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A PROFILE OF WOMEN'S HEALTH INDICATORS IN CANADA

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Prepared for the Women's Health Bureau, Health Canada
by
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WHY A GENDER PERSPECTIVE?

According to Health Canada, gender-based analysis “provides a framework for analysing and developing policies, programs and legislation, and for conducting research and data collection – a framework that recognizes that women and men are not all the same.” Health Canada has committed to integrate gender-based analysis completely into its work, so that “gender-based analysis will become inherent to our way of thinking as Health Canada employees.”¹

The federal government’s 1995 *Federal Plan for Gender Equality* stated:

*“The federal government is committed through the Federal Plan to ensuring that all future legislation and policies include, where appropriate, an analysis of the potential for different impacts on women and men.”*²

Health Canada formalized this responsibility in March, 1999, with the adoption of *Health Canada’s Women’s Health Strategy*, which states:

“In keeping with the commitment in the Federal Plan for Gender Equality, Health Canada will, as a matter of standard practice, apply gender-based analysis to programs and policies in the areas of health system modernization, population health, risk management, direct services and research.”

Health Canada also notes that gender-based analysis is an essential component of its “determinants approach” to population health, which focuses on sub-groups of the population, since women and men are the two main population sub-groups.³

There are three main arguments for a gender-based analysis of health issues:

- 1) The first reason is *descriptive*: Women have distinct health profiles and needs. As Health Canada notes, “in questions of health, it matters whether you are a woman or a man.” The differences manifest in:

*“patterns of illness, disease, and mortality; the way women and men experience illness, their interactions with the health system; the effects of risk factors on women’s and men’s wellbeing and the social, cultural, economic and personal determinants of health, which are significantly affected by gender differences.”*⁴

Thus, former federal Health Minister Allan Rock spoke of “the need to enhance the sensitivity of the health system to women’s health issues” and “the need for more research, particularly on the links between women’s health and their social and economic circumstances.”⁵ Similarly, the National Forum on Health recommended that the health system pay more attention to the factors which influence women’s health and be more responsive to the distinct needs of women.⁶

¹ Health Canada, *Health Canada’s Gender-based Analysis Policy*, Ottawa, 2000, pages 1-2.

² Health Canada, *Health Canada’s Gender-based Analysis Policy*, Ottawa, 2000, page 3.

³ Health Canada, *Health Canada’s Gender-based Analysis Policy*, Ottawa, 2000, page 4.

⁴ Health Canada, *Health Canada’s Women’s Health Strategy*, March 1999, page 7.

⁵ Health Canada, *Health Canada’s Women’s Health Strategy*, March 1999, page 1: Introductory “Message from the Minister”; available at <http://www.hc-sc.gc.ca/datawhb/womenstr2.htm>

⁶ National Forum on Health, *Canada Health Action: Building on the Legacy: The Final Report of the National Forum on Health*, 1997; available at <http://www.nfh.hwc.ca>

Health Canada notes that gender-based analysis “makes for good science and sound evidence by ensuring that biological and social differences between women and men are brought into the foreground.” That basis in evidence makes a gender perspective essential to health policy, as it “ensures that both women and men identify their health needs and priorities, and acknowledges that certain health problems are unique to, or have more serious implications, for men or women.”⁷

- 2) The second reason is *normative* -- to ensure equal treatment for women, and the elimination of traditional biases that have impeded women's wellbeing and progress. Thus, Health Canada notes that gender-based analysis “points to the need to correct past inequities...[that] have led to women’s health issues being neglected, under-funded and misunderstood.” For example, clinical trials for new drugs historically tended to be conducted primarily on men. Application of gender-based analysis revealed a gender bias in the drug approval process that challenged the scientific validity of earlier findings and led to a new Health Canada policy that now requires the inclusion of both sexes in most clinical trials.⁸

Health Canada points to four types of bias in the health system that have affected women both as users of the health care system and as caregivers:

- (1) *A narrowness of focus* that ascribes to women the traditional role of mother and child-bearer, that confines interventions to the medical model, and that assumes all women are heterosexual.
 - (2) *Exclusion* of women from key health policy decisions and research, or due to ethnicity, sexual orientation, or disability. Such exclusions translate into reduced access to resources, and inadequate funding for research in women’s health issues.
 - (3) *Treating women the same way* as men when it is inappropriate to do so, resulting in misdiagnoses of illness, misunderstanding of women’s predominant role in caregiving, and failure of treatment programs to address women’s distinct health needs.
 - (4) *Treating women differently* from men, when it is not appropriate to do so, including lack of respect and understanding by health care providers, and lack of recognition accorded to the nursing profession where women predominate.⁹
- 3) The third reason is *practical* and *policy-oriented*. Instead of blunt across-the-board solutions that may miss the mark, use scarce financial resources ineffectively, and even cause harm to particular groups, a gender perspective can allow policy-makers to identify and target health care dollars more effectively and accurately to achieve the best return on investment. Thus, Health Canada’s Women’s Health Strategy aims to “promote good health preventive measures and the reduction of risk factors that most imperil the health of women.”

The more precisely health dollars are directed to high-risk groups, for example, the greater the long-term cost savings to the health care system. For example, programs and materials aimed at curbing high rates of smoking among teenage girls will be more effective if they address the particular motivations and circumstances of this group than if they simply employ blanket health warnings about smoking.

⁷ Health Canada, *Health Canada’s Gender-based Analysis Policy*, Ottawa, 2000, page 6.

⁸ Health Canada, *Health Canada’s Gender-based Analysis Policy*, Ottawa, 2000, pages 12 and 1.

⁹ Health Canada, *Health Canada’s Women’s Health Strategy*, Ottawa, March 1999, pages 14-17.

A gender-based analysis goes well beyond simple male-female statistical comparisons to an understanding of the differential social, structural, and power relations among men and women. To that end, the indicators that follow include assessments of social and economic determinants of health, such as differential work roles, what Statistics Canada has called “gender-based labour market discrimination,” and the unequal gender division of labour in the household that has produced higher rates of time stress for women.

A gender-based inventory of health indicators cannot rely only upon the results of health surveys, but must also access a wider range of sources. Thus, the inventory that follows uses income and employment data from Statistics Canada’s recent *Income in Canada* report, released in November, 2002, and from Statistics Canada’s 2001 *Labour Force Historical Review*, released in February, 2002.¹⁰ Additional data are drawn from Statistics Canada’s Survey of Financial Security (SFS) – the first such assessment of the debts, assets, wealth, and net worth of Canadians since 1984. Data on voluntary work, an important indicator of social supports, are from the 2000 National Survey on Giving, Volunteering and Participating, released in August, 2001.¹¹

Those sources are relevant to any analysis of the social and economic determinants of health. But an assessment of women’s health must also reference particular indicators that may be absent from a more general inventory of health indicators. For example, the Canadian Institute for Health Information (CIHI) and Statistics Canada have recognized crime as a non-medical determinant of health. But an inventory of women’s health indicators should also include the particular incidence of family violence and spousal violence, which have particularly serious consequences for the health of many women. The inventory that follows therefore also includes results from Statistics Canada’s 1999 General Social Survey on Victimization, released by the Canadian Centre for Justice Statistics (CCJS) in three separate statistical profiles of family violence in Canada (July 2000, June 2001, and June 2002).¹²

To supplement information from the victimization survey, 2001 data from the Uniform Crime Reporting Survey (UCR), released in July 2002, are also referenced for information on police-reported sexual assaults.¹³ Although police-reported incidents of sexual assault likely represent only 10% of cases, they are probably the most serious ones, and can be combined with the more complete data from the 1999 victimization survey to indicate the dimensions of violence against women and its potential impact on women’s health.

Women use health services more than men and are therefore disproportionately affected by barriers to health service access. In 2001, Statistics Canada conducted its first Health Services Access Survey, and released those results in June 2002. By joining those results with patient

¹⁰ Statistics Canada, *Labour Force Historical Review*, catalogue no. 71F0004XCB, February, 2002; Statistics Canada, *Income in Canada*, catalogue no. 75-202-XIE, November, 2002.

¹¹ Statistics Canada, *Caring Canadians, Involved Canadians: Highlights from the 2000 National Survey of Giving, Volunteering and Participating*, catalogue no. 71-542-XIE, Ottawa, August, 2001.

¹² Statistics Canada, Canadian Centre for Justice Statistics, *Family Violence in Canada: A Statistical Profile*, catalogue no. 85-224-XIE, July 2000 (59pp), June 2001 (50pp), and June 2002 (49pp).

¹³ Savoie, Josée, “Crime Statistics in Canada 2001,” *Juristat* volume 22, no. 6, Statistics Canada, Canadian Centre for Justice Statistics, catalogue no. 85-002, particularly Table 3, page 16.

satisfaction data from the 2000/01 CCHS, it is possible to include new indicators of health service access in the inventory that follows.¹⁴

There are also indicators of women's health that should be included in a comprehensive inventory, but are omitted here due to absence of sufficient data. For example, women have higher rates of several mental illnesses. But there is still very little evidence on the incidence and prevalence of most mental illnesses in Canada; their association with socio-economic status, education, ethnicity and other variables; their impacts on physical health and wellbeing; associated risk and protective factors; and access to mental health services.¹⁵ An indicator of life stress is included in the inventory presented here, but it does not do justice to the importance and complexity of mental health issues.

Fortunately, Cycle 1.2 of the Canadian Community Health Survey, specifically on mental health and wellbeing, has just been administered to 30,000 Canadians (May-November, 2002), and results will be released by Statistics Canada at the end of summer, 2003. This survey will therefore soon provide detailed first-time provincial and regional information on the mental health of Canadians that will allow far more comprehensive updates on the mental health of Canadian women than have hitherto been possible.

Conceptual issues in constructing an inventory of women's health indicators

The purpose of any inventory of women's health indicators is not simply to present statistics, but to provide data that can clarify pathways between health determinants and health outcomes, and thus deepen an understanding of women's health issues. The following appear to be increasingly salient conceptual issues in the analysis of women's health indicators:

- **Gender-based analysis and diversity.** As noted above, it is now understood that gender-based analysis must go beyond a mere listing of male-female differences in health determinants, health status, and health service utilization. Rather, understanding must be grounded in analysis of gender roles, social-cultural contexts, power and economic relationships, structural and systemic biases, and diversity (including the particular circumstances of Aboriginal, immigrant, visible minority, and disabled women). Thus, Health Canada notes that a gender-based analysis "should be overlaid with a *diversity analysis* that considers factors such as race, ethnicity, level of ability and sexual orientation."¹⁶ While detailed data are not presently available for many sub-groups of women, future updates of this inventory should aspire to provide such information.

As Health Canada's Women's Health Strategy notes:

*"Women are not a homogeneous group. Disability, race, ethnocultural background and sexual orientation have varying influences on women's health and on their interactions with the health system. The Strategy will be sensitive to these issues of diversity."*¹⁷

¹⁴ Statistics Canada, *Access to Health Care Services in Canada 2001*, catalogue no. 82-575-XIE, June, 2002, and Statistics Canada, *CANSIM II* database.

¹⁵ Health Canada, *A Report on Mental Illnesses in Canada*, Ottawa, October, 2002.

¹⁶ Health Canada, *Health Canada's Gender-based Analysis Policy*, Ottawa, 2000, page 1.

¹⁷ Health Canada, *Health Canada's Women's Health Strategy*, Ottawa, 1999, page 4

The Heart and Stroke Foundation of Canada has noted that for heart disease:

“At greater risk are women with low levels of education, low income, and low control over their work environment. These women are more likely to smoke and to be both sedentary and obese. As well, visible minority women are also more at risk, notably South-Asian and Black women.”¹⁸

A modest step towards a diversity approach is taken here with the presentation of provincial health data that recognize distinct differences among women living in different parts of the country. While falling far short of a full diversity analysis, the provincial breakdowns that follow at least overcome any tendency to assume that Canadian women form a cohesive whole as far as health determinants or health outcomes are concerned. Hopefully, future analyses will shed more light on the particular health determinants, outcomes, and service needs of women with disabilities, Aboriginal women, Black women, immigrant women, and other sub-groups. The provincial breakdowns are therefore just a small first step towards more detailed future gender-based analyses that account for the considerable diversity among Canadian women.

- ***Social exclusion/inclusion.*** Significant progress has been made in recent years in acknowledging the importance of socio-economic determinants of health such as education, income, equity, and employment. Thus, CIHI and Statistics Canada now recognize a wide range of “non-medical determinants of health” and provide important statistical information on these variables. But these measures are still treated largely as stand-alone economic and social indicators. In recent years, Health Canada and other agencies and research institutions have recognized that a more comprehensive concept of “social exclusion” and “inclusion” is necessary to go beyond such single-factor analysis, and to recognize the interaction among the different social and economic determinants of health.¹⁹

This new research recognizes that social and economic disadvantages tend to be clustered to create a negative feedback loop. Rather than speculate on linear cause-effect relationships, social exclusion theorists posit that illiteracy, low income, unemployment and underemployment, disabilities, racial minority status, the difficulties of single parenthood, and other factors reinforce each other. Together, these disadvantages create a psycho-social syndrome that undermines self-esteem and excludes particular groups from society in a wide range of ways. This notion is important for women’s health, as gender may be a vital component of exclusion.

This analysis may have advantages over earlier, narrower, more uni-dimensional inquiries, in pointing to systemic and mutually reinforcing biases that may adversely affect health and produce high social costs. It can also assist policy makers in targeting interventions where needs are greatest, thus enhancing the cost effectiveness of scarce resource allocations. The analysis may potentially be counter-productive if it justifies inaction on any one of the clustered disadvantages. From a policy perspective, it is essential to recognize that a single

¹⁸ Heart and Stroke Foundation of Canada (1997), “Women, Heart Disease and Stroke in Canada,” cited in Health Canada, *Health Canada’s Women’s Health Strategy*, Ottawa, 1999, page 8.

¹⁹ See for example Amaratunga, Carol (ed.), *Inclusion: Will our Social and Economic Strategies Take Us There?* Volume 2 of *Women’s Health in Atlantic Canada Trilogy*, Atlantic Centre of Excellence for Women’s Health, Halifax, 2000.

intervention like job creation may break the cycle of disadvantage and foster a wider sense of inclusion.

While the inventory that follows does not systematically undertake the kind of analysis described here, the perspective of social exclusion and inclusion can help the reader view the indicators and statistics that follow as interconnected and potentially mutually reinforcing. For example, Cape Breton has some of Canada's highest rates of unemployment, long-term unemployment, out-migration, and dependence on government transfers, as well as low average income. Cape Bretoners spend more years living with disabilities than residents of any other health district in Canada.²⁰ From the perspective of social exclusion/inclusion analysis, it may be understandable that Cape Bretoners have depression rates 40% in excess of the national average and frequently feel "excluded," neglected, and alienated from policies emanating from Halifax and Ottawa. Similar analyses might be appropriate for the northern territories and for other regions and groups.

- **Interactive nature of health determinants.** Our understanding of the interactions among the different determinants of health and of the causal links between them remains largely conjectural. But it is crucial not to view the following inventory of indicators simply as a list of stand-alone measures. Instead, it is important to recognize that there may be dynamic synergies among many of the determinants of health, with intervening social processes either exacerbating or ameliorating health impacts. This inventory should therefore be seen simply as one step in a longer-term process that leads to an ever-deeper understanding of the interaction among the determinants of women's health in Canada.

The highly interactive nature of the determinants of women's health may be illustrated by an example. Stress has adverse physical outcomes for both men and women, but in many cases may have particular origins in women's social-structural roles. Stress can be occasioned both by the financial pressures of pay inequity and single parenthood, and by the double burden of paid and unpaid work, which in turn may lead to time stress and unhealthy lifestyle behaviours. In this case, a wide range of health determinants, including employment, income, gender, lifestyle, marital status, and stress may interact to produce physical health problems. This indicates clearly that the following indicators should not be seen in isolation, but as highly dynamic, interactive, and suggestive of needed research into the pathways between the key health determinants and health and disease outcomes.

- **Policy.** Finally, the purpose of all research is to provide benefit to society and individuals. Any inventory of indicators must therefore implicitly point to potential policies and actions that flow naturally from the data presented. This may take the form of building on success, such as reinforcing and strengthening comprehensive tobacco control strategies that have reduced smoking rates. Or it may identify gaps and weaknesses suggestive of particular remedies. For example, the data may identify regions in Canada that have low rates of mammogram screening. Unnecessary deaths from breast cancer may be avoided by a combination of mobile clinic visits and education. In short, the statistics that follow implicitly suggest interventions designed to improve the health of Canadian women.

²⁰ Shields, Margot, and Stephane Tremblay, "The Health of Canada's Communities," Supplement to *Health Reports*, Statistics Canada, catalogue no. 82-003.

ECONOMIC DETERMINANTS OF HEALTH

1. Income & Equity

Income is a key determinant of health, and poverty is one of the most reliable predictors of poor health. Low income Canadians are more likely to have poor health status and to die earlier than other Canadians.²¹ Canadians in the lowest income households are four times more likely to report fair or poor health than those in the highest income households, and they are twice as likely to have a long-term activity limitation.²²

Income has particular relevance for women's health because women have higher rates of low income than men, and are therefore correspondingly more likely to suffer adverse health outcomes attributable to poverty. In 2000, 11.9% of Canadian women lived below Statistics Canada's low-income cut-off, compared to 9.9% of Canadian men.²³

Particular sub-groups of women are at particular risk. For example, 21% of unattached elderly women lived below the low-income cut-off in 2000, compared to 16.8% of unattached elderly men, and only 2% of seniors living in families. The low-income rate of employed single mothers was 25.1%, and of single mothers without jobs it was 87.8%.²⁴

The relationship between poverty and disease has been well documented. For example, a recent analysis of urban neighbourhoods in Canada found that the poorer the neighbourhood, the shorter the life expectancy of its residents at birth. For both men and women in all years, the poorest neighbourhood income group was particularly disadvantaged.²⁵

One recent study found poor Canadians at higher risk of heart disease, and attributed 6,366 Canadian heart disease deaths a year and nearly \$4 billion a year in health care costs to poverty-related heart disease.²⁶ Another study found that coronary heart disease risk was 2.5 times higher among those in the lowest income and education class than in the highest.²⁷

Poverty and unemployment are also associated with adverse lifestyle factors, including poorer nutrition and higher rates of tobacco use, obesity, and physical inactivity. For example, those in the lowest income bracket are two and a half times more likely to smoke than those in the highest income bracket. Wealthier individuals have a lower incidence of high blood pressure and high blood cholesterol, and they live longer. Because these are risk factors for heart disease, declines

²¹ Health Canada, *Toward a Healthy Future: Second Report on the Health of Canadians*, Ottawa, 1999, page 31.

²² *Ibid.*, pages 15 and 43.

²³ Statistics Canada, *Income in Canada 2000*, catalogue no. 75-202-XIE.

²⁴ Statistics Canada, *Income in Canada 2000*, catalogue no. 75-202-XIE.

²⁵ Wilkins, Russell, Jean-Marie Berthelot, and Edward Ng, "Trends in mortality by neighbourhood income in urban Canada from 1971 to 1996," *Supplement to Health Reports*, volume 13, September, 2002, Statistics Canada, catalogue no. 82-003.

²⁶ Raphael, Dennis, *Inequality is Bad for our Hearts*, York University, 2001. An expanded version of this report, titled "Social Justice is Good for Our Hearts: Why Societal Factors – Not Lifestyles – Are Major Causes of Heart Disease in Canada and Elsewhere" is available at: <http://www.socialjustice.org/>.

²⁷ Kabat-Zinn, Jon, "Psychosocial Factors: Their Importance and Management," in Ockene, Ira, and Judith Ockene, *Prevention of Coronary Heart Disease*, Little, Brown, and Company, Boston, 1992, page 304.

in heart disease incidence and mortality have occurred much less rapidly among the poor than among higher socio-economic groups.²⁸

A 1997 survey conducted by the Ottawa-based National Institute of Nutrition concluded that limited income constitutes a major barrier to adequate nutrition: “20% of households with incomes under \$25,000 believe their household does not have enough money for a healthy diet, up from 14% in 1994.”²⁹ In the U.S., a 1998 Department of Agriculture study found nearly one-fifth of American children are “food insecure,” – either hungry, on the edge of hunger, or worried about being hungry.³⁰ And in the U.K., an 18-month inquiry in the mid-1990s blamed mounting poverty for a rise in malnutrition on a scale unseen since the 1930s.³¹ The problem is clearly not a shortage of food – in Canada, estimates suggest that 20% of the food supply is wasted.³²

Hospital, physician, and other health care utilization is substantially higher for low-income groups. One study found that low-income women aged 15-39 were 62% more likely to be hospitalized than those with adequate incomes, and those aged 40-64 were 92% more likely to be hospitalized.³³ Another study found that lower income groups use 43% more physician services than upper income groups, and lower-middle income groups use 33% more. In fact, there is a clear gradient by social class: the lower the status, the more health care services used.³⁴

Single mothers consistently report worse health status than mothers in two-parent families, with long-term single mothers reporting particularly poor health – an outcome that may be linked to low income. Single mothers score lower on two scales of self-perceived health and “happiness,” and substantially higher on a “distress” scale. They have higher rates of chronic illness, disability days, and activity restrictions, and are three times as likely to consult a health care practitioner for mental and emotional health reasons.³⁵

²⁸ Idem., and Stamler, Jeremiah and Rose, preface to Ockene, Ira, and Judith Ockene, *Prevention of Coronary Heart Disease*, Little, Brown and Company, Boston, 1992, page xiv; Health Canada, *Toward a Healthy Future*, page 119, and Exhibit 5.7; Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, September, 1999, page 267.

²⁹ National Institute of Nutrition, “Tracking Nutrition Trends 1989 – 1994 – 1997,” 10 November, 1997, available at: http://www.nin.ca/public_html/Media/Archives/newsnov10_97.html.

³⁰ Gardner, Gary, and Brian Halweil, “Nourishing the Underfed and Overfed,” chapter 4 in Worldwatch Institute, *State of the World 2000*, W.W. Norton and Company, New York, 2000, page 62.

³¹ “Poverty is Blamed for Diet Crisis,” *Guardian*, 28 January, 1996, cited in Province of British Columbia (1996), *Cost Effectiveness/Value of Nutrition Services: An Annotated Bibliography*, Prevention and Health Promotion Branch, Ministry of Health, B.C., page 11.

³² Norman, Diane, “Access to Food for the Elderly,” *Rapport* 6 (1): 4-5, January, 1991.

³³ S.J. Katz, T.P. Hofer, W.G. Manning, “Hospital Utilization in Ontario and the United States: The Impact of Socioeconomic Status and Health Status,” *Canadian Journal of Public Health*, 1996, volume 87, no. 4, pages 253-6; Kathryn Wilkins and Evelyn Park, “Characteristics of Hospital Users,” Statistics Canada, *Health Reports*, Winter 1997, volume 9, no. 3, pages 34-35.

³⁴ Kephart, George, Vince Thomas, and David MacLean, “Socioeconomic differences in the use of physician services in Nova Scotia,” *American Journal of Public Health* 88 (5): 800-803, May, 1998.

³⁵ Claudio Perez and Marie Beaudet, “The Health of Lone Mothers,” Statistics Canada, *Health Reports*, volume 11, no. 2, Autumn 1999, catalogue no. 82-003-XPB, pages 21-32.

On 31 different indicators, children are more likely to experience problems as family income falls.³⁶ Low-income children are more likely to have low birth weights, poor health, less nutritious foods, higher rates of hyperactivity, delayed vocabulary development and poorer employment prospects.³⁷ Although they engage in less organized sports, poor children have higher injury rates, and twice the risk of death due to injury than children who are not poor.³⁸

The *distribution* of income in a given society may be a more important determinant of population health than the total amount of income earned by society members.³⁹ According to the editor of the British Medical Journal:

*What matters in determining mortality and health in a society is less the overall wealth of the society and more how evenly wealth is distributed. The more equally wealth is distributed, the better the health of that society.*⁴⁰

Statistical evidence further indicates that “inequalities in health have grown in parallel with inequalities in income” and that “relative economic disadvantage has negative health implications.”⁴¹

Equity has particular relevance for women’s health, because women have traditionally been subject to a wide range of inequities. A narrowing of these inequities therefore has considerable potential to improve women’s health. For example, there has been increasing parity in education, and there are now almost as many Canadian women with post-secondary education as men. Between 1971 and 1996, men doubled and women quadrupled their rate of university graduation.⁴² As education is a key determinant of health, this growing educational equity has positive implications for women’s health.

³⁶ David Ross, “Rethinking Child Poverty,” *Insight, Perception*, 22:1, Canadian Council on Social Development, Ottawa, 1998, pages 9-11.

³⁷ Health Canada, *Toward a Healthy Future: Second Report on the Health of Canadians*, Ottawa, 1999, page 85, and chapter 3.

³⁸ Barbara Morrongiello, “Preventing Unintentional Injuries Among Children,” *Determinants of Health: Children and Youth*, Canada’s Health Action: Building on the Legacy, Volume 1, National Forum on Health, 1998.

