of the solution to continuously improve health service delivery in Canada.

The decade of HHR is under way and yielding new knowledge every day—there is much to look forward to.

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