³⁹ Bartley, Mel, David Blane and Scott Montgomery, “Health and the Life Course: Why Safety Nets Matter,” *British Medical Journal*, 314, 1997, pages 1194-96; George Kaplan, et al., “Inequality in Income and Mortality in the United States,” *British Medical Journal*, 312, 1996, pages 999-1003; Helen Roberts, “Children, Inequalities and Health,” *British Medical Journal*, 314, 1997, pages 1122-1125; Richard Wilkinson, “Health Inequalities: Relative or Absolute Material Standards?”, *British Medical Journal* 314, 1997, pages 591-595; Douglas Black, Margaret Whitehead, et al., *Inequalities in Health*, Penguin, 1992; Douglas Carroll, George Davey Smith and Paul Bennett, “Some Observations on Health and Socio-economic Status,” *Journal of Health Psychology*, 1, 1996, pages 23-39; Margo Wilson and John Daly, “Life Expectancy, Economic Inequality, Homicide, and Reproductive Timing in Chicago Neighbourhoods,” *British Medical Journal*, 314, 1997, pages 1271-74; Robert A. Hahn, “Poverty and Death in the United States - 1973 and 1991,” *Epidemiology*, 6, 1995, pages 490-97; George Davey Smith, David Blane and Mel Bartley, “Explanations for Socioeconomic Differentials in Mortality,” *European Journal of Public Health*, 4, 1994, pages 131-44; C. McCord and H. Freeman, “Excess Mortality in Harlem,” *New England Journal of Medicine*, 322, 1990, pages 173-77.

⁴⁰ “Editorial: The Big Idea,” *British Medical Journal* 312, April 20, 1998, page 985, cited in Health Canada, *Toward a Healthy Future*, page 39. See previous footnote for citations of several articles on the subject published by the British Medical Journal that are the basis for this editorial.

⁴¹ Ted Schrecker, “Money Matters: Incomes tell a story about environmental dangers and human health,” *Alternatives Journal*, 25:3, Summer, 1999, page 16

⁴² Statistics Canada, *1996 Census: The Nation Series*, catalogue no. 93F0028SDB96001.

By contrast, the gender wage gap remains almost as wide today as a decade ago, with women still earning only 81 cents an hour for every male dollar.⁴³ Unable to explain more than half of this hourly wage gap by any of 14 different demographic, educational, occupational, or employment characteristics, Statistics Canada acknowledged that the persistence of this major inequity was largely a function of “gender-based labour market discrimination.”⁴⁴ In sum, equity and inequity may be as important for women’s health as absolute levels of income.

Since socio-economic status is modifiable, the poorer health outcomes and excess use of health care services by low-income women is as avoidable as that incurred through unhealthy lifestyles. Improving the status of lower socioeconomic groups and closing the income gap between rich and poor can therefore lead to improved health outcomes for disadvantaged women, and substantial cost savings to the health care system. For that reason, declines in low-income rates and improvements in equity are key indicators of women’s health.

In this section, four indicators of equity are provided:

1. Gender Wage Gap
2. Quintile Gap
3. GINI Coefficient
4. Financial Security

Measures of low income are also provided for:

1. Women
2. Female lone parents
3. Elderly women
4. Children

An additional housing affordability indicator is also provided.

In the presentation that follows, the order is slightly changed. Financial security is presented after the income indicators, because it measures wealth rather than income. Low-income rates for female lone parents are considered in a special section before the other categories. Education, while clearly related to equity issues, is considered later in this report among the social indicators.

1.1 Gender wage gap

Indicator description

Since women average fewer weekly paid hours than men, the most accurate and conservative indicator of pay equity is hourly wage rates. Because there are a number of different ways to describe the wage gap, results are presented separately here for

- a. average hourly wages – all employees,
- b. median hourly wages – all employees,

⁴³ Statistics Canada, *Labour Force Historical Review 2001*, catalogue no. 71F0004-XCB, February, 2002.

⁴⁴ Drolet, Marie, “The Persistent Gap: New Evidence on the Canadian Wage Gap,” Income Statistics Division, Statistics Canada, December, 1999, catalogue no. 75F0002-MIE-99008, page 13.

- c. average hourly wages – full-time employees
- d. average weekly wages – full-time employees.

Indicator (a) is also presented by province to assess provincial wage gap differences.

Relevance

If income inequality impacts health status, as the evidence indicates, then the wage gap between men and women is of concern. A narrowing of the gender wage gap therefore signifies progress and has potentially positive implications for women's health.

Results

While the gender wage gap gradually narrowed in the 1970s and 1980s, it has stabilized since then and hardly shifted in the last decade. In the last five years, the gender wage gap has actually widened slightly. Despite growing parity in educational qualifications, women still earn just 81% of male hourly wages (Table 1).⁴⁵

Table 1. Gender wage gap, 1997-2001, average and median hourly wage – all employees, average hourly wage – full-time employees; average weekly wage – full-time employees.

		1997	1998	1999	2000	2001
Average hourly wage - all	Male	17.07	17.30	17.77	18.36	18.95
	Female	13.91	14.06	14.38	14.78	15.29
	F:M ratio	81.5%	81.3%	80.9%	80.5%	80.7%
Median hourly wage - all	Male	15.70	16.00	16.25	16.80	17.21
	Female	12.32	12.50	12.86	13.05	13.74
	F:M ratio	78.5%	78.1%	79.1%	77.2%	79.8%
Average hourly wage – f-t	Male	17.80	18.08	18.57	19.19	19.81
	Female	14.76	14.91	15.29	15.72	16.24
	F:M ratio	82.9%	82.5%	82.3%	81.9%	82%
Average weekly wage – f-t	Male	670.79	680.45	698.53	721.49	744.19
	Female	463.62	470.68	484.52	499.84	517.31
	F:M ratio	69.1%	69.2%	69.4%	69.3%	69.5%

Source: Statistics Canada, Labour Force Historical Review 2001.

When *median* rather than *average* wages are examined, the hourly wage gap is even larger (80%), indicating that inequity among women is greater than inequity among men. (The *median* wage is the representative or typical wage of a group, calculated as the middle value, where 50% of earners receive more and 50% receive less. The *average* wage is always higher than the median wage because it is skewed upwards by the higher earnings of the rich.)

⁴⁵ Statistics Canada, *Labour Force Historical Review 2001*, catalogue no. 71F0004-XCB, CD-ROM, Ottawa, 2002, Table T69-CDIT38AN.IVT, "Wages of employees by occupation, full- and part-time, age groups, sex, Canada, province, annual average."

It is likely that women's higher rate of part-time work, where wages are generally lower, explains a substantial portion of the wage gap. Comparing the hourly wages of *only* full-time workers, however, we see that this adjustment removes only a small portion of the wage gap. Even among full-time workers, women earned an average of 82 cents for every dollar earned by men.

Hourly wages are the most accurate and conservative gauge of pay equity, since women average fewer weekly paid hours than men. When weekly wages are examined, therefore, the male-female gap appears even larger (70%). Again for the sake of fairer comparison, only the weekly wages of full-time male and female workers are compared. If the wages of all workers were counted, including part-timers, the gap would be about seven percentage points wider than indicated below. If average income from all sources (including transfers, interest, dividends, etc.) were taken into account the average female-male income ratio for full-time full-year workers would be about 73%.⁴⁶

Prince Edward Island has the smallest wage gap between men and women (94.3% in 2001). Quebec (83.1%), British Columbia (82.5%), and Manitoba (82.2%) also had somewhat smaller hourly wage gaps than the national average. The largest gender wage gaps in the country are in Newfoundland and Labrador (77%) and Alberta (77.2%) (Figure 1).

Interpretation

Two detailed Statistics Canada analyses of the persistent gender wage gap, in 1999 and 2001, examined 14 different factors to determine why women's hourly wages overall have remained at 81% of the male hourly wage over time despite women's clear educational gains over time. After taking into account a wide range of employment characteristics and socio-demographic factors, including education, field of study, hours worked, full-time or part-time status, work experience, job tenure, industry, occupation, job duties and supervisory role, firm size, union membership, and age of children, Statistics Canada analysts have concluded that "roughly one half to three quarters of the gender wage gap cannot be explained."⁴⁷

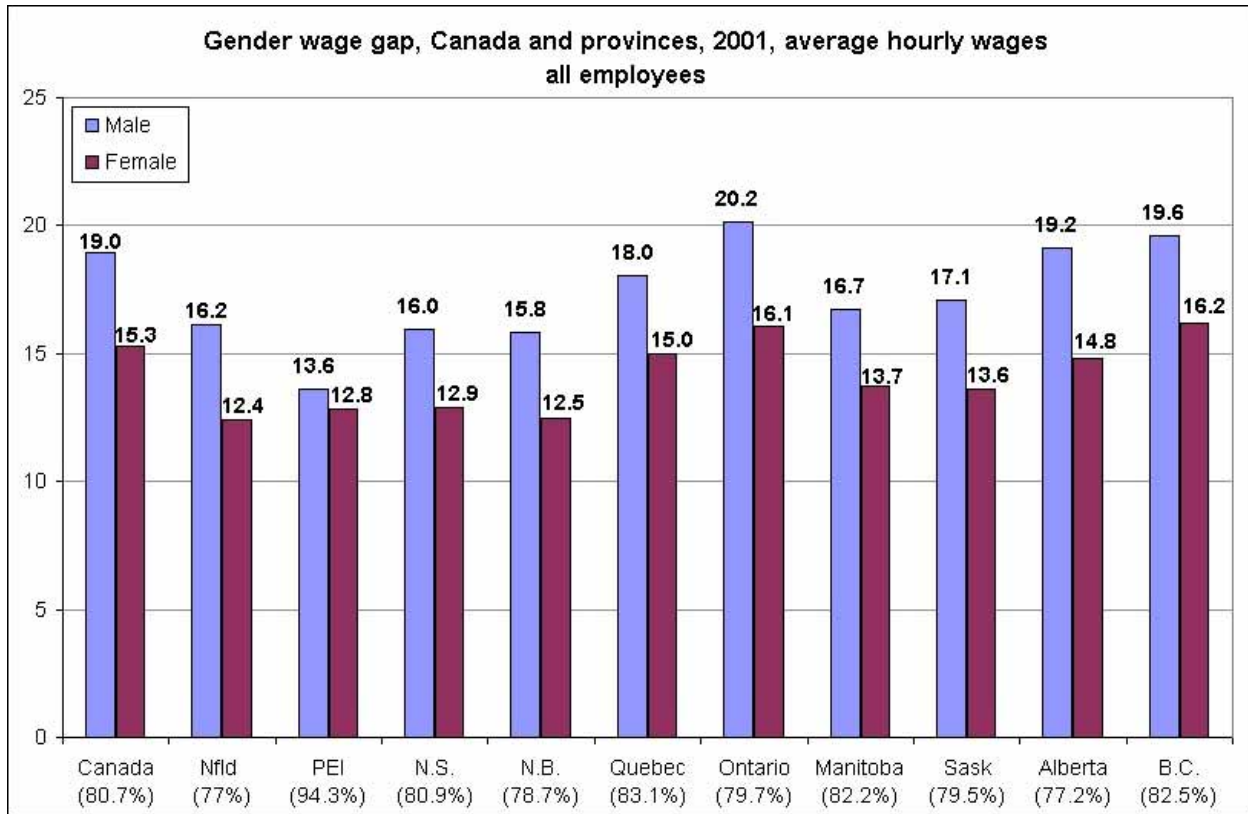
In other words, women are earning substantially less than men even when they have identical work experience, education, job tenure and other characteristics, when they perform the same job duties and when they work in the same occupations and industries for the same weekly hours. "This 'unexplained' component," says Statistics Canada, "is referred to as an estimate of the gender based labour market discrimination."⁴⁸

⁴⁶ Statistics Canada, *Earnings of Men and Women, 1997*, June 1999, based on Survey of Consumer Finances, April, 1998, catalogue no. 13-217-XIB. Cumulative percentages calculated by the author from data provided on page 32 of this publication. Although these data are somewhat older than the 2001 hourly and weekly wage data presented in this section, it is clear that the female: male wage gap ratios have remained fairly stable since 1997, so the 73% ratio provided here for all income sources will have changed little.

⁴⁷ Drolet, Marie, *The Persistent Gap: New Evidence on the Canadian Gender Wage Gap*, Statistics Canada, catalogue no 11F0019-MPE, no. 157, January, 2001, page 9.

⁴⁸ Marie Drolet, *The Persistent Gap: New Evidence on the Canadian Gender Wage Gap*, Income Statistics Division, Statistics Canada, December, 1999, catalogue no. 75F0002MIE-99008, page 13. See also Table 3 for the 14 factors examined and for the fraction of the gender wage gap explained by each factor.

Figure 1. Gender wage gap, Canada and provinces, 2001, average hourly wages, all employees



Source: Statistics Canada, Labour Force Historical Review 2001.

It should be noted here that this study includes job duties, occupation and industry in the "explained" portion of the wage gap. Women are less likely than men to be employed in jobs having supervisory responsibilities (24.8% of women compared to 35.2% of men), and are less likely to be employed in jobs that involve budget and/or staffing decisions (15.7% compared to 21.7%).⁴⁹ In addition, many women are clustered in low-wage industries and occupations, including those, like child care and domestic services, that have shifted from the household economy where they were traditionally regarded as "free."

It could be argued that inequities in job duties and wages paid in industries where women predominate also constitute an element of "gender based labour market discrimination." If these factors are added to the "unexplained" portion of the wage gap, then the remaining ten factors account for only about 30% of the wage gap, and the "discriminatory" portion for 70%.⁵⁰ (Part-time work status, in which women predominate largely because of family responsibilities, is considered here as part of the "explained" or "non-discriminatory" portion of the wage gap.)

⁴⁹ Ibid., page 20.

⁵⁰ Ibid., Table 3.

1.2 Quintile gap

Indicator description

While the gender wage gap is an indicator of equity between men and women, it does not indicate whether the gap between rich women and poor women is becoming wider or narrower. As a proxy for that assessment, trends in the gap between the richest 20% of Canadian households and the poorest 20% of Canadian households are given. These “20%” groups are called “quintiles” and are derived by Statistics Canada by breaking households down into “five equal-sized groups from lowest incomes to highest incomes.”⁵¹

Because values are given here for households rather than individuals, results for each quintile (20%) are averages of all family and household types sharing a residence, including dual and single earner families with and without children, single-parent families, and unattached individuals. Thus, some of the differences among quintiles can be attributed to differences in demographic characteristics and household types. For example, the bottom quintile (20%) includes more younger and unattached individuals than other quintiles. For this reason, absolute differences are less revealing as indicators of equity than trends over time. To distinguish among these different household types, low-income rates are separately provided in other sections for men and women, single mothers, the elderly (married and unattached), and children.

The indicator also refers to disposable income, which is market income plus government transfers, minus taxes, and therefore represents the money actually available for household expenditures. Market income refers to earned income, and includes both wages and salaries, and income from self-employment and investments. Government cash transfers may be federal, provincial, or local, and include Canada Pension Plan payments, Old Age Security, Employment Insurance, Child Tax Benefit, Social Assistance, and other payments.

Provincial information is publicly available to 1998, and is presented first. National information is also available for 1999 and 2000, and is presented following the provincial breakdowns.

Relevance

Countries with narrower gaps between rich and poor, like Scandinavia and Japan, generally have better health outcomes and longer life expectancies than those with wider gaps, like the United States. The poorest 20% of Americans have 5.2% of that country’s income, while the richest 20% have 46.4% (or nearly 9 times as much as the poorest). In Denmark and Sweden, by contrast, the poorest 20% have 9.6% of the income, and the richest 20% have 34.5% of the income (or just 3.6 times as much as the poorest.)⁵²

This indicator is also relevant to Health Canada’s Women’s Health Strategy, which recognizes “diversity among women and the fact that they are not a homogeneous group.” As part of its commitment to diversity, the Strategy therefore includes a focus on health issues of concern to

⁵¹ Statistics Canada, *Income in Canada 2000*, catalogue no. 75-202, page 74.

⁵² The World Bank, *2001 World Development Indicators*, section 2.8, “Distribution of Income or Consumption,” available at: http://www.worldbank.org/data/wdi2001/pdfs/tab2_8.pdf.

women on low incomes. It notes, for example, that low-income women are at greater risk of heart disease than those with higher incomes.⁵³ A narrowing of the gap between rich and poor is therefore a sign of progress that has potentially positive impacts on women's health.

The 1998 United Nations Human Development Report noted that "Canada has significant problems of poverty and their progress in human development has not been evenly distributed."⁵⁴

Results

If growing inequality is bad for health, then the trends of the 1990s are cause for concern. The 1980s saw a narrowing of the gap between rich and poor, due in part to increased income supports for the elderly, and higher social assistance, unemployment insurance, and other transfer payments. The 1990s, by contrast, saw a widening of the gap, due in part to government fiscal restraint and declining social transfers, and due also to global pressures and free trade, depressed real wages, and a growing polarization of working hours.

In 1990, the richest 20% of Canadian households had 7.1 times as much disposable income as the poorest 20%. By 1998, they had 8.5 times as much. Every province in the country saw a widening gap between rich and poor in the 1990s. Between 1990 and 1998, the bottom two quintiles (lowest 40% of Canadian households) saw their average disposable household income decline by 6.2%.⁵⁵

During this period, the gap between the rich provinces (Ontario and Alberta) and the rest of the country also grew dramatically. In 1990, for example, the average Newfoundland and Nova Scotia household had 82 cents in disposable income for every \$1 in Ontario. By 1998, this had dropped to 72 cents and 73 cents respectively for every \$1 in Ontario (Table 2).

Even within Ontario, poor and middle income Ontarians lost real income between 1990 and 1998, while the richest 20% gained an average of \$9,400 per household after taxes (up 11%). In Alberta, the incomes of the poorest 20% fell, while the richest 20% gained an average of \$9,800 per household.⁵⁶ While these figures are for all households, it can be concluded that the gap between rich and poor Canadian women, and between women in the rich and poor provinces, grew in the 1990s. Using quintile comparisons (this indicator), Alberta is the most unequal province in the country, with the widest income gap between rich and poor (Table 3). Using the GINI measure of inequality (next indicator), Ontario ranks as the most unequal province.

National data on the income gap, released in November, 2002, are also available for 1999 and 2000, and reveal some interesting shifts since 1998.⁵⁷

⁵³ Health Canada, *Health Canada's Women's Health Strategy*, Ottawa, March, 1999, catalogue no. H21-138/1997, pages 19, 5, and 8.

⁵⁴ Health Canada, *Toward a Healthy Future: Second Report on the Health of Canadians*, Ottawa, 1999, page 14.

⁵⁵ Statistics Canada, *Income Trends in Canada*, catalogue no. 13F0022XCB; Statistics Canada, *Income in Canada*, catalogue no. 75-202, Table 7.2.

⁵⁶ Statistics Canada, *Income in Canada*, catalogue no. 75-202, Table 7.2.

⁵⁷ Statistics Canada, *Income in Canada 2000*, catalogue, no. 75-202, Ottawa, November, 2002, chapter 6, and Table 7.2, page 82.

Table 2. Average Disposable Household Income in constant 1998\$ compared to Ontario.⁵⁸

	Percent of Ontario		
	1980	1990	1998
Canada	94.8	90.1	87.6
Newfoundland	81.9	82.0	71.7
Prince Edward Island	81.6	76.3	75.2
Nova Scotia	80.6	82.4	72.9
New Brunswick	79.5	79.8	76.6
Quebec	87.4	80.0	74.3
Manitoba	87.7	81.9	78.7
Saskatchewan	90.9	78.1	74.4
Alberta	101.9	90.6	91.7
British Columbia	102.7	93.8	89.4

Statistics Canada, *Income in Canada*.

Table 3. Average Disposable Household Income Ratios, 1980-1998.⁵⁹

	Richest 20% : Poorest 20%			Richest 40% : Poorest 40%		
	1980	1990	1998	1980	1990	1998
Canada	8.2	7.1	8.5	3.9	3.8	4.2
Newfoundland	7.6	5.8	7.3	3.9	3.3	3.9
Prince Edward Island	7.4	6.2	6.7	3.9	3.4	3.7
Nova Scotia	7.1	6.2	8.5	3.6	3.5	4.2
New Brunswick	6.7	6.1	7.0	3.5	3.4	3.7
Quebec	7.6	6.9	7.9	3.9	3.8	4.0
Ontario	7.8	7.1	8.3	3.8	3.7	4.1
Manitoba	8.8	6.7	7.6	4.2	3.7	4.0
Saskatchewan	8.1	7.3	7.4	4.1	3.8	3.9
Alberta	9.1	7.4	10.4	4.3	3.8	4.5
British Columbia	9.3	7.6	8.0	4.1	3.9	4.1

Source: Statistics Canada, *Income In Canada*.

Most Canadians saw their real disposable incomes (after transfers and taxes) either fall or stagnate in the 1990s. In 1997, real after-tax income was lower for the bottom 60% of Canadian households than it had been in the early 1990s, while the incomes of the rich rose substantially. The poorest Canadians saw the largest percentage decline in income. The poorest 20% of Canadian households saw their after-tax income drop by 7.5% between 1991 and 1997 from \$11,284 to \$10,439 (constant 2000 dollars), while the richest 20% of households saw their after-tax income increase by 5% from \$82,561 to \$86,631 during the same period.

⁵⁸ Calculated from average after tax income data in *Income in Canada*, Statistics Canada Cat No. 75-202, Table 7.2, p. 94, 99, 104, 109, 114, 119, 124, 129, 134, 139, 144.

⁵⁹ Calculated from average after tax income shares in *Income in Canada*, Statistics Canada Cat. No. 75-202, Table 7.2, p. 94, 99, 104, 109, 114, 119, 124, 129, 134, 139, 144.

This pattern of declining and stagnating incomes for most Canadians has changed since 1998, with increases in income for all quintiles since that time. Except for the poorest 20% of Canadian households, whose real incomes in 2000 were still slightly below 1991 levels, all other quintiles had higher real incomes in 2000 than in 1991.

However, the gap between rich and poor has continued to grow, and, in fact, has become even wider than before, because the incomes of the rich have grown at a much faster rate than the those of any other group. As a result, all quintiles, except for the top one, have seen their share of national income decline to its lowest level since 1991. The poorest 20% saw their share of national income fall from 5.6% in 1991 to 5% in 2000; the second poorest from 11.5% to 11.1%, the middle quintile from 17.3% to 16.8%, and the second richest quintile from 24.8% to 24.3%. At the same time, the richest 20% saw their share of income climb from 40.9% in 1991 to 42.8% in 2000 (Tables 4 and 5).

The analysis above is based on both economic families and unattached individuals. However, the trend towards a widening gap between rich and poor is apparent also when examining economic families and unattached individuals separately. Statistics Canada defines an economic family as “a group of two or more persons who live in the same dwelling and are related to each other by blood, marriage, common-law or adoption.”⁶⁰

Statistics Canada’s analysis of the growing gap among economic families follows:

“The disparities of after-tax income became wider in absolute terms, particularly in the period since 1996. This happened mainly because of a greater improvement in the average income of the highest one-fifth of families, as ranked by income, than for the lowest one-fifth and for the middle groups of families....

“Over the period from 1993 to 2000, the average after-tax income of the highest 20% of families rose by an estimated \$16,685, an increase of 18.7% from the level in 1993. The lowest quintile fared the least well on the basis of after-tax income, with average income rising \$1,423 or 7.7% since 1993. The middle three quintiles had increases of ten to twelve percent in their average after-tax income.

“In short, the gains by the highest quintile were clearly the largest, and those of the lowest quintile were smallest, both in dollar terms and as a percentage of the income they started with. Expressed another way, the dollar gap between the average after-tax income of the highest and lowest quintiles rose from \$70,977 in 1993 to \$86,239 in 2000.”⁶¹

From that perspective it may be said that the income gap between rich and poor grew by 22% since 1993.

⁶⁰ Statistics Canada. <http://www.statcan.ca/english/freepub/82-221-XIE/00502/defin2.htm#45>

⁶¹ Statistics Canada, *Income in Canada 2000*, catalogue, no. 75-202, Ottawa, November, 2002, pages 73-74.

Table 4. Average after-tax income by quintile, economic families and unattached individuals, Canada, 1991-2000, (2000 constant dollars)

Quintile	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Lowest	11,284	11,188	11,207	11,381	11,424	10,536	10,439	10,847	10,966	11,141
Second	23,242	23,401	22,651	22,971	22,926	22,569	22,712	23,466	24,165	24,673
Middle	34,983	35,506	34,225	35,084	34,554	34,454	34,604	35,506	36,622	37,317
Fourth	49,655	50,209	49,003	49,602	49,081	49,666	50,309	51,736	52,839	53,986
Highest	82,561	82,735	81,421	81,775	82,327	83,738	85,631	90,171	91,725	95,036

Source: Statistics Canada, *Income in Canada 2000*.

Table 5. Income shares after tax, by quintile, economic families and unattached individuals, Canada, 1991-2000, (%)

Quintile	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Lowest	5.6	5.5	5.6	5.7	5.7	5.2	5.1	5.1	5.1	5.0
Second	11.5	11.5	11.4	11.4	11.4	11.2	11.1	11.1	11.2	11.1
Middle	17.3	17.5	17.3	17.5	17.2	17.1	16.9	16.8	16.9	16.8
Fourth	24.6	24.7	24.7	24.7	24.5	24.7	24.6	24.4	24.4	24.3
Highest	40.9	40.7	41.0	20.7	41.1	41.7	42.3	42.6	42.4	42.8

Source: Statistics Canada, *Income in Canada 2000*.

1.3 GINI coefficient measure of equality

Indicator description

The previous indicator focussed on income groups by quintile, particularly comparing the ratio of disposable income of the top 20% to that of the bottom 20%. However, the most commonly used measure of equality and inequality is the GINI coefficient, which does not compare average incomes by quintile group, but considers each household income as a separate entity. The GINI coefficient therefore computes the income gap over the *entire* income spectrum rather than by comparing only the top and bottom income groups.

Thus, perfect equality in the GINI computation occurs if 10% of the population has 10% of the income, if 20% of the population has 20% of the income, if 30% has 30% of the income and so forth. That would produce a GINI coefficient of 0.0. At the other extreme, if one person has all the income, and all the rest have none at all, the GINI coefficient would be 1.0. In other words, higher numbers (e.g. 0.408 in the United States, 0.316 in Ontario) represent a more unequal income distribution than lower numbers (e.g. 0.247 in Denmark, 0.279 in Prince Edward Island).⁶²

⁶² International GINI coefficients are from The World Bank, *2001 World Development Indicators*, Section 2.8, "Distribution of Income or Consumption," available at: http://www.worldbank.org/data/wdi2001/pdfs/tab2_8.pdf

Graphically, perfect equality is represented in GINI computations by a straight 45° line, and the degree of inequality is calculated according to the area between that line and a rising income distribution curve. The greater the area between the curve and the 45° line, the more unequal the income distribution and the higher the GINI coefficient.

The GINI coefficient has advantages and disadvantages over the quintile comparison method used in the previous section. On the one hand, it is certainly a more comprehensive computation of equality and inequality, because it does include *all* incomes, including those in the middle. However, unlike the quintile comparison, it does not necessarily tell us about changes in the gap between the rich and the poor. Because it accounts for all incomes, the GINI coefficient can change dramatically as a result of shifts among the middle income groups and even if the gap between rich and poor does not change at all.

Relevance

Because the GINI coefficient measures a different dimension of inequality than the quintile group comparisons, the World Bank therefore uses *both* measures in its “Distribution of Income” figures. For that reason, too, both measures are also included here as indicators of equity that can affect health outcomes. A smaller GINI coefficient, which indicates greater equality, is therefore a sign of progress that has potentially positive impacts on women’s health.

Results

The GINI results confirm that income inequality is rising across the country in every province except Saskatchewan and British Columbia. However, in the GINI compilations, the most unequal provinces, in order, are Ontario, Alberta, Newfoundland, Quebec, and Nova Scotia (Table 6), while a comparison of rich and poor incomes (previous indicator) indicates that the most unequal provinces are Alberta, Nova Scotia, Ontario, British Columbia, and Quebec, in that order. This difference in ranking indicates that there are smaller income gaps *among* the middle-income groups in Newfoundland and Nova Scotia than in some other provinces.⁶³

By both measures (GINI and quintile comparison) Prince Edward Island is the most egalitarian province in Canada. The poorest 40% of Island households have actually seen their average disposable income increase by 4.5% since 1980, the best record in the country during a 20-year period when the lowest 40% of households saw their incomes decline in eight out of ten provinces. It is also the only province in which the poor earned higher incomes in 1998 than they did in 1980 and 1990.⁶⁴

Not only does Prince Edward Island have the smallest income gap between rich and poor, it also has the lowest poverty rates in Canada both for men and for women, the lowest rate of child

⁶³ *Income in Canada*, Statistics Canada Cat No. 75-202, Table 7.2, p. 147, 150, 153, 156, 159, 162, 165, 168, 171, 174, 177.

⁶⁴ Calculated from average after tax income data in *Income Trends in Canada*, Statistics Canada Cat. No. 13F0022XCB and *Income in Canada*, Statistics Canada Cat. No. 75-202, Table 7.2, p. 94, 99, 104, 109, 114, 119, 124, 129, 134, 139, 144. Data from 13F0022XCB has been translated to constant 1998 dollars using the respective provincial consumer price indexes.

poverty in the country, and the smallest income gap between men and women. Combining all these indicators, it appears that Prince Edward Island has the least income-based gender discrimination in the country. Given the contrary national trends, this exception merits further investigation.

Table 6. Disposable (after-tax) Income GINI Coefficient for Economic Families 2+, Canada and Provinces, 1990 and 1998.⁶⁵

	1990	1998
Canada	0.291	0.313
Newfoundland	0.286	0.307
Prince Edward Island	0.274	0.279
Nova Scotia	0.278	0.302
New Brunswick	0.280	0.299
Quebec	0.282	0.303
Ontario	0.284	0.316
Manitoba	0.277	0.296
Saskatchewan	0.301	0.291
Alberta	0.287	0.310
British Columbia	0.300	0.297

Note: A higher GINI coefficient signifies greater income inequality.

Source: Statistics Canada, *Income in Canada*.

Provincial GINI coefficients are publicly available to 1998, but national GINI coefficients are available to 2000, and also show an ever-widening gap. In 2000, the GINI coefficient was larger than at any time in the last decade. By that measure, inequality after transfers and taxes has grown by 6.1% since 1991, and by 7.9% since 1994 (Figure 2).⁶⁶

1.4 Incomes of female lone parents

Indicator description

Wages, considered in section 1.1 above in assessing the gender wage gap, constitute only one element of income. Income also includes transfers, dividends, and interest. Here, all sources of income are considered, and taxes are subtracted, in order to assess “disposable income” – income actually available for food, shelter, clothing, and other expenditures. As transfers and taxes are means to re-distribute and equalize incomes, therefore after-tax, after-transfer income is the most accurate indicator of access to the resources required to maintain health. Here trends in the after-tax, after-transfer incomes of single mothers are considered.

⁶⁵ *Income in Canada*, Statistics Canada Cat No. 75-202, Table 7.2, p. 147, 150, 153, 156, 159, 162, 165, 168, 171, 174, 177.

⁶⁶ Statistics Canada, *Income in Canada 2000*, catalogue no. 75-202, November, 2002, Table 7.3, page 85

Figure 2. GINI coefficients, after-tax income, economic families, 2+ persons, Canada, 1991-2000



Source: Statistics Canada, *Income in Canada 2000*.

Relevance

As part of a commitment to diversity, an effective gender-based analysis must consider sub-groups of women, particularly those who are more vulnerable to poverty and ill-health. Because the wellbeing of married couples depends on the income of both partners, simple male-female income comparisons have limited utility in assessing impacts on health. Single mothers, however, cannot rely on the income of a spouse, and have higher rates of low income and poorer health status than their married counterparts.

Substantial evidence indicates that low-income Canadians are more likely to have poor health status and to die earlier than other Canadians.⁶⁷ Single mothers also consistently report worse health status than mothers in two-parent families, with long-term single mothers reporting particularly poor health. Single mothers have higher rates of chronic illness, disability days, and activity restrictions, and are three times as likely to consult a health care practitioner for mental and emotional health reasons.⁶⁸

⁶⁷ Health Canada, *Toward a Healthy Future: Second Report on the Health of Canadians*, Ottawa, 1999, page 31.

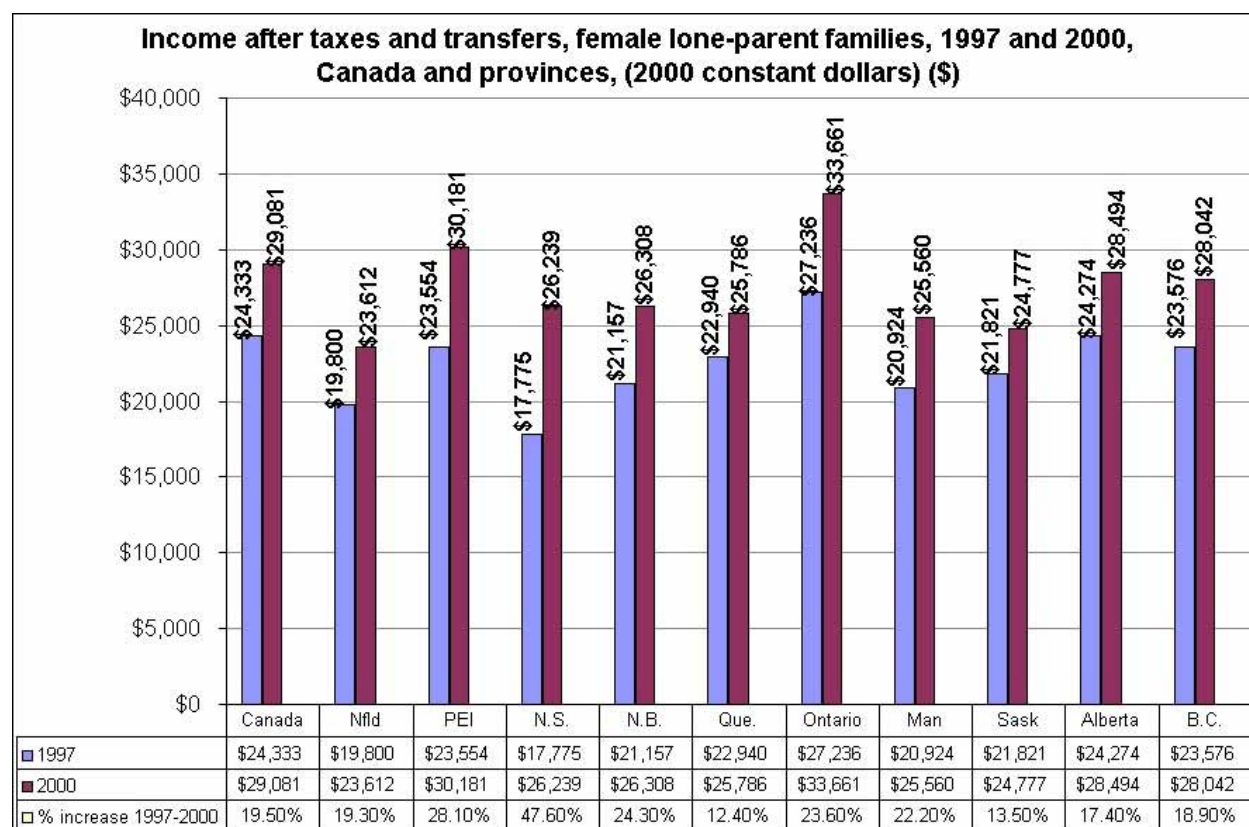
⁶⁸ Claudio Perez and Marie Beaudet, "The Health of Lone Mothers," Statistics Canada, *Health Reports*, volume 11, no. 2, Autumn 1999, catalogue no. 82-003-XPB, pages 21-32.

Because these adverse health outcomes for single mothers may be linked to low income, the incomes and low-income rates of single mothers are a key indicator of women's health. While increases in the incomes of female lone parents may have positive impacts on women's health, Health Canada's Women's Health Strategy recognizes that the determinants of health "are highly interactive."⁶⁹ For that reason, changes in single-parent incomes are related in the following section to changes in employment patterns, which in turn are related to stress.

Results

As noted above, the gender wage gap remains substantial, and recent years have seen no progress in narrowing the gap. On the other hand, rates of low income have dropped sharply right across the country in the last three years, and single mothers, in particular, have made very significant gains. While their incomes remain less than half those of two-parent families, and while they still have the highest rates of low income of any family group, single mothers have seen the largest percentage increase in after-tax income of any group (Figure 3).⁷⁰

Figure 3. Income after taxes and transfers, female lone-parent families, 1997 and 2000, Canada and provinces, (2000 constant dollars) (\$)



Source: Statistics Canada, *Income in Canada 2000*.

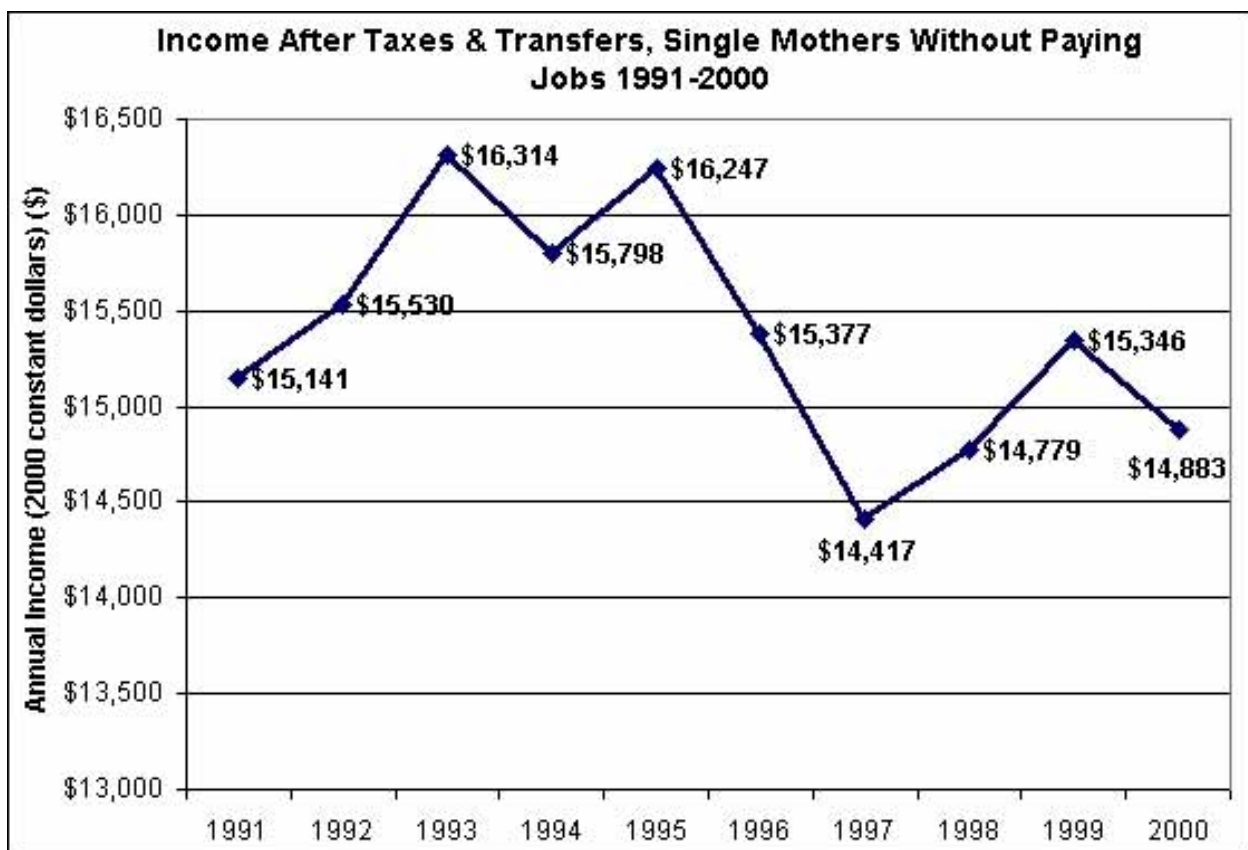
⁶⁹ Health Canada, *Health Canada's Women's Health Strategy*, Ottawa, March, 1999, page 13.

⁷⁰ Statistics Canada, *Income in Canada 2000*, catalogue no. 75-202-XIE, Tables 6.1 and 8.1

In inter-provincial comparisons, Prince Edward Island stands out for its gender equity, its low rates of low income, and the relatively high income of single mothers. Just as in 1997, PEI in 2000 still had the smallest gender wage gap, the lowest rate of low income, and the lowest rate of child poverty in the country. Even in absolute terms, after-tax income of single mothers in PEI was the second highest in Canada, after Ontario, despite the fact that PEI has the second lowest level of household income in the country.

These averages, and the marked improvement over time, conceal significant differences among single parents with and without earnings. Four out of every five single mothers in Canada had earnings in 2000. However, the low-income rate of these employed single mothers (25.1%) was still more than three times the average for all families (7.9%). Still, the low-income rate of employed single mothers was small compared to that of single mothers without earnings (87.8%).⁷¹ In fact, since federal government cuts to social transfers in the 1990s, the real incomes of Canadian single mothers without jobs have actually fallen and their low-income rates have increased (Figures 4 and 5).

Figure 4. Average income after taxes and transfers, single mothers without paying jobs, Canada, 1991 – 2000 (2000 constant dollars) (\$)



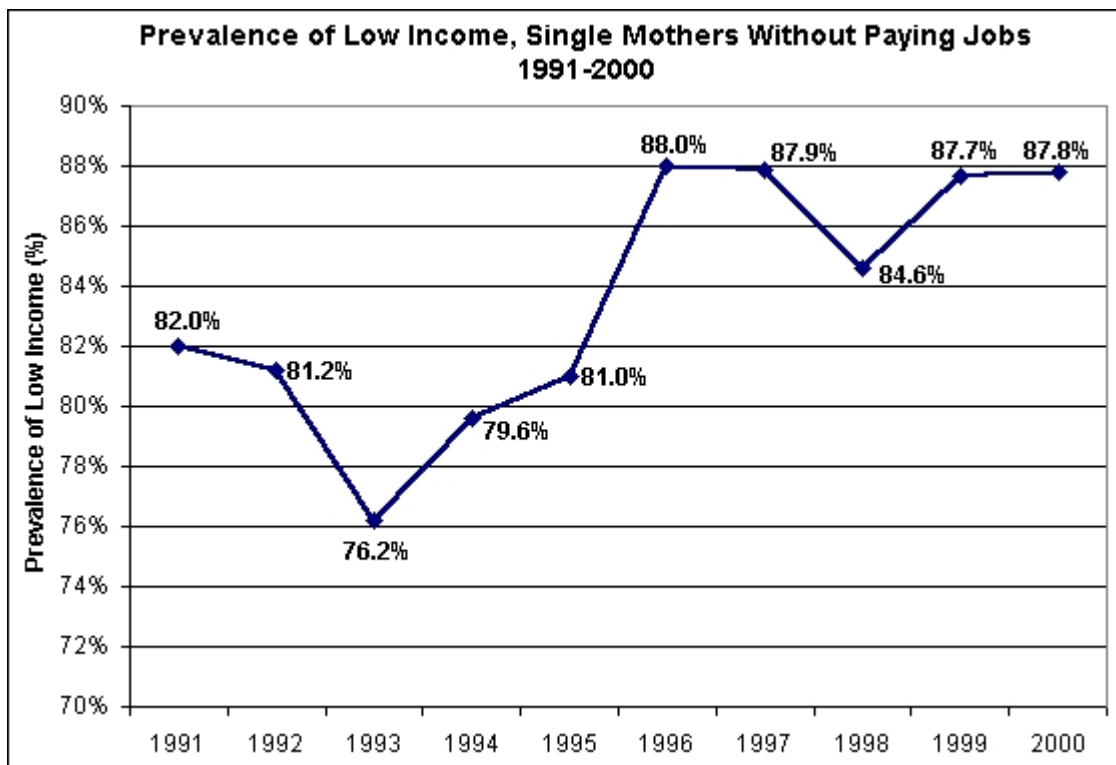
Source: Statistics Canada, *Income in Canada 2000*

⁷¹ Low-income rates in this report always refer to income after taxes and transfers.

Since the first major cuts in 1993, Canadian single mothers without jobs have seen their incomes after taxes and transfers fall by 8.8% and their rate of low-income jump by 15.2%. Since 1996, this low-income rate has remained consistently high, and impervious to the stronger economy of the late 1990s. In other words, the dramatic gains noted above are entirely due to the higher incomes of employed single mothers, and they are strongly influenced by reductions in social assistance benefits in the 1990s. By contrast, rising social assistance benefits in the 1980s acted as an employment disincentive for those single mothers who preferred to raise their own children and to avoid reliance on paid child-care.⁷²

The average Canadian single mother without a job lived \$6,666 below the low-income cut off line in 2000 – this is the amount in after-tax dollars she would have needed to reach that low-income cut off line. In other words, single mothers without paying jobs are almost certain to be living deeply in poverty, so taking a job is literally the only way that single mothers can attempt to work their way out of poverty. Since 1994, the number of single mothers in Canada without jobs has fallen by more than 40% from half a million to less than 300,000; while the number of employed single mothers has jumped 32% from 700,000 to 925,000.⁷³

Figure 5. Prevalence of low income, single mothers without paying jobs, Canada, 1991 – 2000 (%)



Source: Statistics Canada, *Income in Canada 2000*.

⁷² Heisz, Andrew, A. Jackson, and G. Picot, *Winners and Losers in the Labour Market of the 1990s*, Statistics Canada, catalogue no. 11F0019, no. 184, March, 2002, page 26.

⁷³ Statistics Canada, *Income in Canada 2000*, Tables 8.3 and 9.1, pages 120 and 124. On depth of poverty, see also page 89.

Interpretation

Lower poverty rates for single mothers are clearly a sign of progress. But the gains have come almost entirely by increasing employment rates for single mothers. Low-income rates for single mothers have fallen sharply only for those with jobs, and *because* more single mothers are now working for pay. As noted above, the low-income rate for single mothers without jobs in 2000 was a staggering 87.8%. In fact, it was likely the cuts in federal budget transfers to the provinces in the 1990s – and consequent reductions in social service payments – that forced more single mothers into the market economy.

What this means is that higher incomes and reduced poverty rates for single mothers have come at a price – reduced parenting time and higher rates of time stress. The health impacts of this income-time trade-off remain unknown. Time use surveys indicate that single mothers have much less time to spend with their children than both their non-employed counterparts and working mothers in two-parent families.⁷⁴ That is because they carry the sole burden of unpaid household work in addition to their paid work responsibilities. When they come home from their paid jobs, employed single mothers have to shop, cook, and clean without assistance. Not surprisingly, Statistics Canada's time stress surveys show working single mothers to be the most highly time-stressed demographic group.⁷⁵

Robin Douthitt defines “time poverty” as the time below the minimum necessary for basic household production, including cooking, cleaning, laundry, and shopping. When time and income are both considered, Douthitt finds that poverty rates of working single mothers in Canada are 70% higher than official estimates.⁷⁶ According to Statistics Canada's time use surveys, full-time working single mothers put in an average 75-hour work week when paid and unpaid work are both counted.⁷⁷ In sum, single mothers make a significant trade-off when they take a job.

In addition, when they do work for pay, employed single mothers have significantly higher child care expenses than their married counterparts, since they cannot share child care responsibilities and schedules as readily. Those with pre-school aged children also spend 12% of their income on paid child care – nearly three times the proportion of working mothers in two-parent families (4.4%).⁷⁸

This is an important context for the significant reduction in poverty rates observed above, as a simple reduction in low-income rates clearly does not tell the entire story. The net effects of these changes on women's health are unclear. On the one hand, poverty is highly correlated with ill-health. So any reduction in low-income rates for women in general, and for single mothers

⁷⁴ Colman, Ronald (1998), *The Economic Value of Unpaid Housework and Child Care*, GPI Atlantic, Halifax, October, 1998.

⁷⁵ Statistics Canada, *The Daily*, November 9, 1999, catalogue no. 11-001E, pages 2-4, and Statistics Canada, General Social Survey, Cycle 12, 1998, Housing, Family, and Social Statistics Division, special tabulation.

⁷⁶ Douthitt, Robin, “The inclusion of time availability in Canadian poverty measures,” in ISTAT, *Time Use Methodology: Towards Consensus*, Istituto Nazionale di Statistica, Roma, Italy, 1993, pages 88 and 90.

⁷⁷ Statistics Canada, *The Daily*, November 9, 1999, catalogue no. 11-001E, pages 2-4, and Statistics Canada, General Social Survey, Cycle 12, 1998, Housing, Family, and Social Statistics Division, special tabulation.

⁷⁸ Statistics Canada, *Women in the Workplace*, catalogue no. 71-534, pages 50 and 55.

and their children in particular, should signify a health gain. On the other hand, a wide-ranging review of the literature by the *American Journal of Health Promotion* found stress to be the most costly of all modifiable risk factors in terms of its wide-ranging health impacts.⁷⁹ According to Statistics Canada, time stress rates are rising across the country, with women consistently recording significantly higher rates than men of life stress in general and time stress in particular.⁸⁰

A landmark Statistics Canada study found that longer work hours increased the likelihood of negative health behaviours that carry significant risks for cancer, heart disease, hypertension, diabetes, and other chronic illnesses. Women moving to longer work hours were four times as likely to smoke more, twice as likely to drink more, 40% more likely to decrease their physical activity, and more than twice as likely to suffer major depression, compared to women working standard hours. Women with high levels of job strain were also 1.8 times more likely to experience an unhealthy weight gain than those with low job strain.⁸¹

Any assessment of the health impact of the stress associated with long work hours must account for the double burden of paid employment and unpaid household work, child-care, and care-giving that most employed mothers and caregivers bear. Whether the beneficial health impacts of a reduction in the poverty rate of employed single mothers outweighs the adverse impacts of increased time stress is unknown, and worthy of careful study.

1.5 Low income rates

Indicator description

Statistics Canada defines low-income rates as the proportion of “the population in economic families and unattached individuals with incomes below the Statistics Canada low-income cut-off (LICO). The cut-offs represent levels of income where people spend disproportionate amounts of money for food, shelter, and clothing. LICOs are based on family and community size; cut-offs are updated to account for changes in the consumer price index. The term economic family refers to a group of two or more persons who live in the same dwelling and are related to each other by blood, marriage, common-law or adoption.”⁸²

Relevance

As noted in the introduction to this section, higher income is generally associated with better health.⁸³ Four categories of low income are particularly relevant to women’s health – low-

⁷⁹ Goetzel, Ron (ed.) “The Financial Impact of Health Promotion,” *American Journal of Health Promotion* 15 (5), May/June, 2001.

⁸⁰ Life stress rates from Statistics Canada, *Canadian Community Health Survey* 2000/01. Time stress rates from Statistics Canada, *The Daily*, November 9, 1999, catalogue no. 11-001E, pages 2-4, and Statistics Canada, General Social Survey, Cycle 12, 1998, Housing, Family, and Social Statistics Division, special tabulation.

⁸¹ Shields, Margot, “Long Working Hours and Health,” Statistics Canada, *Health Reports*, volume 11, no. 2, Autumn, 1999, pages 33-48.

⁸² Statistics Canada. <http://www.statcan.ca/english/freepub/82-221-XIE/00502/defin2.htm#45>

⁸³ Statistics Canada, <http://www.statcan.ca/english/freepub/82-221-XIE/00502/defin2.htm#45>.

income rates of single mothers, of women compared to men, of elderly women, and of children. The incomes of single mothers have been considered separately above. Low-income rates of women in general, of elderly women, and of children are considered here.

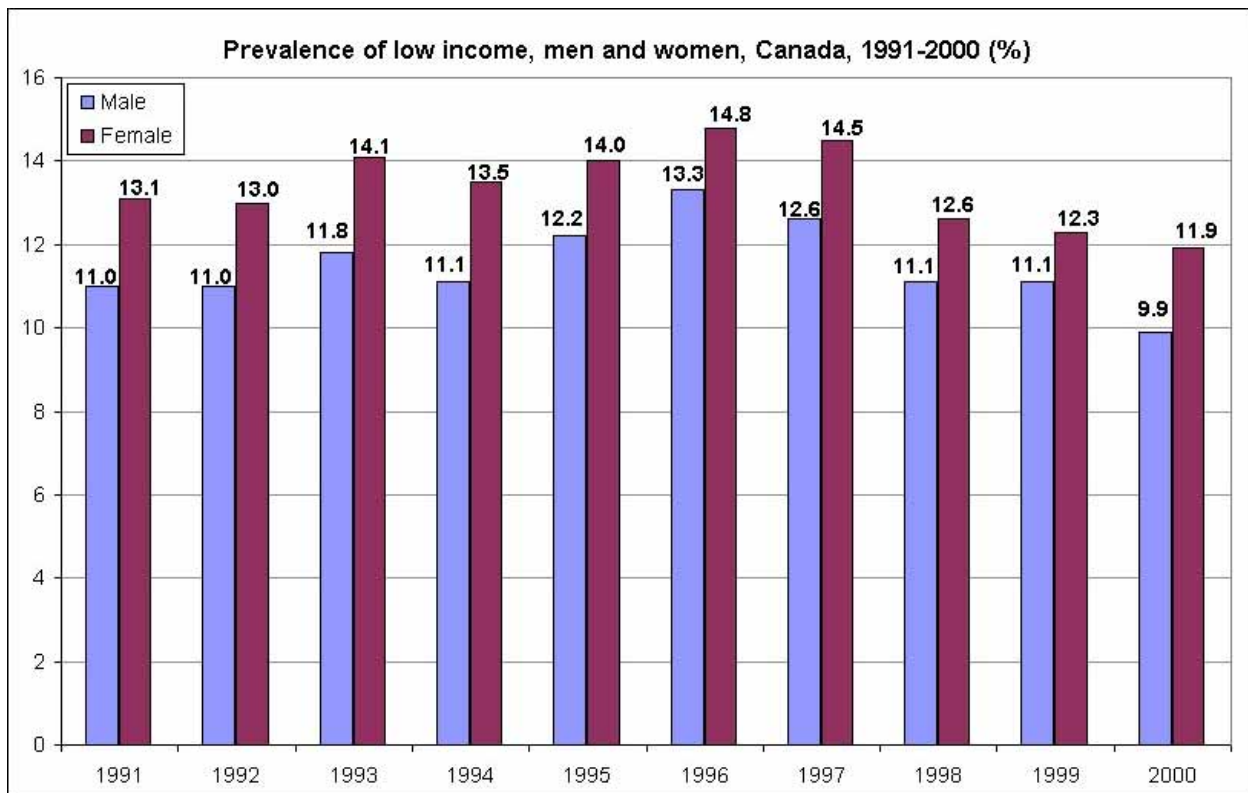
Reductions in low-income rates in all these categories are recognized as a sign of progress that may have a positive impact on women's health. As above, the caveat must be added that income interacts with other health determinants, and that increases in income may not affect health positively if they are related to increases in workload that raise stress levels.

Results

Low income – women

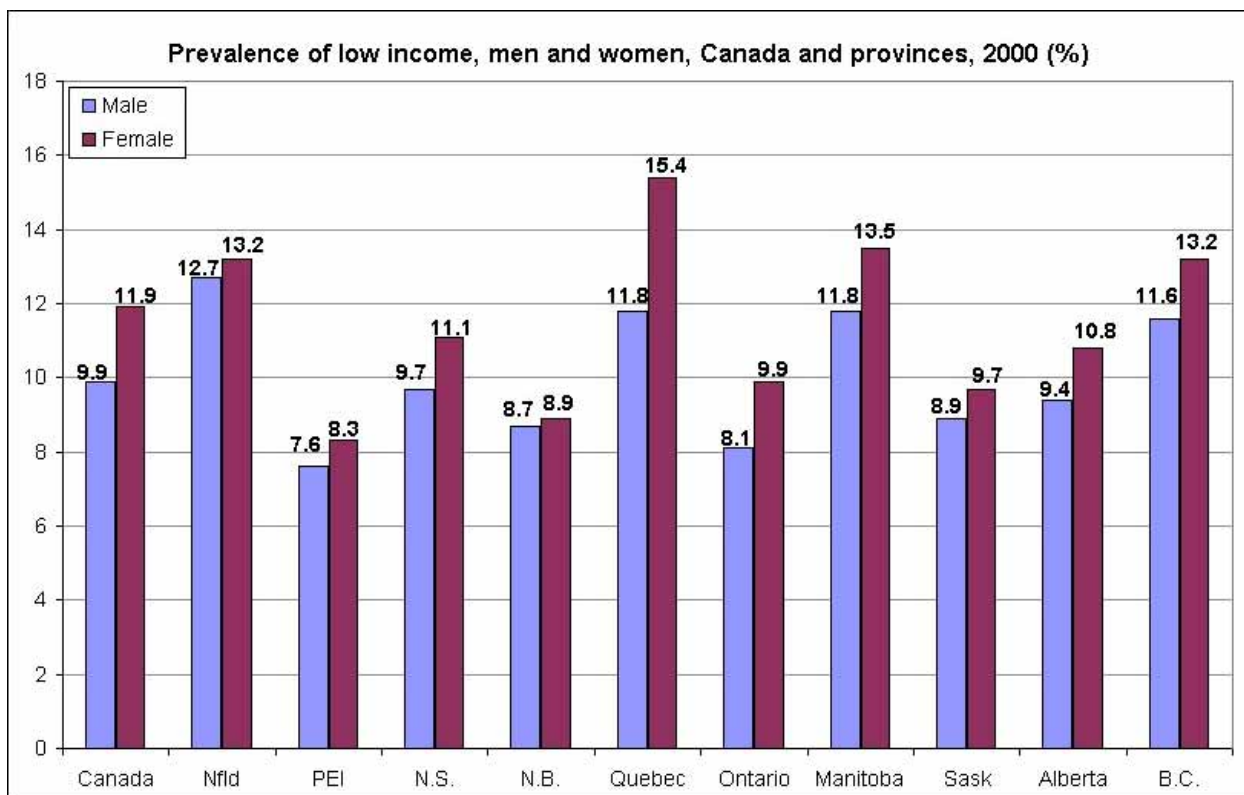
Women consistently have higher rates of low income than men. But low-income rates for both men and women have fallen since the mid-1990s (Figure 6). Low-income rates for women range from a high of 15.4% in Quebec to a low of 8.3% in PEI, which has consistently had the lowest rates of low income in the country for both men and women (Figure 7).

Figure 6. Prevalence of low income, men and women, Canada, 1991-2000 (%)



Source: Statistics Canada, Income in Canada 2000.

Figure 7. Prevalence of low income, men and women, Canada and provinces, 2000 (%)



Source: Statistics Canada, *Income in Canada 2000*

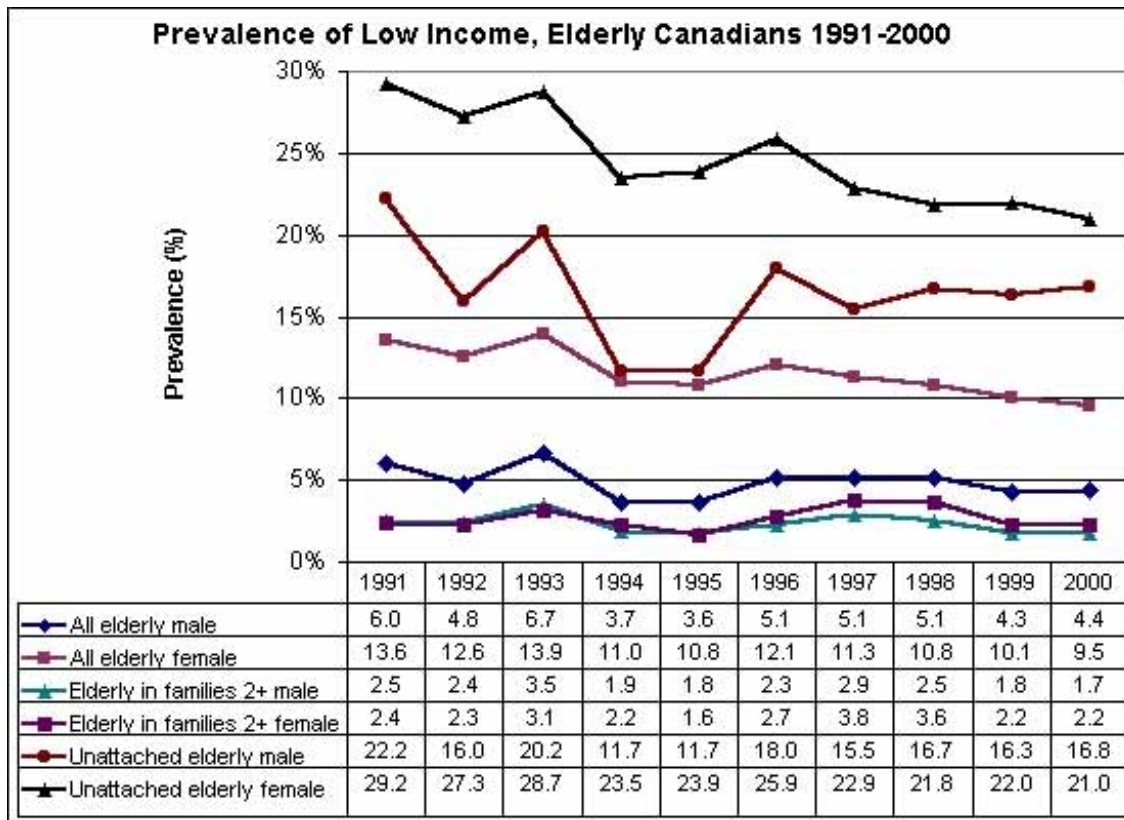
Low income – elderly women

Low-income rates among Canadian women 65 and over have historically been more than double those of elderly men, and were almost three times higher in the mid-1990s. Since 1996, low-income rates among elderly women have declined gradually each year, from 12.1% in 1996 to 9.5% in 2000. But this is still more than twice the low-income rate of elderly men (4.4%) – a rate that has remained roughly stable since 1994 (Figure 8).⁸⁴

Again the averages are deceptive, since both the rate of low income and the male-female gap are accounted for almost entirely by unattached seniors often living alone, whose rate of low income (19.9%) is more than 10 times higher than seniors living in families (only 1.9%). In 2000, unattached older women had a low-income rate of 21%, down from a peak of 25.9% in 1996. This compares to a 2000 low-income rate of 16.8% for unattached elderly men – relatively unchanged in recent years. The male-female gap has narrowed somewhat. In 1994 and 1995, the low-income rate for unattached elderly women was twice that of unattached senior men.

⁸⁴ Statistics Canada, *Income in Canada 2000*, page 91.

Figure 8. Prevalence of low income, elderly Canadians, aged 65 and over, 1991-2000 (%)



Source: Statistics Canada, *Income in Canada 2000*.

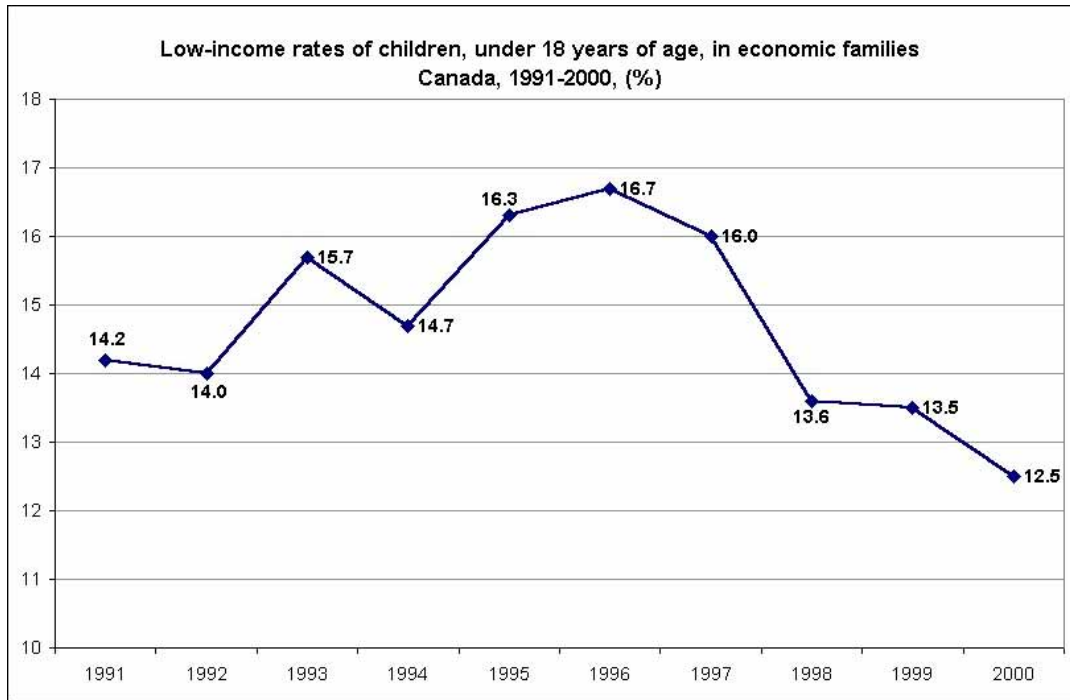
Low-income rate – children

Low-income rates among children have also fallen across the country in recent years. The percentage of low-income children in 2000 (12.5%) is among the lowest rates recorded over the past 20 years.⁸⁵ In 2000, PEI's low-income rate for children was 6.6%, again the lowest in the country, and just over half the national average (12.5%). Newfoundland and Labrador has the highest rate of low income for children in the country (17.8%), nearly three times the rate of PEI (Figure 10).

The size of the drop in low-income rates among children is directly related to the higher incomes of employed single mothers. Nearly half the children in low-income families still live in single parent families. The low-income rate of children of single mothers in 2000 was 38.1%, four a half times greater than that of children in two-parent families (8.5%). Nevertheless, the higher incomes of employed single mothers have helped reduce the overall low-income rate among children by 22% nation-wide and the low-income rate of children of single mothers by a third (Figure 11). Again, the caveat must be added that these significant drops in low-income among children do not apply to children of single mothers without paying jobs, whose incomes after taxes and transfers have actually fallen since the mid-1990s, as noted above.

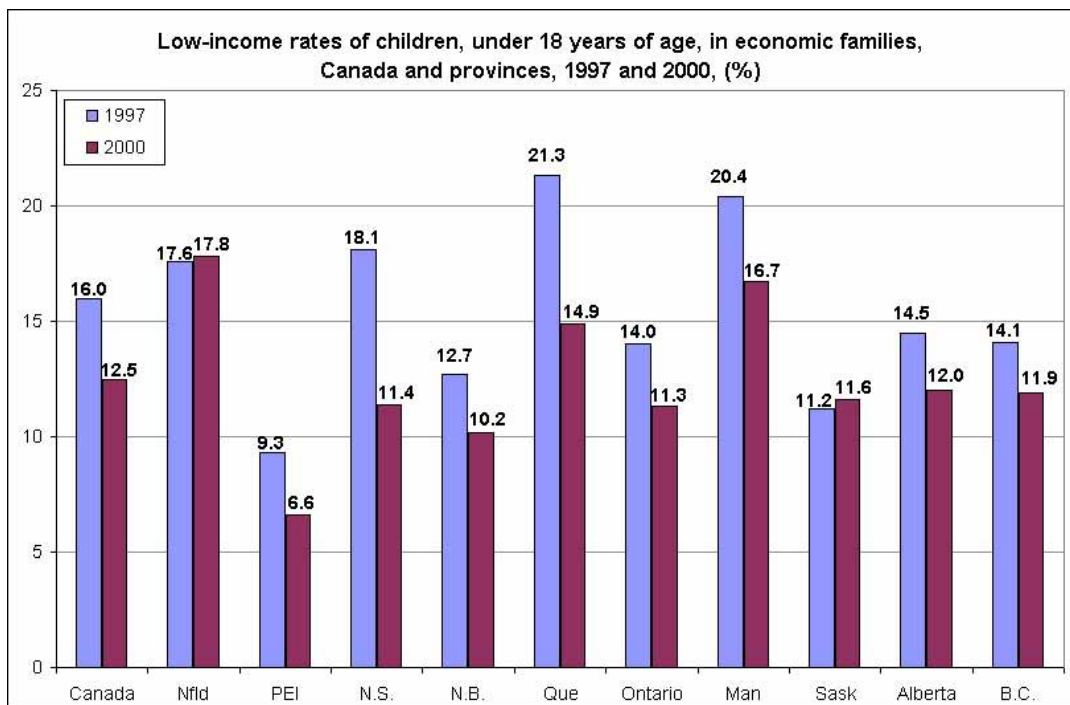
⁸⁵ Statistics Canada, *Income in Canada 2000*, page 90.

Figure 9. Low-income rates of children, under 18 years of age, in economic families, Canada, 1991-2000, (%)



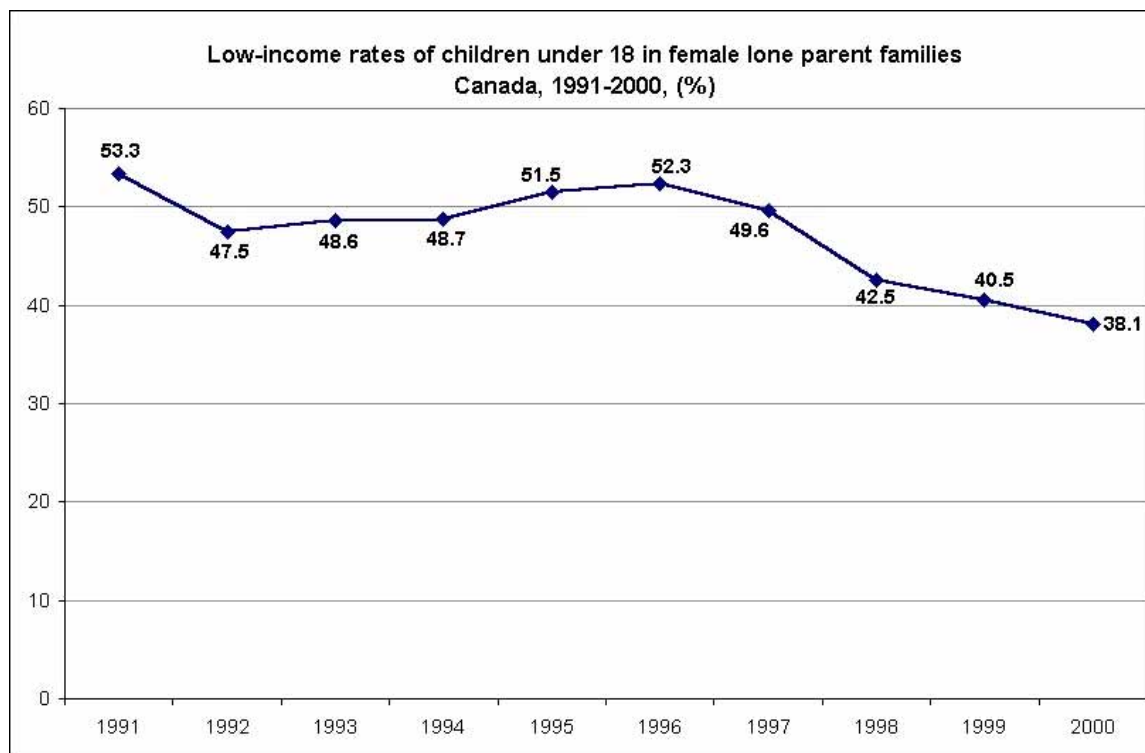
Source: Statistics Canada, *Income in Canada 2000*

Figure 10. Low-income rates of children, under 18 years of age, in economic families, Canada and provinces, 1997 and 2000, (%)



Source: Statistics Canada, *Income in Canada 2000*

Figure 11. Low-income rates of children under 18 in female lone parent families, Canada, 1991-2000, (%)



Source: Statistics Canada, Income in Canada 2000.

1.6 Housing affordability

Indicator description

According to Statistics Canada, housing affordability problems are likely to exist for “households (renters, owners, and total) spending 30% or more of total household income on shelter expenses. Shelter expenses include payments for electricity, oil, gas, coal, wood or other fuels, water and other municipal services, monthly mortgage payments, property taxes, condominium fees and rent.... Band housing on Indian reserves was not included in the calculation of housing affordability.”⁸⁶ 1996 Census (20% sample) results are currently used by Statistics Canada to assess the proportion of households likely experiencing housing affordability problems.

Relevance

Statistics Canada notes that when more than 30% of household income is spent on housing costs, “it is likely that inadequate funds will be available for other necessities such as food, clothing, and transportation. Housing affordability problems affect renters more than owners.”⁸⁷ Statistics

⁸⁶ Statistics Canada, <http://www.statcan.ca/english/freepub/82-221-XIE/00502/defin2.htm#47>

⁸⁷ Statistics Canada, <http://www.statcan.ca/english/freepub/82-221-XIE/00502/defin2.htm#47>

Canada's Health Indicators recognize housing affordability as a "non-medical determinant of health," but they do not currently provide housing affordability rates by gender.

Because women have higher rates of low income than men, and because particular sub-groups of women (like single mothers, Aboriginals, minorities, the disabled, and unattached elderly women) have particularly high rates of low income, housing affordability is an important indicator of women's health.

Lack of housing affordability also contributes to the incidence of homelessness. Studies estimate that women constitute about 30% of the homeless population in Canada, and that a large proportion of homeless women are subjected to sexual and physical violence.⁸⁸ Single mothers and battered wives are particularly at risk for homelessness, which in turn brings higher risks of poor nutrition, inadequate hygiene, infectious disease, sexually transmitted disease, depression, and other health hazards.⁸⁹

A study published in *The New England Journal of Medicine (NEJM)* found significantly higher rates of trauma and lung problems among the homeless, along with extremely high rates of mental illness, substance abuse, skin disorders, and parasites. The last two ailments result from lack of a clean, dry place to sleep and wash.⁹⁰

Results

The provinces with the highest proportion of renters and the lowest rate of home ownership – Quebec (56.5%), Ontario (64.4%), and British Columbia (65.4%) – have the highest rate of housing affordability problems. Correspondingly, a higher proportion of Atlantic Canadians and Prairie residents own their own homes than in Canada as a whole, and thus spend a smaller proportion of their incomes on housing.

According to the 1996 Census, owner occupied dwellings constituted 63.8% of all dwellings in Canada, but 77.2% in Newfoundland and Labrador, 72.2% in PEI, 70.7% in Nova Scotia, 74% in New Brunswick, 70.2% in Saskatchewan, 68.2% in Alberta, and 67.9% in Manitoba.⁹¹ The high level of home ownership in the Atlantic and Prairie provinces may help explain why fewer households experience housing affordability problems there than in the rest of the country.

In Canada as a whole, 26.5% of households spend 30% or more of their total household income on shelter expenses, more than in any of the Atlantic or Prairie provinces. Fewer than one in five Saskatchewan and Newfoundland households spend 30% or more of total household income on shelter-related expenses such as mortgage payments, property taxes, rent, and utilities (Figure 12).

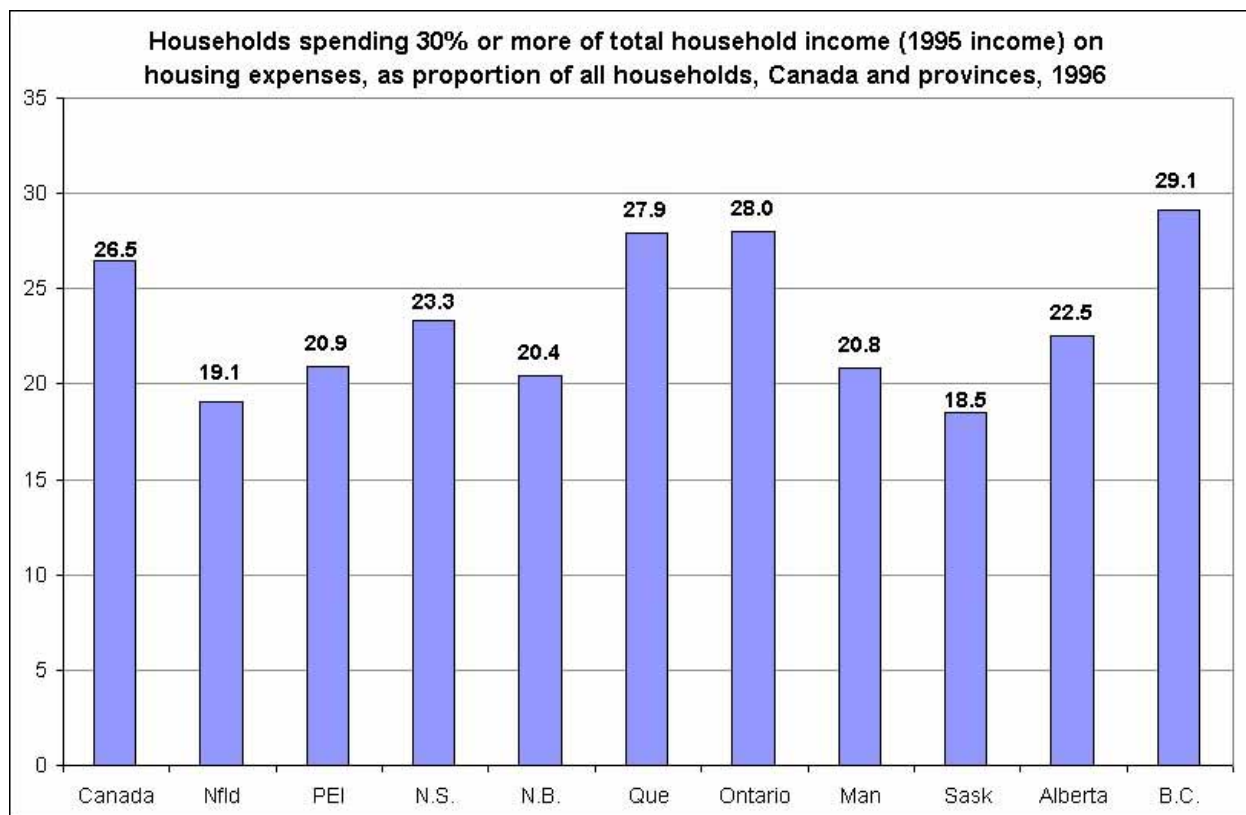
⁸⁸ Begin, P, Casavant L, Chenier, N, Dupuis, J, *Homelessness*, Parliamentary Research Branch, Library of Parliament, 1999; McLaughlin L. *Homelessness in Canada: The Report of the National Inquiry*. Ottawa: Canadian Council on Social Development, 1987; Fournier, Louise, "Enumeration de la clientele des centres d'hébergement pour itinérants à Montréal," Montreal, 1989; Ministère de la Main-d'oeuvre et de la Sécurité du revenu, *Les sans-abri au Québec: étude exploratoire*, 1988.

⁸⁹ Novac, Sylvia, Joyce Brown, Carmen Bourbonnais, *No room of her own: A literature review on women and homelessness*. Canadian Mortgage and Housing Corporation, 1996.

⁹⁰ Cited in Perreten, Dan, "Healing the Homeless," *Poverty and Health* 10, Chicago, July-August, 1999.

⁹¹ Statistics Canada, <http://www.statcan.ca/english/freepub/82-221-XIE/00502/tables/html/2213.htm>.

Figure 12. Households spending 30% or more of total household income (1995 income) on housing expenses, as proportion of all households, Canada and provinces, 1996, (%)



Source: Statistics Canada, 1996 Census (20% sample).⁹²

1.7 Financial security

Indicator description

Statistics Canada's 1999 *Survey of Financial Security* assessed the wealth or "net worth" of Canadians by subtracting debts from assets. Assets include both financial assets, such as RRSPs and other registered plans, bank accounts, mutual and investment funds, stocks and bonds, and non-financial assets such as the market value of a home or other real estate, vehicles, furnishings, and other household valuables. Assets also include equity in a business.

Debts include mortgages on a home or other real estate, credit card and instalment debt, lines of credit, student loans, vehicle loans, and other loans and unpaid bills. For example, the market value of a house minus the mortgage is the wealth tied up in the house. If a household has more debts than assets overall, it has "negative wealth" or a net debt load.

Until very recently, current information on the wealth and assets of Canadians was unavailable. Statistics Canada's 1999 *Survey of Financial Security* (SFS) was the first such assessment of the

⁹² Statistics Canada, <http://www.statcan.ca/english/freepub/82-221-XIE/00502/tables/html/229.htm>.

debts, assets, wealth, and net worth of Canadians since 1984. An overview of results became available in 2001, but very limited regional information was publicly available until December, 2002, except in highly aggregated form.⁹³ At that time, the Canadian Centre for Policy Alternatives released specially commissioned regional data runs from the SFS that for the first time reveal the wealth gaps within Canada's different regions by family characteristics, and that allow an assessment of the financial status of different family types including single mothers.⁹⁴

Relevance

Income is only one aspect of financial security. But unexpected events – sudden illness, disability, injury, death of main earner, layoff, or other job loss – can threaten income and leave families dependent on their accumulated assets. Cuts in federal social transfers in the 1990s reduced social assistance payments to levels well below the low-income cut-off line, and left more families dependent on their own resources for survival. The percentage of unemployed workers receiving unemployment insurance benefits, for example, was cut in half during the 1990s.

The illness of a spouse, partner, child, or elderly parent may not only reduce income, but may sharply increase financial needs for proper care. Drug costs can be a particular financial drain. In Canada overall, nearly 30% of medical costs are privately financed, but 65% of drug expenditures are paid for privately.⁹⁵ Individual or family assets are often the only recourse to weather such a crisis.

The newly available information on financial security allows us to expand our understanding of the socio-economic determinants of women's health beyond the conventional income indicators generally used. Since equity is a key determinant of health, wealth distribution as well as income distribution may affect health outcomes. A narrowing of the overall wealth gap, and an increase in the financial security of vulnerable groups such as single mothers, may therefore have a positive impact on women's health.

Health Canada's Women's Health Strategy includes a commitment to diversity, and to a focus on vulnerable sub-groups of women. While wealth and financial security statistics are not available for many of these sub-groups, such as Aboriginals, minorities, and the disabled, some results are available by region and for single mothers, unattached women, and elderly women. Therefore, three elements of wealth distribution and financial security are examined here as potential indicators of women's health.

1. Overall wealth distribution in Canada;
2. Regional wealth disparities;
3. Financial security of unattached women, single mothers, and elderly women.

⁹³ Statistics Canada, *The assets and debts of Canadians: an overview of the results of the Survey of Financial Security*, catalogue no. 13-595-XIE, Ottawa, March 15, 2001.

⁹⁴ Kerstetter, Steve, *Rags and Riches: Wealth Inequality in Canada*, Canadian Centre for Policy Alternatives, Ottawa and Vancouver, December, 2002, particularly Appendices A-D.

⁹⁵ Canadian Institute for Health Information (CIHI), Figure 5, Public and Private Shares of Total Health Expenditure, by Use of Funds, Current Dollars, Canada, 2000, at http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=media_18dec2002_fig5_e.

Further investigation is clearly needed to analyze and explore the differential implications of the wealth gap for men and for women. For example, the accumulative nature of building wealth may be more difficult for women who earn less than men, frequently work part time, are single mothers, and become caregivers. The arguments frequently made for investing early and consistently may not work for many women. Societal expectations placed on women, including costly expenditures on clothing and physical appearance may also adversely impact the potential for wealth accumulation. Such hypotheses are clearly worthy of further research and investigation, though analysis is inhibited by the fact that results from Statistics Canada's Survey of Financial Security are presented for households rather than individuals.

Results

Wealth distribution in Canada

The Survey of Financial Security showed that the wealthiest 10% of family units in Canada now hold 53% of the wealth, and the wealthiest 50% control 94.4% of all wealth, leaving just 5.6% for the bottom 50%.⁹⁶ The poorest one-quarter of Canadian households own 0.1% or one-thousandth of the wealth in Canada. Not surprisingly, many Canadians live in a state of chronic financial insecurity that leaves them unable to weather a financial storm. Statistics Canada found that among the poorest 20% of households, nearly one-third fell behind two months or more in a bill, loan, rent, or mortgage payment in 1998.⁹⁷

But financial insecurity extends beyond the poorest families. Canadians in the middle of the spectrum have most of their wealth tied up in housing, which is not easy to "cash in" at a time of financial crisis.⁹⁸ The financial assets that provide more solid financial security are held almost entirely by the wealthiest households. Thus the wealthiest 20% of Canadians hold 72% of the wealth in RRSPs and other registered savings plans, 81% of mutual and investment funds, and 94% of stocks. RRSPs, savings plans, capital gains, and stock dividends all get preferred income tax treatment. When housing is excluded, the richest 20% of households hold 76.2% of the country's wealth. When housing is included, they own 70.4%. Excluding housing, the richest 40% own 90.8% of the wealth, leaving 9.2% for the remaining 60%.⁹⁹

Examining the distribution of both financial and non-financial assets, the Canadian Centre for Policy Alternatives concludes that "financial insecurity may actually be the norm these days and financial security the exception to the rule."¹⁰⁰

Since 1984 the wealth gap between rich and poor Canadians has grown wider, with the bottom 30% losing wealth and the top 30% increasing their wealth by more than 30%. The poorest 10% of Canadian households have more debts than assets, and saw their median net debt load (i.e. "negative wealth") grow by \$3,876 dollars from \$1,824 in 1984 to \$5,700 in 1999 (constant 1999

⁹⁶ Kerstetter, op. cit., Summary, page 4.

⁹⁷ Pyper, Wendy, "Falling Behind, *Perspectives on Labour and Income*," Statistics Canada, catalogue no. 75-001-XIE, July, 2002, page 18.

⁹⁸ Kerstetter, op. cit., pages 4 and 31.

⁹⁹ Kerstetter, op. cit., pages 4 and 41.

¹⁰⁰ Idem.

dollars). In other words, they wound up deeper in debt. At the same time, the richest 10% of Canadian households saw their median wealth grow by 35% from \$464,376 to \$628,100.¹⁰¹

The “median” is the mid-way point at which 50% of households within that group have more wealth and 50% have less wealth. In other words, the median represents the “typical” or representative household within that group. By contrast, the “average” value is simply the total wealth in the group divided by the number of households in the group. Thus the “average” wealth of the top 10% will be skewed upwards by the very great wealth of those in the top 1%.

When average values are examined, the richest 10% of Canadian households had \$980,903 in wealth in 1999, an increase of 122% in constant dollars since 1970, and an increase of 47% since 1984. By contrast, the poorest 10% in 1999 had an average of \$10,656 more in debts than they had in assets, an increase in net debt of 28% since 1970, and of 79% since 1984.¹⁰²

One form of debt that has risen sharply is student debt. In Canada as a whole, 5% of family units carried student debt in 1984, with an average value of \$4,899. In 1999, 12% of family units carried student debt and owed an average of \$10,361. The marked increases in student debt are clearly a reflection of the massive rise in university tuition in the 1990s, which has left many young people carrying major debt loads.

Regional wealth disparities in Canada

But these averages also conceal major regional disparities. The average wealth in Atlantic Canada is less than half that in British Columbia, and about 56% of that in Ontario (Figure 13).¹⁰³

In fact, the gap between the rich and poor provinces has grown in the last 30 years, with the Atlantic region, Manitoba, and Saskatchewan registering declining shares of national wealth. The gap has grown particularly large since the mid-1980s. In 1984, the four Atlantic provinces together had 5.4% of the nation’s wealth. By 1999, they had just 4.4%, despite having 7.6% of households in the country. In 1984, Manitoba and Saskatchewan had 11% of the country’s wealth. By 1999, they had 6.3%.¹⁰⁴

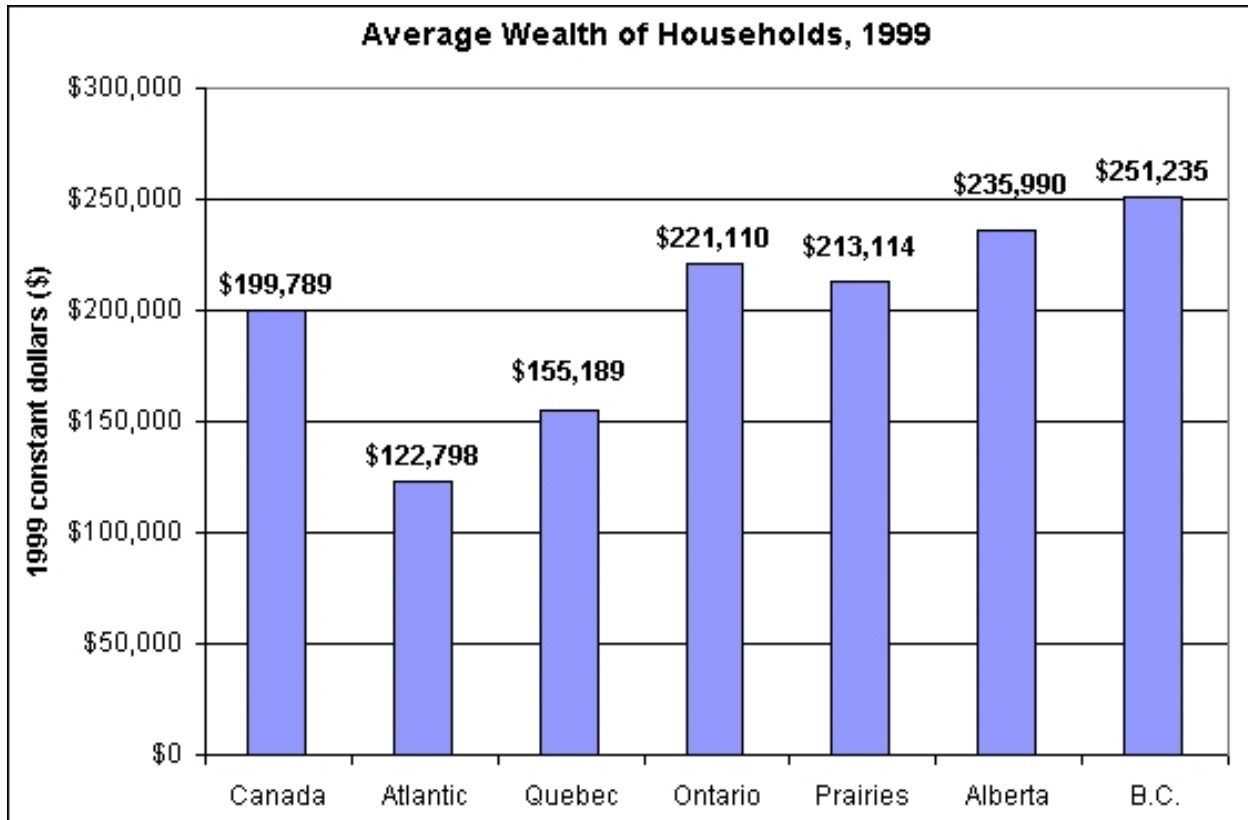
¹⁰¹ Morissette, Rene, Xuelin Zhang, and Marie Drolet, *The Evolution of Wealth Inequality in Canada, 1984-1999*, Statistics Canada, catalogue no. 11F0019, no. 187, February 22, 2002, Table 4, page 25; and Statistics Canada, *The Daily*, February 22, 2002. Statistics Canada has adjusted the 1999 Survey of Financial Security figures to be comparable to 1984 data from the 1984 Assets and Debts Survey. So the 1999 figures given here are not entirely comparable with the 1999 figures from the Survey of Financial Security used elsewhere in this chapter. The adjustment is necessary because the 1999 survey included some items not covered in 1984, such as contents of the home, collectibles and valuables, annuities, and Registered Retirement Income Funds. In order to assess whether the total wealth of different groups increased or decreased between 1984 and 1999, those items were therefore excluded from the 1999 data for comparative purposes.

¹⁰² Kerstetter, op. cit., pages 4 and 13, especially Table 1-4.

¹⁰³ Kerstetter, Appendix A, pages 1-6 and Appendix B, page 7.

¹⁰⁴ Percentages are derived from Kerstetter, op. cit., Tables II-5 and II-6, pages 20-21

Figure 13. Average wealth of households by region, 1999 (1999 constant dollars) (\$)



Note: The Prairies here include Alberta, which has considerably higher average wealth than Manitoba or Saskatchewan, and is therefore also listed separately.

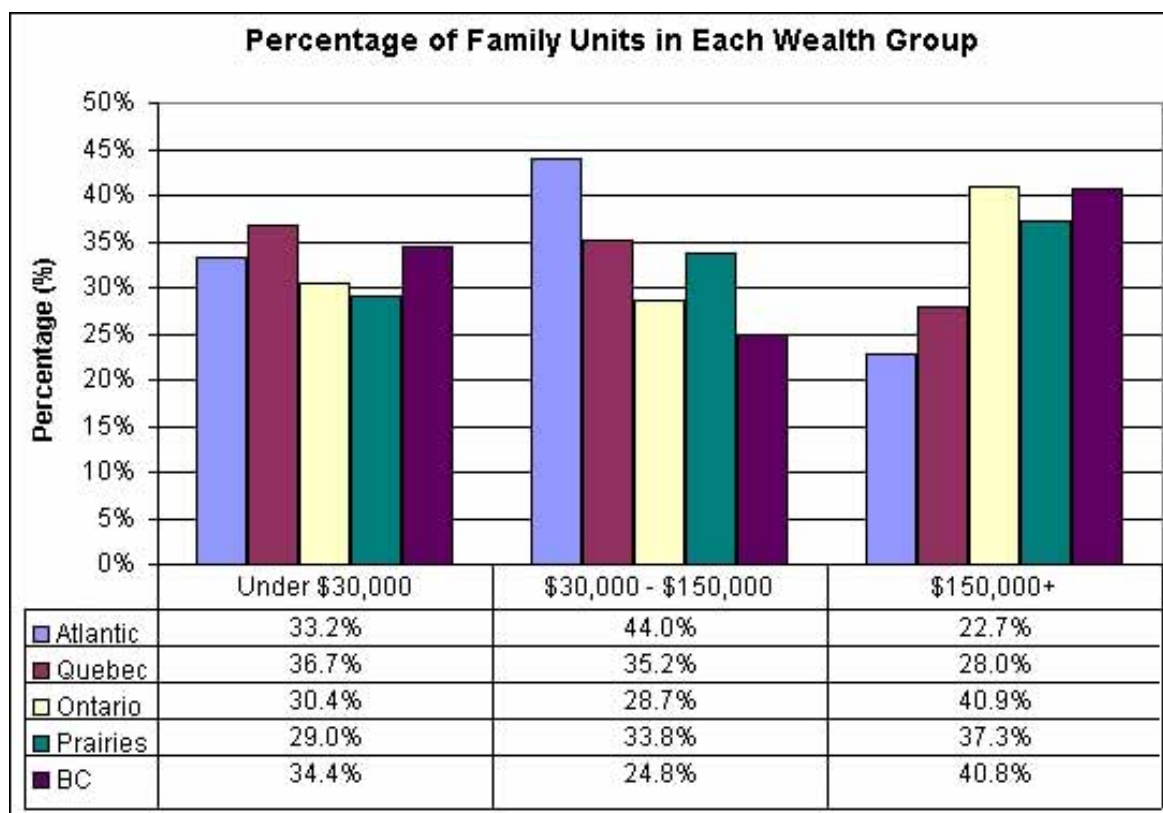
Source: Statistics Canada, *Survey of Financial Security*, cited in Kerstetter, *Rags and Riches*.

A disproportionate share of wealth is concentrated in just three provinces in Canada: Ontario has 40.5% of the country's wealth with just 36.7% of households; British Columbia has 17.6% of the wealth and 13.8% of households; and Alberta has 11.6% of the wealth and only 9.5% of households. In 1984, average personal wealth in Atlantic Canada was 61.6% of that in Ontario. In 1999, it was just 52.8% of that in Ontario.¹⁰⁵

As well, a higher percentage of Atlantic households (7.8%) had negative wealth, or debts that exceeded assets, than in any other region. By comparison, 5.5% of family units in Quebec, 6.8% in Ontario, 6% in the Prairies, 6.4% in Alberta, and 7.3% in British Columbia had negative wealth.

¹⁰⁵ Kerstetter, op. cit., Table II-6, page 21

Figure 14. Percentage of family units in each wealth group, by region



Source: Statistics Canada, *Survey of Financial Security*, cited in Kerstetter, *Rags and Riches*.

Gender and wealth

Because wealth is measured for family units rather than for individuals, gender differences in relation to wealth distribution are possible to assess for only three groups – lone parents, unattached seniors, and unattached individuals under age 65, since these are listed separately by sex and family type in the Statistics Canada wealth data.¹⁰⁶ Families with two earners tend to be much better off than both people living alone and lone-parent families, primarily because the two incomes can more easily be used to build up assets. In addition, single mothers with infants spend three times as large a proportion of their incomes on paid child care as married mothers, and often take on low-paying, part-time jobs in order to juggle their work schedules with their child-rearing responsibilities.

Canada's half million single mothers and 2.9 million unattached individuals under age 65 have the lowest median wealth of any family types – \$11,355 for single mothers, \$11,240 for unattached men, and \$12,000 for unattached women under 65. This amounts to about 11% of the median wealth of couples under 65 with children, and 9% of the median wealth of childless couples under 65. Though they represent 23.5% of all family units, unattached individuals under

¹⁰⁶ Supplementary data on the wealth of single mothers was separately supplied by Statistics Canada in special custom tabulations ordered by the Canadian Centre for Policy Alternatives.

65 collectively own only 8.7% of the nation's wealth. Single mothers represent 4.2% of all family units in Canada, but own just 1.2% of the country's wealth.¹⁰⁷

The financial security of single mothers is probably more precarious than that of most unattached individuals, because they are supporting one or more children. In the event of a child's sickness or special needs, single mothers may need to forego income and may have greater need of financial resources than unattached younger individuals. Adjusting the 1999 wealth data for comparability, the median wealth of single mothers in Canada rose only marginally between 1984 and 1999, from \$1,870 to \$3,656.¹⁰⁸

Single mothers in Atlantic Canada have lower median wealth than their counterparts in any other region – just \$8,200 per family (Figure 15). Again it is worth noting that the median represents the typical household within this group, and the point at which 50% of this family type have greater wealth and 50% have less. The average wealth of single mothers in Atlantic Canada is more than four times greater than the median wealth, indicating that a minority of wealthy single parents is pushing up the group average. The huge 11-fold disparity between the average and median wealth of single mothers in British Columbia similarly indicates a massive wealth gap within that group, with the majority of single mothers having minimal wealth, and a small minority having very substantial wealth.

Older people tend to have more wealth, as they have had longer both to accumulate assets and to pay off mortgages and other debts. Families 65 and older represent 9.7% of family units in Canada but they own 16% of the country's wealth, with a median wealth of \$202,000, and an average wealth of \$329,804, the largest of any family type.

But marked gender differences become apparent in the data on unattached seniors. Unattached elderly men in Canada have median wealth of \$111,000, which is 45% greater than that of unattached elderly women (\$76,600). The average wealth of unattached elderly men is \$214,594, compared to \$152,685 for unattached elderly women.

There are 266,600 unattached elderly men in Canada, representing 2.2% of all family units, and they hold 2.3% of all wealth, roughly in proportion to their numbers. However, there are three times as many unattached elderly women – 786,000 in all – largely because women live longer. These senior women represent 6.4% of all family units in Canada, but own only 4.9% of the wealth.¹⁰⁹

While the assets of older people are considerably greater than those of younger people, the much higher proportion of sickness, disability, and activity limitations that afflict the elderly may require drawing on these resources more readily to cover the costs of necessary supplementary care that is not provided through the public health care system.

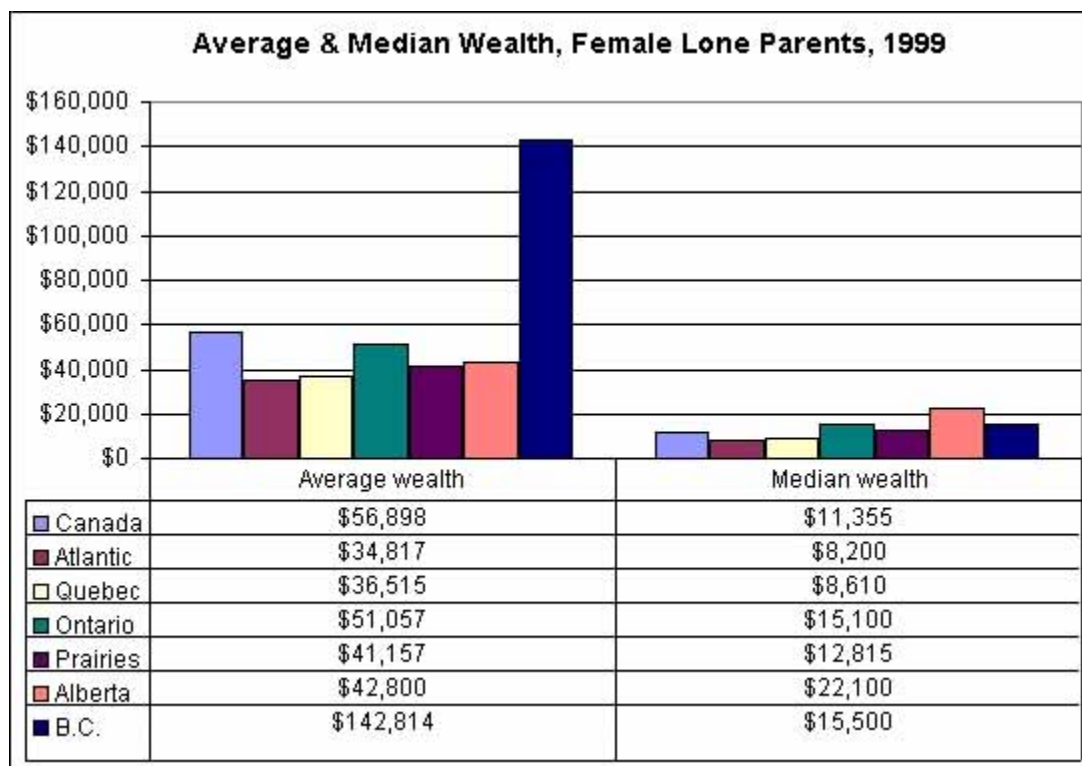
¹⁰⁷ Kerstetter, op. cit., pages 42-45, and Appendix C, pages 44-50.

¹⁰⁸ Kerstetter, op. cit., Table VI-4, page 57. Note that comparisons between 1984 and 1999 wealth omit the value of household furnishings, collectibles and valuables, annuities, and Registered Retirement Income Funds, since those items were not counted in 1984. These items are therefore subtracted from the 1999 data for comparative purposes. The figures given here are therefore not comparable to data drawn directly from the 1999 survey.

¹⁰⁹ Kerstetter, op. cit., pages 43-47.

The generally high averages for elderly people also conceal the fact that significant numbers of seniors have little or no wealth. More than one in five seniors in Canada has wealth of less than \$30,000, and 15.4% own less than \$15,000 in wealth. Even that very modest wealth may consist primarily of a house or car that is not easy to convert to financial wealth in time of need.¹¹⁰

Figure 15. Average and median wealth, female lone parents, Canada and regions, 1999



Source: Statistics Canada, *Survey of Financial Security*, cited in Kerstetter, *Rags and Riches*.

Interpretation

We know that equity and financial status are key determinants of health, so Statistics Canada's recent Survey of Financial Security – the first such assessment of wealth distribution in Canada in 15 years – is a vital new source of information. But while income indicators are more amenable to gender analysis, because the information is gathered from individuals, wealth is measured by family units. That presents particular challenges in assessing the impacts of unequal wealth distribution on women and on women's health in particular.

Most households consist of husband-wife families, where the spouses supposedly share the family wealth. But that is an assumption that must be independently tested rather than taken for granted. Whether the stocks, bonds, mutual fund investments, business equity and other assets currently attributed to husband-wife families are in fact fully shared, and whether they provide

¹¹⁰ Kerstetter, op. cit., Table V-5, page 47.

similar levels of financial security to both partners is unknown. Unfortunately, the new Statistics Canada data currently provide no way of assessing the impact of unequal wealth distribution on such traditional families from a gender perspective.

For Canadians as a whole, the Canadian Centre for Policy Alternatives study concluded from the SFS results that “the huge increases in personal wealth over the years have gone primarily to the family units at the very top and very little has trickled down to family units below the median.”¹¹¹

2. Employment

Income, while widely accepted as a key determinant of health, is itself largely dependent on employment. For example, data presented in the previous section indicated that the major decline in low-income rates for single mothers appears to be almost entirely due to sharp increases in the number with paid jobs. Single mothers without paid jobs still have a low-income rate close to 90%. It was also noted that dual earner families are far more likely to accumulate wealth and create financial security than unattached individuals and single mothers dependent on one income.

Employment not only determines absolute levels of income, but is a key determinant of equity, which has also been shown to have an impact on health.¹¹² A Statistics Canada study found that the polarization of working hours in Canada in the 1980s was the key factor in increasing the level of inequality in weekly earnings.¹¹³ A decline in the standard work week had led paradoxically both to larger numbers of workers putting in longer hours, and larger numbers unable to get the hours they needed to make ends meet.

In addition to determining income and affecting equity, employment has been demonstrated to have an independent effect on both physical and mental health, with the unemployed consistently having worse health outcomes than those who are employed.¹¹⁴ Marie Jahoda’s seminal studies of the 1930s Depression showed that employment provides far more than income:

“Employment makes the following categories of experience inevitable: it imposes a time structure on the waking day; it compels contacts and shared experiences with others outside the nuclear family; it demonstrates that there are goals and purposes which are beyond the scope of an individual but require a collectivity; it

¹¹¹ Kerstetter, op. cit., page 22.

¹¹² As noted above, a British Medical Journal review of evidence concluded: “What matters in determining mortality and health in a society is less the overall wealth of the society and more how evenly wealth is distributed. The more equally wealth is distributed, the better the health of that society.” In “Editorial: The Big Idea,” *British Medical Journal* 312, April 20, 1998, page 985.

¹¹³ Morissette, Rene, “Why has inequality in weekly earnings increased in Canada?” Analytical Studies Branch research paper series, Statistics Canada, Catalogue No. 11F0019MIE1995080, July 30, 1995.

¹¹⁴ On the health impacts of unemployment, see Canadian Public Health Association, *The Health Impacts of Unemployment: A Position Paper*, CPHA, Ottawa, 1996; Evans, R, *Why are some people healthy and others not?* Canadian Working Paper No. 20, Institute for Advanced Research, Program in Population Health, December, 1992.

*imposes status and social identity through the division of labour in modern employment; it enforces activity...*¹¹⁵

Conversely, Jahoda demonstrated that unemployment damages mental health because of the *psychological* deprivation of these unintended consequences of employment, which normally function as psychological supports.

But unemployment is not the only work-related health determinant. Job strain, overwork, lack of control or decision latitude in one's work, and job dissatisfaction can all have adverse health impacts. For example, a survey of 3,000 young people over eight years in Australia found that those who were employed but dissatisfied with their jobs were indistinguishable in terms of mental health scores from those who were unemployed.¹¹⁶

Statistics Canada undertook a seminal study, based on longitudinal data in the 1994/95 and 1996/97 National Population Health Surveys, to examine the impact of long working hours on health. The study demonstrated clearly that both men and women who moved to longer working hours showed significant increases in adverse health behaviours and risk factors, with women also more than doubling their risk of suffering major depressive episodes.¹¹⁷

Both overwork and unemployment can therefore be stressful. One Japanese study found that the underemployed and overworked had equally elevated risks of heart attack.¹¹⁸ For women in particular, the health impact of work cannot be examined in isolation from their unpaid work burden. While women have doubled their labour force participation rates in recent decades, time use studies demonstrate that they still do almost two-thirds of the household work. Employed mothers in general, and employed single mothers in particular, have the highest rates of time stress of any demographic group, and put in an average 75-hour total work week when both paid and unpaid work are counted.¹¹⁹

In short, employment can affect the physical and mental health of women in many and diverse ways, both directly and indirectly. For this reason, any analysis of women's employment patterns must go beyond simple rates of employment and unemployment, and examine also changes in type of employment, job security, work hours, job satisfaction and control, and other factors.

Statistics Canada's Canadian Community Health Survey now includes questions on decision latitude at work, since that has been reliably identified as a key factor in generating stress and job strain. This following indicators present the latest employment results from Statistics Canada's

¹¹⁵ Jahoda, Marie, *Employment and Unemployment: A Social-Psychological Analysis*, Cambridge University Press, 1982.

¹¹⁶ Fryer, David, "Unemployment: A Mental Health Issue," C.S. Myers lecture, British Psychological Society, annual conference, Brighton, U.K., in *The Jobs Letter* 24:9, September 1995.

¹¹⁷ Shields, Margot, "Long working hours and health," Statistics Canada, *Health Reports* 11 (2), Autumn, 1999, pages 33-48. This article was also adapted for Statistics Canada's *Perspectives on Labour and Income*, catalogue no. 75-001-XPE, Spring, 2000, pages 49-56.

¹¹⁸ Sokejima, S. and S. Kagamimori, "Working hours as a risk factor for acute myocardial infarction in Japan: Case Control Study," *British Medical Journal* 317, 1998, pages 775-780.

¹¹⁹ Statistics Canada, *Overview of the time use of Canadians in 1998*, General Social Survey, catalogue no. 12F0080-XIE, November, 1999; and Statistics Canada, *The Daily*, catalogue no. 11-001E, November 9, 1999, page 4.

new report on *Women in Canada: Work Chapter Updates*, released in April, 2002, along with trends from the 2001 *Labour Force Survey* and Statistics Canada's *Labour Force Historical Review 2001*, released in 2002.

This analysis is unable to explore the pathways between particular employment characteristics and health outcomes, but the data presented here will hopefully be useful to researchers attempting such an analysis.

The indicators in this section go beyond the conventional employment and unemployment rates generally used, and recognize that simply having a job is not the only determinant of health. *Type* of employment and occupation, as well as length of time in a job, can have a major effect on job security, income level, and financial security, all of which can affect stress and health. Type of employment may reflect personal choice. For example, part-time work tends to fetch lower rates of pay, but may be chosen for reasons of child-care and family responsibilities, schooling, illness, or personal preference. On the other hand, those who work part-time because they cannot find full-time work are classified as “involuntary” or “underemployed” part-time workers, and may not have sufficient work hours to make ends meet.

Involuntary part-time work, most temporary work, marginal self-employment, non-unionized work, short job tenure, and incidence and duration of unemployment are all markers of job insecurity, which in turn may have adverse impacts on health. Indicators of job security and stability are therefore included here and assessed from a gender to the extent possible.

The following employment indicators are examined:

1. Women's employment rates

- labour force participation rates
- percentage of all women employed
- women as percentage of total employment
- female employment rates by age and education
- employment rates of women with children, by age of child
- employment rates of female lone parents

2. Types of employment and job security

- women's part-time employment rates
- involuntary part-time employment rates for women
- temporary employment, including seasonal, term, contract, casual, and on-call work
- female self-employment
- female union coverage
- women's changing occupational status
- women's job tenure and stability
- decision latitude at work

3. Unemployment

- official unemployment rates for women
- long-term unemployment
- discouraged female workers
- comprehensive unemployment rates including discouraged and underemployed workers
- youth unemployment
- unemployment by educational level

2.1 Women's employment rates

Indicator description

Statistics Canada defines the employment rate as the number of persons employed, expressed as a percentage of the total population 15 years of age and over:

$$\text{Employment rate} = \frac{\text{Employed}}{\text{Population 15 years and over (excluding institutional residents)}} \times 100$$

The employment rate for a particular group (age, sex, marital status, geographic area, etc.) is the number employed in that group, expressed as a percentage of the population 15 years of age and over in that group. Thus the employment rate for women is the percentage of women aged 15 and over, who are employed.

Labour force participation refers both to those who are working, and to those who are actively looking for work.

Relevance

Employment status can affect women's health in a number of ways – as a determinant of income, equity, and social position; as a base of social support; as a source of time stress; as a form of security or insecurity; and in accordance with a wide range of work characteristics.

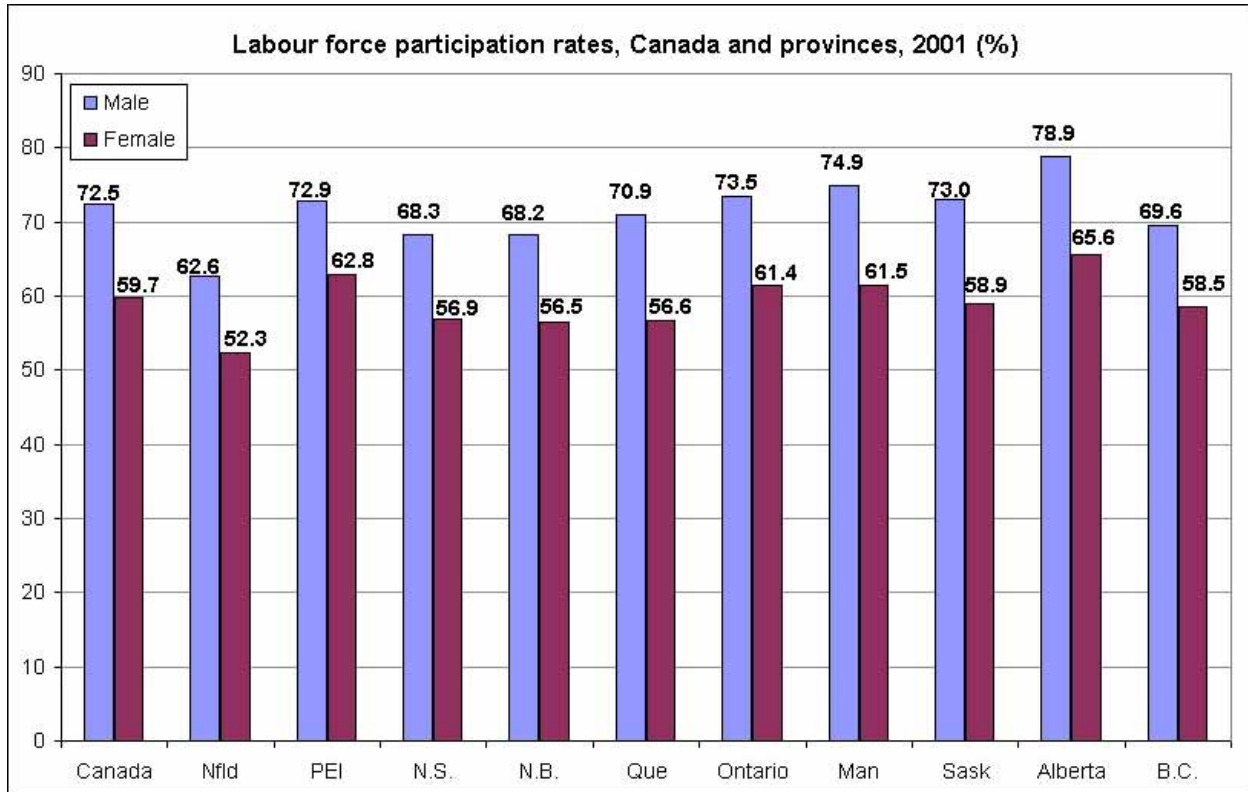
Because the determinants of health are highly interactive, the following employment statistics must be examined in relation to other indicators. For example, higher employment rates may contribute positively to income, equity, financial security, social support, and health for women. However, poor work conditions, lack of job security or control at work, sexual harassment, overwork, and other job characteristics may undermine health.

Despite these caveats, there is no question that the dramatic changes in women's employment rates in the last 40 years have had a major impact on women's lives, health, and wellbeing, and they are therefore presented here as a key determinant of women's health.

Results

Because employment rates are clearly a function of labour force participation, the latter is presented first. The proportion of Canadian women who participate in the paid labour force has more than doubled in the last forty years, from 27% in 1961 to 45% in 1981 to 60% in 2001.¹²⁰ Female labour force participation rates range from a low of 52.3% in Newfoundland and Labrador to a high of 65.5% in Alberta (Figure 16).

Figure 16. Labour force participation rates, Canada and provinces, 2001 (%)



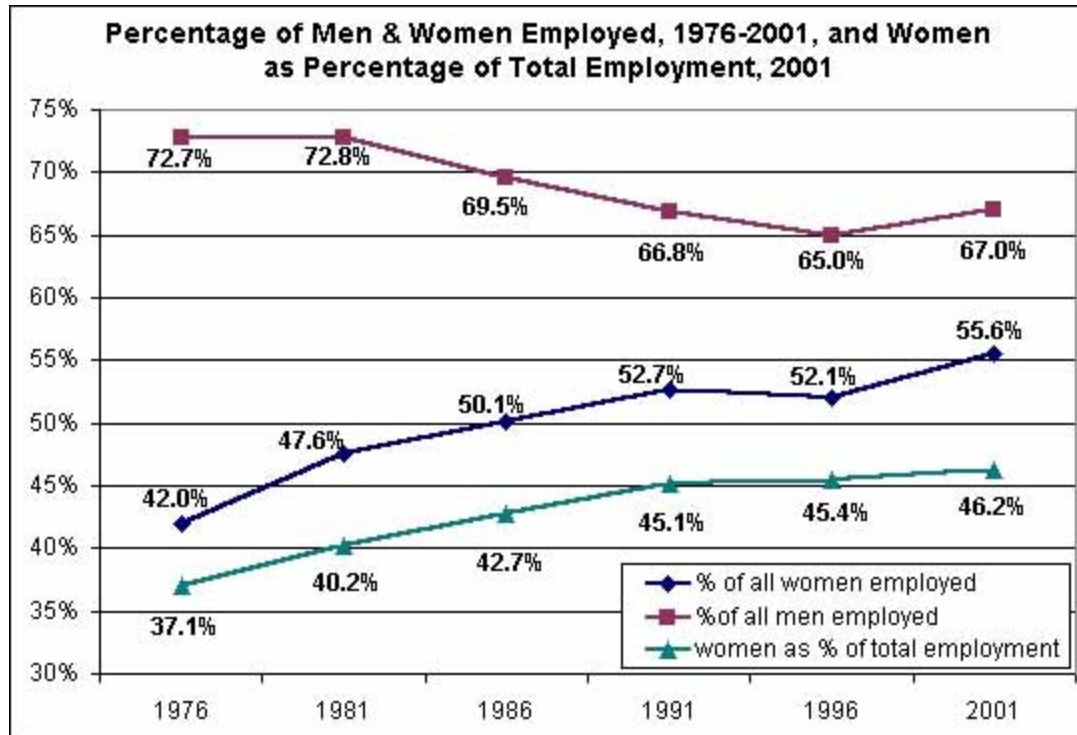
Source: Statistics Canada, Labour Force Historical Review 2001.

Throughout Canada, there has been a clear and steady convergence between male and female shares of total employment in the last 25 years. The female employment rate has increased by one-third in that period, while the male employment rate has fallen. In 2001, 56% of all women aged 15 and over had jobs, up from 42% in 1976. By contrast, 67% of all men had jobs in 2001, down from 73% in 1976. As a result, women today make up 46% of the employed work force –

¹²⁰ Historical labour force participation rates from Statistics Canada, *Charting Canadian Incomes: 1951-1981*, catalogue no. 13-581E, pages 10-11; Statistics Canada, *Women in Canada*, 3rd edition, catalogue no. 89-503E, page 88; Statistics Canada, *Women in the Workplace*, 2nd edition, catalogue no. 71-543E, page 10. 2001 labour force participation rates from Statistics Canada, "Labour force estimates by education, age group, sex, Canada, provinces, annual average, 2001," Statistics Canada, *Labour Force Historical Review 2001*, catalogue no. 71F0004-XCB, CD-ROM, Ottawa, 2002.

the highest percentage ever, up from 37% in 1976 (Figure 17). In the Atlantic provinces, women make up more than 49% of all paid workers.¹²¹

Figure 17. Percentage of men and women employed, and women as percentage of total employment, Canada, 1976 – 2001



Source: Statistics Canada, *Women in Canada: Work Chapter Updates*, Table 1, Employment

However, the nation-wide increase in female employment is not spread evenly among all age groups and educational levels. Women aged 25-54 have increased their employment rate the fastest – by more than half in the last 25 years. By 2001, 75.3% of Canadian women aged 25-44 had a job, compared to less than 50% in 1976; and 72.2% of women aged 45-54 had a job, up from 45.6% twenty-five years earlier. In 1976, women aged 25-54 were only about half as likely to be employed as men. Today they are 87% as likely to be employed. Male and female youth aged 15-24 are equally likely to be working today, with just over 56% of each employed in 2001, compared to 52% of young women and 60% of young men in 1976.¹²²

Women with a university degree are more than twice as likely to have a job as women who have not completed high school, and they are 95% as likely as men to be employed. In 2001, 75.4% of female university graduates had a job, compared to 79.3% of male graduates. By contrast,

¹²¹ Statistics Canada, *Women in Canada: Work Chapter Updates*, catalogue no. 89F0133-XIE, April 2002, pages 4 and 10, Tables 1 and 2; Statistics Canada, *Labour Force Historical Review 2001*, catalogue no. 71F0004-XCB, CD-ROM, Ottawa, 2002.

¹²² Statistics Canada, *Women in Canada: Work Chapter Updates*, catalogue no. 89F0133-XIE, April 2002, pages 5 and 11, Table 4.

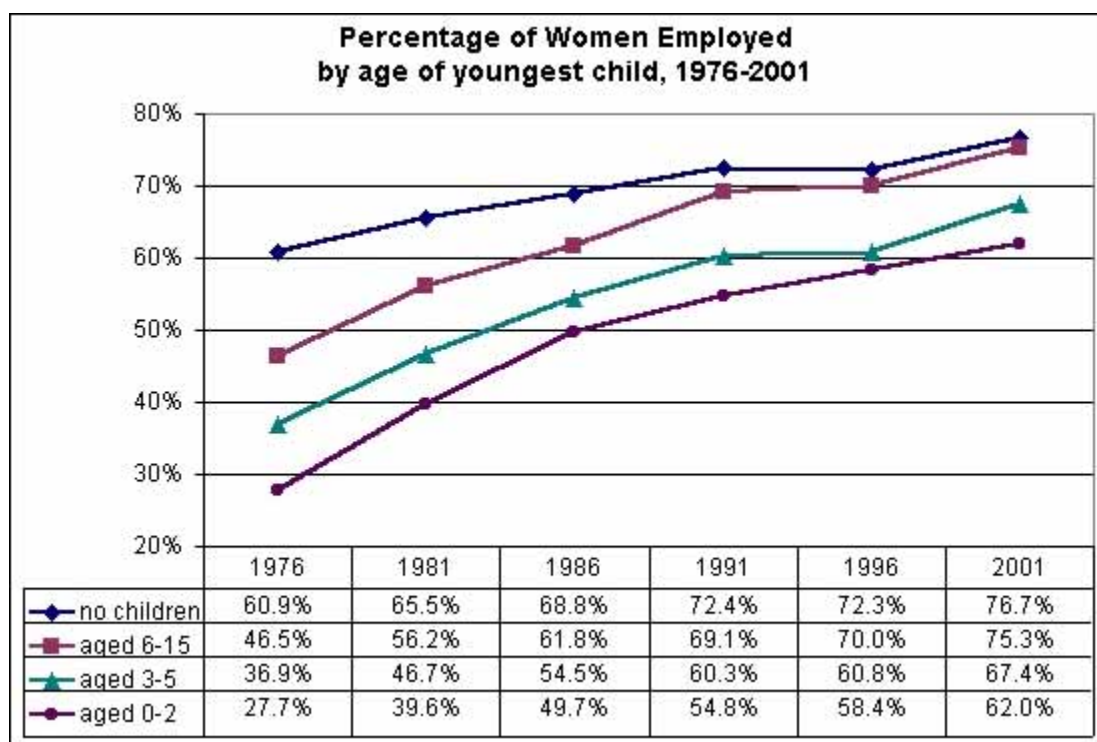
women with less than a grade 9 education are less than half as likely to be employed as their male counterparts – 13.6% of women compared to 29.4% of men.¹²³

Women without children have always been more likely to work for pay than women with children. In 1976, for example, 61% of Canadian women without children under 16 had jobs, compared to 39% of those with children, and 28% of those with infants under 3. But, since that time, women with children have sharply increased their rate of employment, with particularly dramatic increases for women with infants. Women whose youngest children are aged 6-15 are now almost as likely to work for pay (75.3%) as women without children (76.7%). And women with children under 6 have more than doubled their employment rate, from 31.5% in 1976 to 64.2% in 2001.¹²⁴

Since 1976:

- women without children have increased their employment rate by 26%;
- women with a youngest child aged 6-15 have increased their employment rate by 62%;
- women with a youngest child 3-5 have increased their employment rate by 83%; and
- women with a youngest child aged 0-2 have increased their employment rate by 124% (Figure 18).

Figure 18. Percentage of women employed, by age of youngest child, Canada, 1976-2001



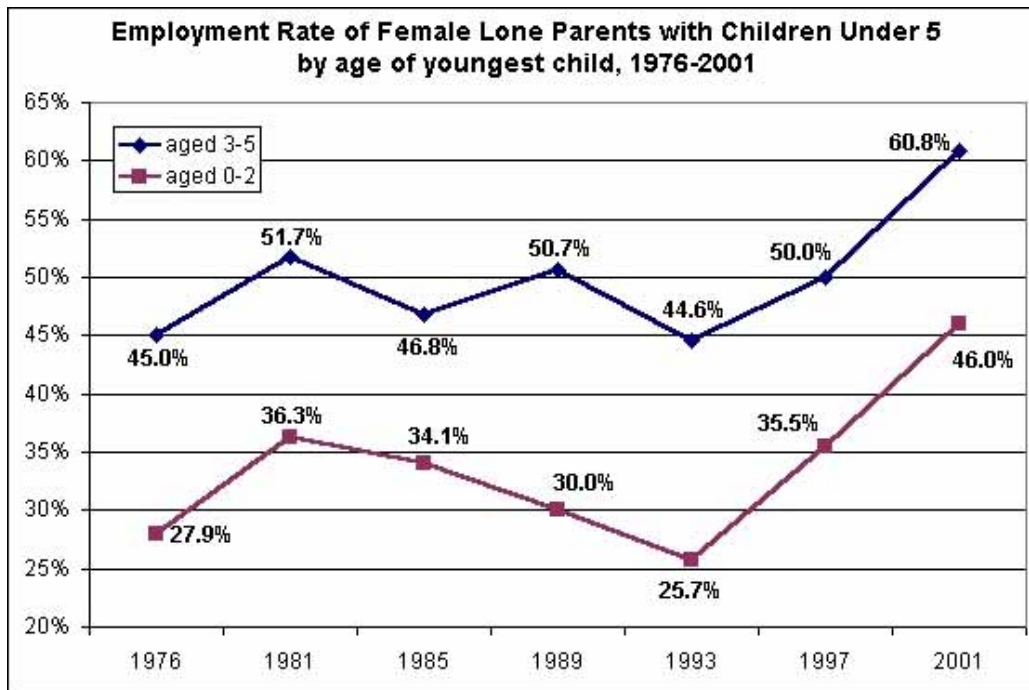
Source: Statistics Canada, Women in Canada: Work Chapter Updates.

¹²³ Statistics Canada, *Women in Canada: Work Chapter Updates*, catalogue no. 89F0133-XIE, April 2002, pages 5 and 11, Table 3.

¹²⁴ Statistics Canada, *Women in Canada: Work Chapter Updates*, catalogue no. 89F0133-XIE, April 2002, pages 6 and 12, Table 5

By contrast with the trends outlined above, the employment rate of single mothers with young children remained fairly stable until 1993, dipping somewhat during the recessions of the early 1980s and early 1990s. After 1993, employment increased very sharply, jumping by nearly 80% in just eight years for single mothers with infants (Figure 19).¹²⁵

Figure 19. Employment rate of female lone parents with children under 5, by age of youngest child, Canada, 1976-2001 (%)



Source: Statistics Canada, *Women in Canada: Work Chapter Updates*.

Interpretation

Changes in the business cycle and in social policy appear to have had a much stronger effect on the employment patterns of single mothers with young children than on their married counterparts. It is likely that the sole child-rearing responsibilities of single mothers force many into insecure, temporary, part-time jobs that are the first to be cut during an economic downturn. In 1993 major cuts to federal social transfers and to provincial social assistance programs contributed to a sharp increase in the poverty rates of single mothers and their children, pushing many single mothers into the market economy.

The staggering increase in employment for women with very young children has major implications for policy, child-rearing, and family finances that have not been adequately studied or debated in Canada.

¹²⁵ Statistics Canada, *Women in Canada: Work Chapter Updates*, catalogue no. 89F0133-XIE, April 2002, pages 6 and 13, Table 6.

- What are the impacts of this dramatic social shift on children and on families?
- Is the increase in female employment driven primarily by financial necessity, by career goals, or by equity considerations?
- What new workplace arrangements are necessary to accommodate the dual needs of job and household?
- Why has the gender division of labour within the household not changed as rapidly as the gender division of labour in the market economy? Statistics Canada time use surveys show that women still perform nearly two-thirds of the household work.
- What new national and provincial child-care policies are now needed?
- Are families paying more to work more? The inflation rate for child-care and restaurant food since the mid-1980s has far outpaced that of wages.¹²⁶ In other words, as more women work for pay, families are becoming more dependent on eating out and paid child-care, but the cost of these services is rising at a more rapid rate than their incomes.

2.2 Part-time and temporary work

Indicator description

Full-time workers are those who worked for pay or in self-employment for 30 hours or more per week at their main or only job. Part-time workers are those who usually work less than 30 hours per week at their main or only job.¹²⁷

Part-time work may be “voluntary” or “involuntary,” with the latter often used as an assessment of employment quality. According to Statistics Canada:

“A number of factors may be considered in assessing employment quality. For example, some researchers have looked at hourly wages, while others have evaluated social benefits, union affiliation, terms of collective agreements, hours worked and so on. Workers’ satisfaction with their jobs, however, is difficult to quantify and remains a matter of personal appreciation, hence the need to examine several factors.

“Employment quality may be assessed on the basis of whether the number of hours worked by an employee is sufficient or insufficient compared to the number of hours that employee would like to work. The concept of involuntary part-time work is based on this principle of dissatisfaction with the number of hours which may be insufficient for a worker, but required for a job. This type of work also constitutes a form of under-employment....

“Involuntary part-time work is defined as a job involving less than 30 hours a week which is held by a worker who has been unable to find full-time employment. These workers are dealing with an under-employment problem in

¹²⁶ Statistics Canada, *The Consumer Price Index*, catalogue no. 62-001-XPB; Statistics Canada, CANSIM database 7466 and 1453; Statistics Canada, *Average Weekly Wages*, Industrial Composite.

¹²⁷ Statistics Canada, *Guide to the Labour Force Survey*, catalogue no. 71-543-GIE.

that they cannot perform to their full capacity even though they are available on a full-time basis. In addition, the loss of potential additional income resulting from the shortage of hours of work leads them to find additional part-time jobs which, in certain instances, result in significant overload in their work week. These “moonlighters” remain involuntary part-time workers who are holding down two jobs.”¹²⁸

In Statistics Canada’s Labour Force Survey, part-time workers are asked if they want to work more or less than 30 hours at a single job or business. Those who say they want to work 30 or more hours per week are then asked for their main reason for working less than 30 hours a week. Responses include own illness, personal or family responsibilities, going to school, business conditions, could not find work with 30 or more hours, or other. Those whose response was “business conditions” or “could not find work with 30 or more hours” are classified here as involuntary part-time workers.

Statistics Canada has a much narrower definition of involuntary part-time work that includes only those who actively searched for full-time work in the previous four weeks – fewer than one-third of those citing business conditions or inability to find full-time work as their main reasons for working part-time.¹²⁹ However, that is certainly an underestimate, as 66.7% of those citing business conditions or inability to find full-time work as their main reasons for working part-time in 2001 did not actively look for full-time work in the previous four weeks.¹³⁰ For this reason, all those citing business conditions and inability to find full-time work as their main reasons for working part-time are counted as involuntary part-timers in this analysis.

Another assessment of employment quality, stability, and security is job “permanency.” A permanent job is defined by Statistics Canada as “one that is expected to last as long as the employees wants it, given that business conditions permit. That is, there is no pre-determined termination date.” By contrast, “a temporary job has a pre-determined end date, or will end as soon as a specified project is completed.” Statistics Canada classifies temporary work into four groups: seasonal, term or contract, casual, and other.¹³¹

Relevance

Any assessment of the impact of employment on women’s health must include these employment categories, because women have particularly high rates of part-time work and of some categories of temporary work. For example, about 70% of part-time workers, and two-

¹²⁸ Noreau, Nathalie, *Longitudinal Aspect of Involuntary Part-time Employment*, Statistics Canada, catalogue no. 75F0002-MIE-00003, pages 9-10.

¹²⁹ Statistics Canada, *Guide to the Labour Force Survey*, catalogue no. 71-543-GIE: “Dictionary of Concepts and Definitions,” pages 12-13.

¹³⁰ Statistics Canada, *Labour Force Historical Review 2001*, catalogue no. 71F0004-XCB, CD-ROM, Ottawa, 2002, Table CD1T08AN.IVT.

¹³¹ Statistics Canada, *Guide to the Labour Force Survey*, catalogue no. 71-543-GIE: “Dictionary of Concepts and Definitions,” page 11.

thirds of involuntary part-timers are women, while 60% of casual workers are women.¹³² In North America, these categories of work frequently lack benefits and security, involve lower rates of pay, and therefore lead to job dissatisfaction.

However, it is important not to classify part-time work as inherently negative, and to recognize that it may potentially have a positive impact on health. The Netherlands, for example, prohibits discrimination against part-time workers, who receive equal hourly pay and pro-rated benefits, and have equal opportunity for career advancement.¹³³ Because part-time work is attractive, Dutch workers have the highest rates of part-time work among all industrialized nations, but have very low rates of involuntary part-time work – about 6%. Good part-time work therefore has the potential to allow women to balance family, job, and personal responsibilities more successfully than some kinds of full-time work, and thus to reduce time stress.

In sum, a close examination of the extent, nature, and type of women's part-time and temporary work is highly relevant to an assessment of the impact of employment on women's health.

Results

About 27% of all employed women in Canada work part-time, or less than 30 hours a week, compared to 10% of men. Since the late 1970s, about 70% of all part-time workers have been women.

Women working part-time fetch an average of \$12.59 an hour in Canada, compared to \$16.24 an hour for women working full-time. The wage gap is even greater for men, with part-timers receiving an average of \$11.39 an hour compared to \$19.81 for full-timers. However, because so many more women work part-time than men, the proportion of women receiving low wages is considerably larger.¹³⁴

When asked why they work part-time, more than one in five Canadian women give child care or other family responsibilities as the primary reason. Only 2.3% of men give this reason. One quarter of Canadian women work part-time because they cannot find full-time employment. This is a sharp drop from 1997, when 35.3% of female part-time workers were involuntary part-timers. The highest rates of involuntary part-time work among Canadian women are in the Atlantic region (more than 30%), and the lowest rate is in Alberta (16.7%). In Newfoundland, more than half of the women working part-time are doing so primarily because they cannot find full-time work – twice the Canadian rate (Figure 20).¹³⁵

¹³² Statistics Canada, *Labour Force Historical Review 2001*, catalogue no. 71F0004-XCB, CD-ROM, Ottawa, 2002; Noreau, Nathalie, *Longitudinal Aspect of Involuntary Part-time Employment*, Statistics Canada, catalogue no. 75F0002-MIE-00003, page 10.

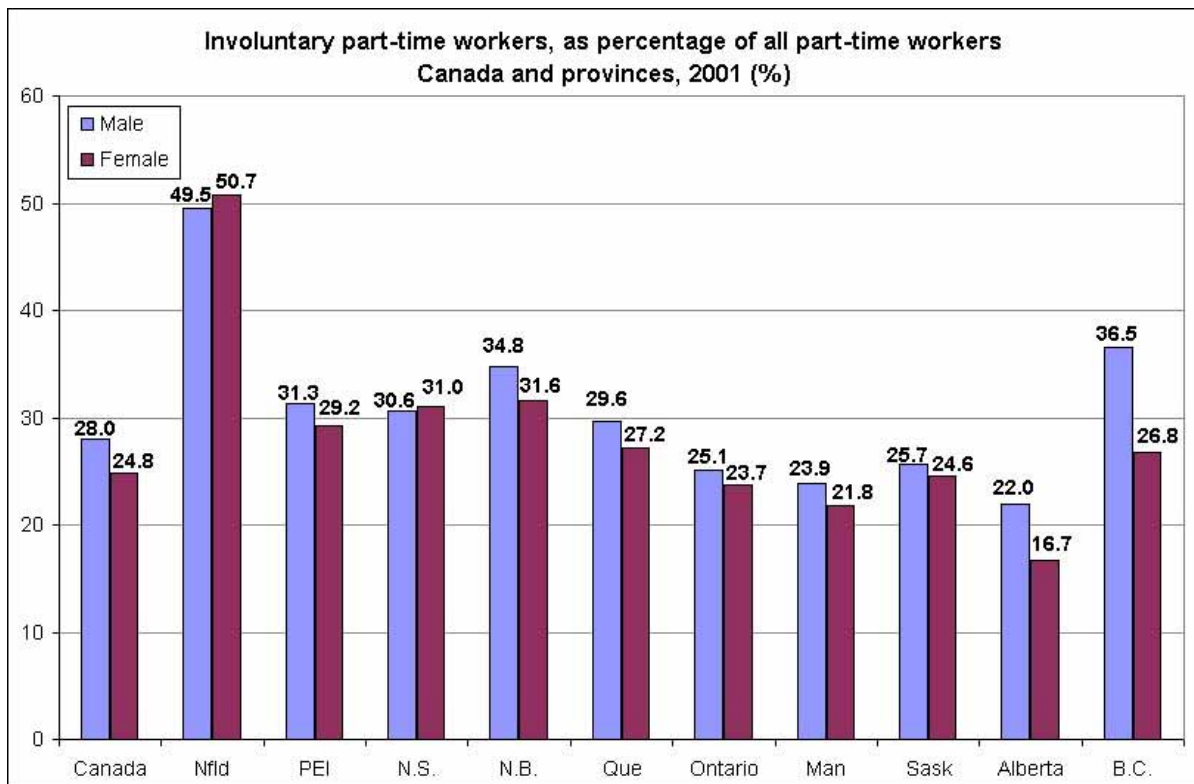
¹³³ Hayden, Anders, *Sharing the Work, Sparing the Planet: Work Time, Consumption, and Ecology*, Between the Lines, Toronto, 1999; European Industrial Relations Observatory, Netherlands, 1999, several articles – see for example, “Political compromise on proposed part-time work legislation,” available at: <http://www.eiro.eurofound.ie/1999/10/inbrief/NL9910170N.html>.

¹³⁴ Statistics Canada, *Labour Force Historical Review 2001*, catalogue no. 71F0004-XCB, CD-ROM, Ottawa, 2002.

¹³⁵ Statistics Canada, *Labour Force Historical Review 2001*, catalogue no. 71F0004-XCB, CD-ROM, Ottawa, 2002.

Temporary jobs include seasonal work, term or contract jobs, casual jobs, and on-call work. These jobs generally provide little security, rarely carry benefits, and tend to be low-paying. For example, only 20% of temporary jobs provide pension plans, paid sick leave, or supplementary health benefits, and only 29% provide paid vacation leave. By comparison, 55% of permanent jobs provide pension plans, 62% paid sick leave, 64% provide supplementary health benefits, and 78% provide vacation pay.¹³⁶ Temporary jobs also provide few, if any, promotion and career advancement opportunities. Contingent and temporary workers are frequently the first laid off in times of economic downturn or reduced demand.

Figure 20. Involuntary part-time workers, as percentage of all part-time workers, Canada and provinces, 2001 (%)



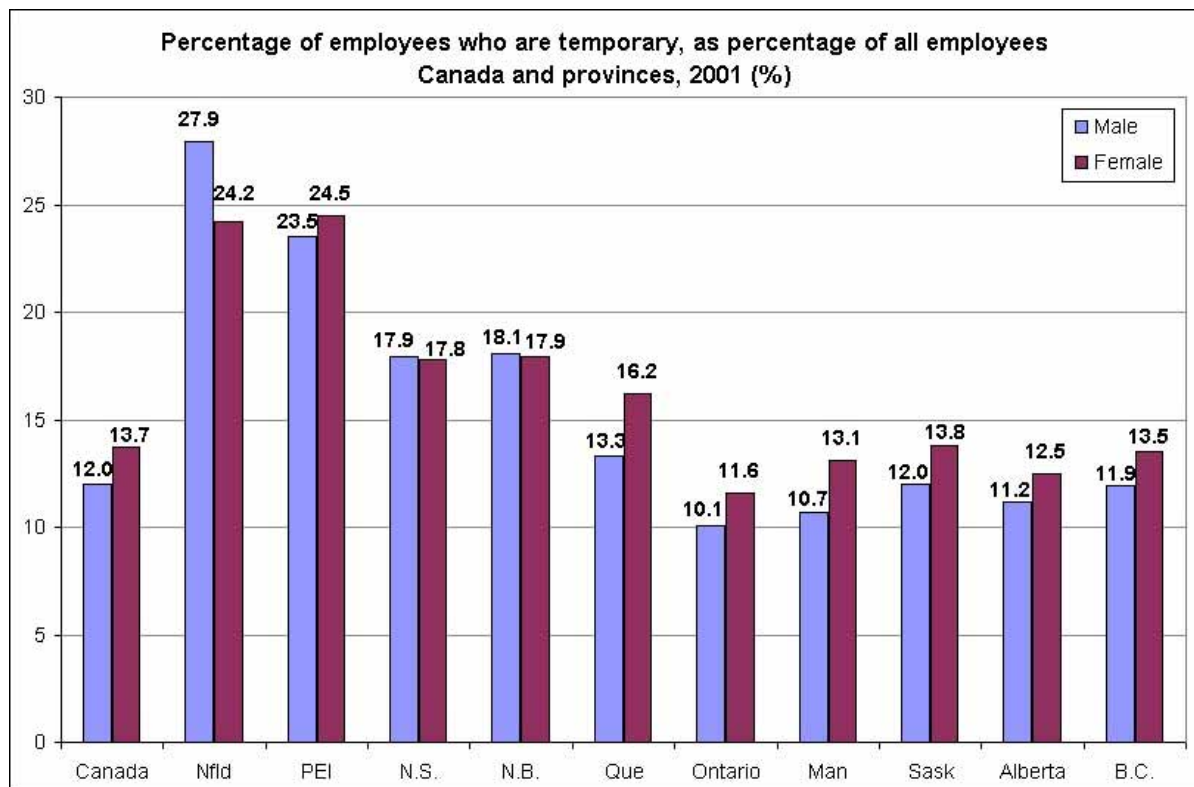
Source: Statistics Canada, Labour Force Historical Review 2001.

About 14% of Canadian women and 12% of men have temporary jobs. Though male and female rates of temporary work are not very different, men and women tend to have different types of temporary work, and the nature of that work differs according to key industries. More men do seasonal work, and more women have term contracts and casual jobs. As with involuntary part-time work, both men and women in Atlantic Canada have far higher rates of temporary employment than in the rest of Canada. Women in Quebec also have higher than average rates of temporary work (Figure 21).¹³⁷

¹³⁶ Grenon, Lee, and Barbara Chun, "Non-permanent paid work," *Perspectives on Labour and Income*, Statistics Canada, catalogue no. 75-001-XPE, Autumn, 1997, pages 21-31.

¹³⁷ Statistics Canada, *Labour Force Historical Review 2001*, catalogue no. 71F0004-XCB, CD-ROM, Ottawa, 2002.

Figure 21. Percentage of employees who are temporary, as percentage of all employees, Canada and provinces, 2001 (%)



Source: Statistics Canada, Labour Force Historical Review 2001.

2.3 Self-employment

Indicator description

Statistics Canada classifies workers into two broad categories – those who work for others, and those who work for themselves. The self-employed include working owners of both incorporated and unincorporated businesses, and those, like some baby-sitters and newspaper carriers, who are self-employed but do not own a business. They include people who have paid help and those who work alone, without paid help.¹³⁸

Relevance

It is possible that self-employment may allow some women to balance their paid and unpaid work responsibilities more successfully than paid jobs with fixed work hours. Other women may be self-employed because they cannot find suitable paid work in the labour market. In such cases, self-employment may actually mask underemployment or marginalized employment

¹³⁸ Statistics Canada, *Guide to the Labour Force Survey*, catalogue no.71-543-GIE: “Dictionary of Concepts and Definitions.”

status. In order to assess whether self-employment reduces or increases stress, further analysis on *types* of female self-employment is necessary. The indicator is included here, because there are significant trends in women's self-employment, which are worthy of further study in order to understand their potential impact on women's health.

Results

Increasing numbers of Canadian women are self-employed – 11.2% of all those with jobs in 2001 compared to 8.6% in 1976. By comparison, 18.8% of male earners were self-employed in 2001, up from 14.3% in 1976. Women have gradually increased their share of self-employment in Canada from 26% in 1976 to 31% in 1990 to 34% in 2001.¹³⁹

Interpretation

There is considerable controversy over the causes of the marked increase in self-employment in Canada. Some have argued that more people are being pushed into marginal self-employment because they cannot find paid employment, and that it is primarily a stop-gap measure until they find paid work. Others argue that it reflects a greater entrepreneurial spirit, with more people attracted to being their own boss, having greater independence, and setting their own, flexible work schedules.¹⁴⁰ This summary overview does not delve into this issue.

2.4 Union coverage

Indicator description

Union coverage includes both union members and those who are not union members but who are covered by a union contract or collective agreement.

Relevance

Another marker of job and financial security, particularly for women, is union coverage. Union jobs tend to be higher paying, to carry benefits, and to provide protections against arbitrary layoff. Wage differentials between union and non-union jobs can be substantial, particularly for women, and union coverage provides significant protection against gender-based labour market discrimination.

As a determinant of women's health, therefore, the key indicator of union coverage is the proportion of all female employees covered by a union contract or collective agreement. The higher the degree of union coverage, the more positive the impact on women's health is assumed to be. This assumption is based on evidence presented below of:

¹³⁹ Statistics Canada, *Women in Canada: Work Chapter Updates*, catalogue no. 89F0133-XIE, April 2002, pages 7 and 16, Table 10.

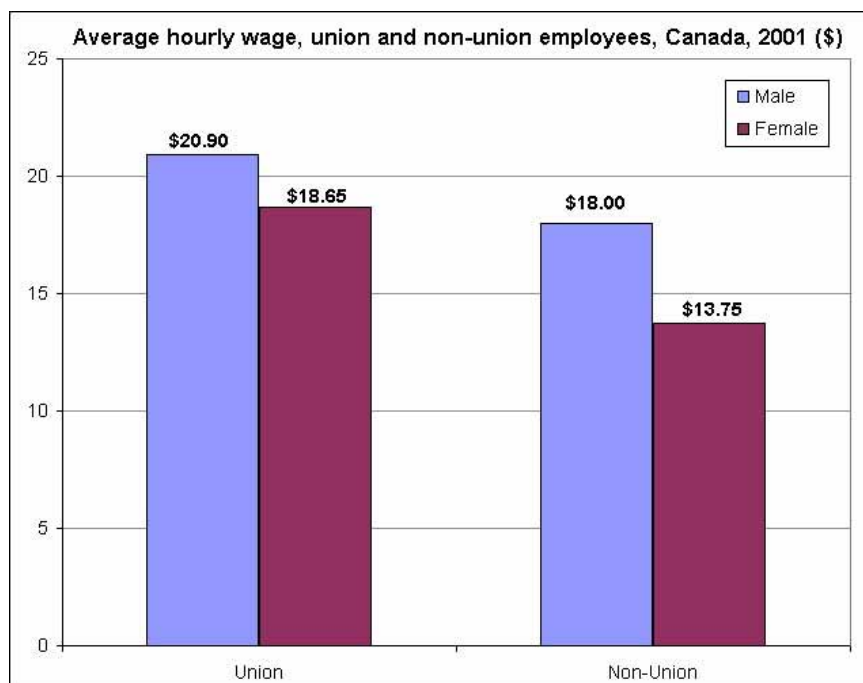
¹⁴⁰ Lin, Zhengxi, Janice Yates, and Garnett Picot, "Rising self-employment in the midst of high unemployment: An empirical analysis of recent developments in Canada," Statistics Canada, catalogue no. 11F0019-MPE, no. 133, March, 1999.

1. the very substantial difference between the wages of women covered by union contracts or collective agreements and those of women non covered by such agreements; and
2. the much narrower gender wage gap between male and female union employees compared to male and female non-union employees;

Results

The gender wage gap among unionized employees is much smaller than among non-unionized employees, with unionized women earning 89 cents to the male dollar compared to 76 cents for non-unionized women. Average hourly wages for unionized men are 16% higher than for men without union coverage. For unionized women, they are 36% higher than for women without union coverage (Figure 22).¹⁴¹

Figure 22. Average hourly wage, union and non-union employees, Canada, 2001 (\$)



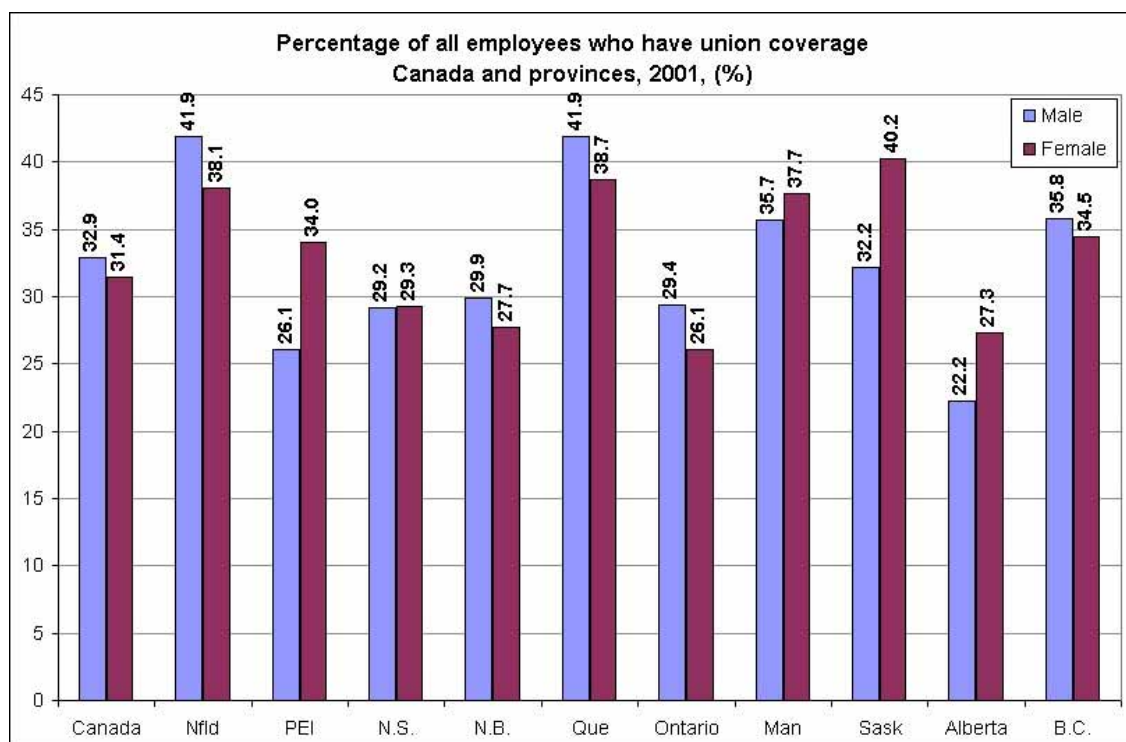
Source: Statistics Canada, Labour Force Historical Review 2001.

Female union coverage in Canada has gradually increased to relative parity with male coverage, and in some provinces (Saskatchewan, Manitoba, PEI, and Alberta) now exceeds male coverage. The most heavily unionized provinces are Quebec, Newfoundland, Manitoba, Saskatchewan, and British Columbia, in that order, and the least heavily unionized are Alberta and Ontario. A higher percentage of women have union coverage in Saskatchewan (40.2%), Quebec (38.7%),

¹⁴¹ Drolet, Marie, *The Persistent Gap: New Evidence on the Canadian Gender Wage Gap*, Statistics Canada, catalogue no 11F0019-MPE, no. 157, January, 2001, page 10; Statistics Canada, *Labour Force Historical Review 2001*, catalogue no. 71F0004-XCB, CD-ROM, Ottawa, 2002.

Newfoundland (38.1%), Manitoba (37.7%), British Columbia (34.5%) and PEI (34%) than in the other four provinces (all below 30%) (Figure 23).¹⁴²

Figure 23. Percentage of all employees who have union coverage, Canada and provinces, 2001, (%)



Source: Statistics Canada, Labour Force Historical Review 2001.

2.5 Changes in occupational and professional status

Indicator description

Statistics Canada classifies Canadian workers by occupation, according to the kind of work they do and their description of their most important duties.

Relevance

Changing occupational status may affect income, security, social status, and social supports – all of which may in turn affect health. Women's changing occupational status also has major implications for gender equity. As a determinant of women's health, higher proportions of women employed in well-paying, professional and managerial positions may therefore signify improvements in financial, income, and job security, and in gender equity in the labour market, all of which may have potentially positive health outcomes.

¹⁴² Statistics Canada, *Labour Force Historical Review 2001*, catalogue no. 71F0004-XCB, CD-ROM, Ottawa, 2002.

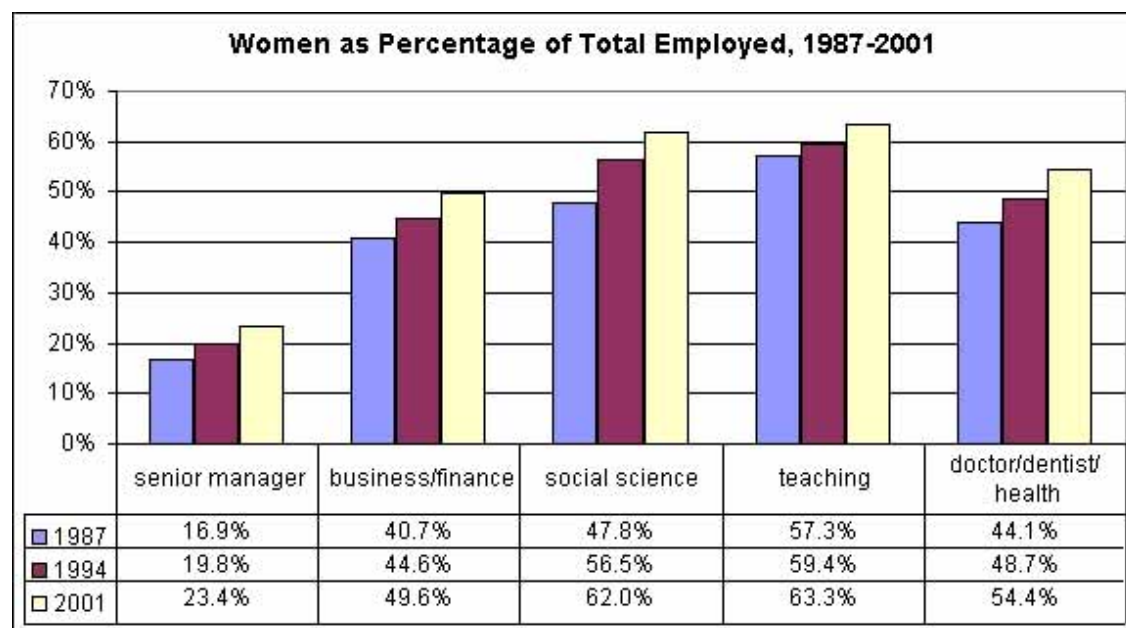
However, it must again be recalled that the determinants of health are highly interactive, and that simplistic cause-and-effect statements cannot be made. For example, potentially positive trends in women's changing occupational status may be counter-balanced by the adverse impacts of workplace sexual harassment or of increased time stress if there is no corresponding change in the gender division of labour in the household economy. Nevertheless, the dramatic changes in women's occupational and professional status in the last 20 years clearly affect women's security, health and wellbeing, and should therefore be included as key social determinants of women's health.

Results

In 2001, 70% of all employed women in Canada were working in occupations where women have traditionally been concentrated. Women account for 87% of nurses and health-related therapists, 63% of teachers, and 58% of sales and service personnel. In 2001, 25% percent of all employed women worked in clerical and administrative jobs, down from 30% in 1987, although women still constitute 76% of these workers. By contrast, only 30% of all employed men work in these occupations.

The most important gains for women have been in the higher paying professional and managerial fields. Women made up half of all business and financial professionals in 2001, up from 41% in 1987; 54% of all doctors and dentists, up from 44%; 62% of social scientists, up from 48%; and 35% of all managers, up from 23% in 1987. Among female managers, 35% were lower level managers, up from 31% in 1987, and 23% were senior managers, up from 17% (Figure 24).¹⁴³

Figure 24. Women as percentage of total employed, selected occupations, 1987-2001 (%)



Source: Statistics Canada, *Women in Canada: Work Chapter Updates*.

¹⁴³ Statistics Canada, *Women in Canada: Work Chapter Updates*, catalogue no. 89F0133-XIE, April 2002, pages 7-8, and Table 11, page 17.

These significant occupational shifts are directly related to the rapid educational gains made by women in relation to men. In Canada as a whole, the percentage of women in the labour force with a university degree increased by 7.7% a year between 1976 and 1998, compared to just 4.2% for men. By 1998, a larger share of women aged 25-34 held degrees than men.¹⁴⁴

The movement of women to higher paid occupations and fields of study has increased women's annual earnings much more rapidly than those of men. Between 1986 and 1995, women's annual earnings rose by 10.6%, while those of men fell by 1%. In 1967, the annual earnings of women working full-time, full-year were only 58.4% of male earnings. By 1997, they were 72.5% of male earnings. The wage gap has narrowed most for male and female university graduates. In fact, the higher the educational level, the smaller the gap. For doctoral graduates, the male-female wage gap has completely disappeared.¹⁴⁵

Interpretation

While these trends are certainly signs of genuine progress and growing equity, they are tempered by detailed Statistics Canada analyses of the gender wage gap, which have tried to determine why women's *hourly* wages overall have remained at 81% of the male hourly wage over time despite these clear educational gains. As earlier, after controlling for hours worked, educational attainment, work experience, job tenure, industry, occupation, supervisory role, and a wide range of other employment characteristics and socio-demographic factors, Statistics Canada analysts have concluded that "roughly one half to three quarters of the gender wage gap cannot be explained."¹⁴⁶

2.6 Job tenure

Indicator description

Job tenure refers to the number of consecutive months or years a person has worked for their current or most recent employer. An employee may have changed occupations or locations within a company, or experienced temporary layoffs, but still be considered to have uninterrupted work and continuous tenure if the employer did not change.¹⁴⁷

Relevance

Job tenure – length of time in a job – is a key indicator of job security. Longer average job tenure indicates a greater prevalence of steady long-term employment that allows workers to build up job skills, increase their wages, and advance their careers, contributing in turn to both stability

¹⁴⁴ Heisz, Andrew, A. Jackson, and G. Picot, *Winners and Losers in the Labour Market of the 1990s*, Statistics Canada, catalogue no. 11FOO19, no. 184, March, 2002, page 13.

¹⁴⁵ Heisz et al. (2002), op. cit., pages 14-17.

¹⁴⁶ Drolet, Marie, *The Persistent Gap: New Evidence on the Canadian Gender Wage Gap*, Statistics Canada, catalogue no. 11F0019-MPE, no. 157, January, 2001, page 9.

¹⁴⁷ Statistics Canada, *Guide to the Labour Force Survey*, catalogue no. 71-543-GIE: "Dictionary of Concepts and Definitions," page 11.

and financial security. A reduction in average job tenure, on the other hand, could signal an increase in short-term contingent work that exposes workers to more spells of unemployment, increases the need for mid-career job training, and makes it more difficult to accumulate a pension, thereby undermining stability and security.

Job tenure may therefore affect health indirectly through its impact on income, security, and unemployment incidence. From a policy perspective, and to assess needed interventions, it is important not only to know the proximate causes of health and ill-health, like income and unemployment, but also to understand the job characteristics that affect income, unemployment and other outcomes.

For these reasons, job tenure is also an important determinant of women's health, affecting women's security, income, and wellbeing. Because, historically, women are more recent entrants into the labour market, women have generally had shorter average job tenure than men, though the gap is narrowing sharply and rapidly. In most cases, longer job tenure is a sign of increased job security and stability, and therefore a positive influence on health outcomes. Again, this indicator must be viewed in the context of other indicators, including work characteristics and total paid and unpaid work burden.

Results

Due to more recent entry to the labour market, women's average job tenure is still about 17% less than that of men, but the gap is closing fast. As recently as 1987, average female job tenure was 31% shorter than that of men, and in 1976 it was 39% shorter. Women have steadily increased their average job tenure over the last quarter century, with Newfoundland women showing the sharpest gain in the country. Job tenure for women is currently longest in Saskatchewan, Quebec, and Newfoundland (Figure 26).¹⁴⁸

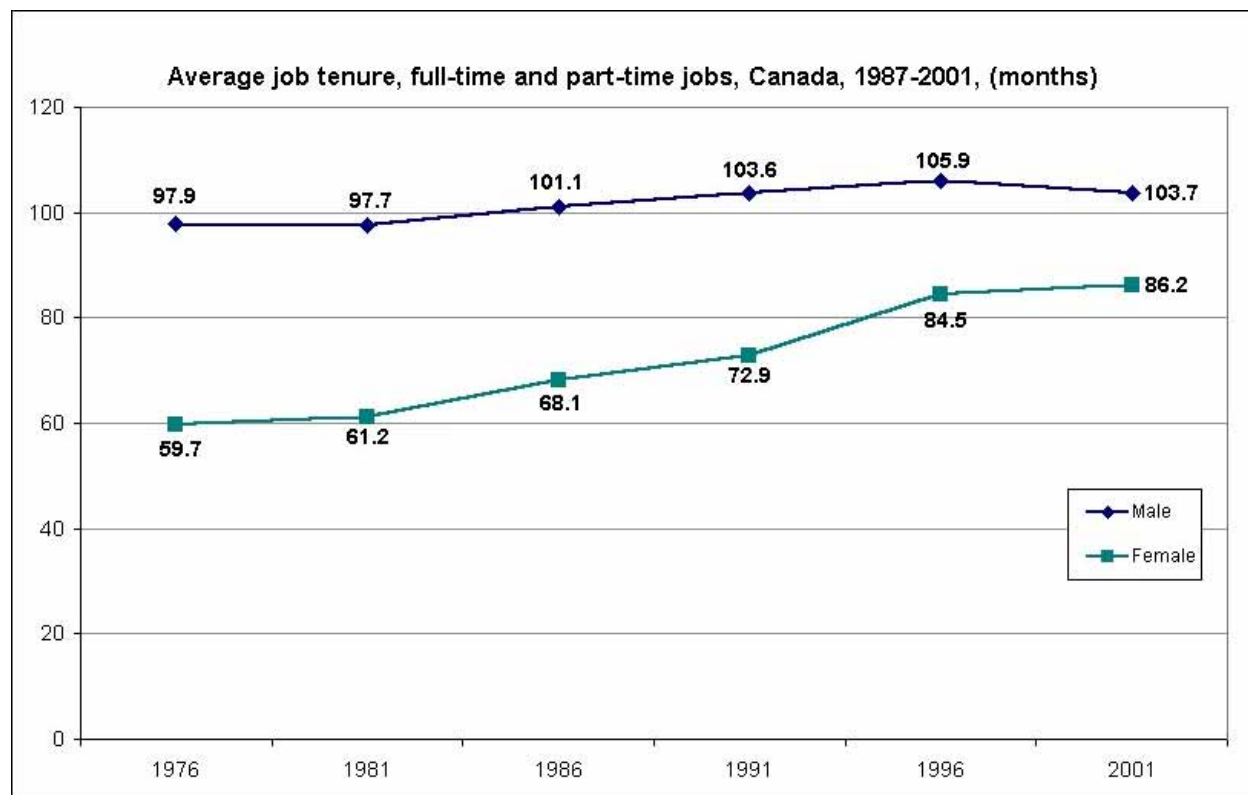
The averages, however, mask important changes over time. Even positive trends may conceal an increase in job insecurity for many. For example, Statistics Canada found a 24% drop in jobs lasting between 6 months and 5 years, and a corresponding 17% increase in jobs lasting less than 6 months between 1981 and 1994. But there was no change in the 14% of jobs that lasted more than five years or in the 6% of jobs lasting more than 20 years. Thus a relatively flat average, skewed upwards by strong stability at the top, concealed a growing polarization of jobs characterized by an increase in short-term jobs and a decline in medium-term jobs. Statistics Canada concluded that between 1981 and 1994:

*"Workers with more than one year of job security are enjoying increasing stability while at the same time the ranks of stable job holders [are] becoming more difficult to join."*¹⁴⁹

¹⁴⁸ Statistics Canada, *Labour Force Historical Review 2001*, catalogue no. 71F0004-XCB, CD-ROM, Ottawa, 2002.

¹⁴⁹ Heisz, Andrew, *Changes in Job Tenure and Job Stability in Canada*, Statistics Canada, catalogue no. 11F0019-MPE, no. 95, November, 1996, pages 6-7.

Figure 25. Average job tenure, full-time and part-time jobs, Canada, 1987-2001, (months)



Source: Statistics Canada, Labour Force Historical Review 2001.

Average job tenure figures may also conceal significant shifts among different demographic and socio-economic groups. The same Statistics Canada analysis found that those with some post-secondary education had jobs that lasted almost twice as long on average as those with less education. It noted that the shift to very short-term jobs lasting less than 6 months hit women, workers over 55, and Atlantic Canadians the hardest. Paradoxically, if a woman made it to six months, then she had a better chance of her job lasting longer than five years than did a man. Thus, there was also a growing polarization of jobs among women.¹⁵⁰

Those trends shifted markedly in the 1990s, with women sharply increasing their job stability. Between the late 1980s and the late 1990s, job stability for all employees grew markedly, with the average length of paid jobs increasing by 36%.¹⁵¹ A Statistics Canada study, released October 16, 2002, summarized the latest job tenure trends:

“In 2001 80% of employees remained with the same employer at least one more year, compared with 76% in 1980 and 74% in 1989.... Job stability was higher among men than women in the 1980s, but the gap between them had all but closed by 2001. In 1980, about 78% of men held their jobs for at least one more year,

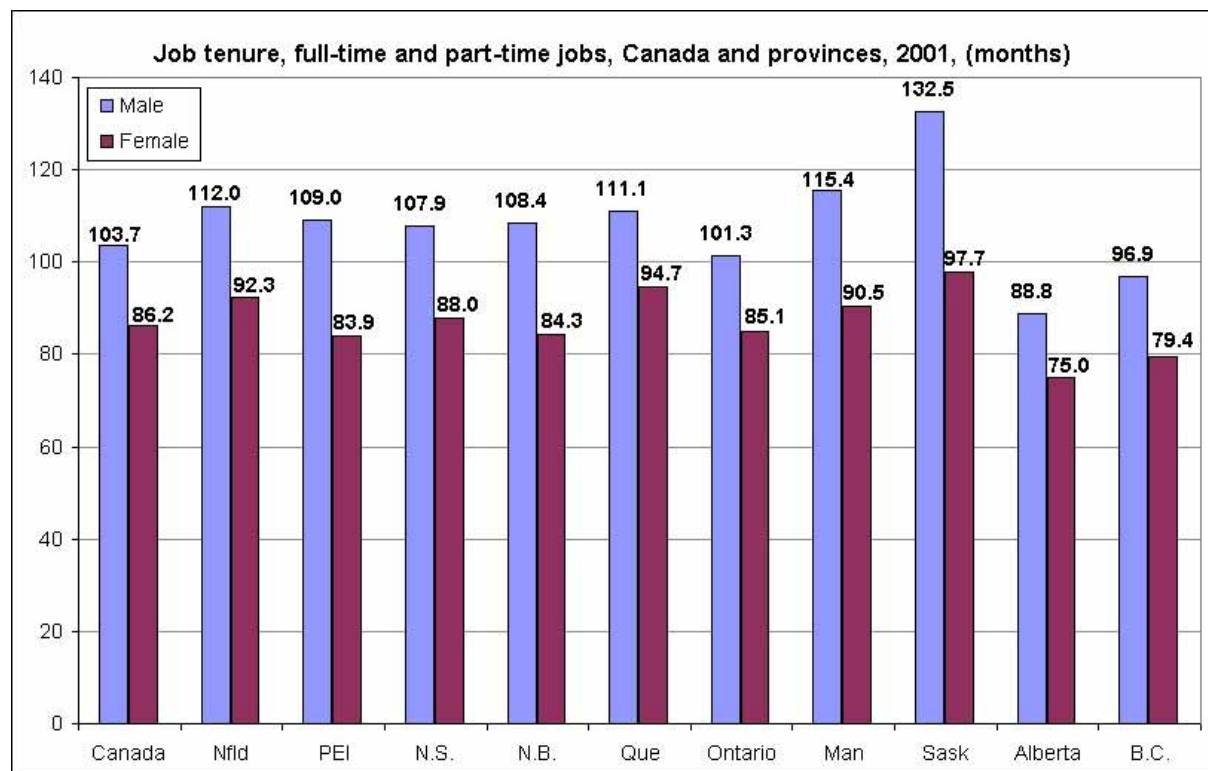
¹⁵⁰ Heisz, op. cit., pages 10-16.

¹⁵¹ Statistics Canada, *The Daily*, April 4, 2001.

compared with 74% of women. By 2001, the proportion for men increased slightly to 80%, and the proportion for women rose substantially to 79%.

“Men and women with a university degree had greater job stability than their counterparts with a high school education or less. In 2001, 85% of men with a university degree held their jobs for one more year, compared with 77% of men with a high school education or less. Similarly, 85% of women with a university education held their jobs for at least one additional year, compared with 76% of women with a high school education or less.”¹⁵²

Figure 26. Job tenure, full-time and part-time jobs, Canada and provinces, 2001, (months)



Source: Statistics Canada, Labour Force Historical Review 2001.

Following the increase in short-term jobs observed between 1981 and 1994, there has been a marked decline in short-term jobs since that time. In 1980, 53% of jobs ended within a year after they started. That proportion increased to 58% in 1989, and had dropped to 47% by 2001. There has been a similar decline in very short-term jobs. In 1999, just 38% of jobs lasted less than six months, down from 48% in 1996 and 55% in 1991.

¹⁵² Statistics Canada, The Daily, October 16, 2002. For the full report, see Heisz, Andrew, *Evolution of job stability in Canada: Trends and comparisons to US results*, Statistics Canada, catalogue 11F0019-MIE, no.162, October 16, 2002. See also Picot, G, Andrew Heisz, and Alice Nakamura, *Job Tenure, Worker Mobility, and the Youth Labour Market in the 1990s*, Statistics Canada, catalogue 11F0019-MIE, no. 155, March, 2001.

Interpretation: Implications for gender analysis

Interestingly, Statistics Canada did not interpret the increase in job stability as entirely good news. The agency pointed out that the 1990s saw slower growth and more sluggish hiring than the 1980s, so that workers were less likely to quit their jobs during this period.¹⁵³

The complexity of interpreting the job tenure data noted here is a warning against simplistic reliance on averages or on any one indicator taken in isolation. Even simple male-female distinctions can be deceptive, and do not constitute an adequate gender analysis, which must account, among other things, for distinctions among sub-groups of women. For example, the employment and job tenure data reveal entirely different results for women with university degrees and for those with less than a high school education. Sharp differences are also apparent among women in different provinces and regions of the country.

Similarly, we noted earlier that the “good news” of a significant decline in the poverty rates of single mothers is tempered by deeper inquiry. That analysis reveals that 88% of single mothers without jobs still live below the low-income cut-off line, an increase from 10 years earlier, and that the massive shift to paid work among single mothers was occasioned largely by major cuts to social transfers and social assistance payments in the mid-1990s.

Differing interpretations also exist on the potential impacts on children of the dramatic increase in employment of mothers of infants aged 0-2, when not accompanied by provision of quality, subsidized child-care. And we have noted the increase in time stress on women, when employment gains are not accompanied by an equally dramatic shift in the gender division of labour in the household.

In sum, a proper gender analysis must include a “diversity” approach that examines the differential impacts of social and economic trends on sub-groups of women, particularly those who are disadvantaged or have distinct vulnerabilities. It must also transcend reliance on single indicators and instead encompass a deeper understanding of the complex interactions among diverse determinants of health. These are essential prerequisites for any conclusions and recommendations that are designed to lead towards effective policy interventions that can improve women’s health.

2.7 Decision latitude at work

Indicator description

Statistics Canada defines decision latitude at work according to “the degree of control that currently employed workers aged 15 to 74 have over their work circumstances.” This is assessed according to whether these workers agree or disagree with the statements: “I have a lot to say about what happens in my job” and “my job allows me the freedom to decide how I do my

¹⁵³ Statistics Canada, *The Daily*, October 16, 2002.

job."¹⁵⁴ These questions were asked in Statistics Canada's 1994/95 National Population Health Survey, 1994/95, cross sectional sample, and the 2000/01 Canadian Community Health Survey.

Relevance

Job strain, including lack of control over one's work circumstances, has been linked to stress and adverse health outcomes. A Statistics Canada study found particularly high levels of work stress, including high rates of job strain and physical and psychological demands, and low levels of control, decision-making power, and supervisor support, in the service occupations in which women predominate. Women in these jobs reported higher levels of migraines and psychological distress than workers in other jobs.¹⁵⁵

In the 1996/97 National Population Health Survey, more women reported high work stress levels than men in every age category. Women aged 20 to 24 were almost three times as likely to report high work stress than the average Canadian worker. Between 1991 and 1996, the percentage of women reporting they were "very satisfied" with their jobs dropped from 58% to 49%.¹⁵⁶

In light of convincing evidence linking work control to health outcomes, the Canadian Institute for Health Information's National Consensus Conference on Population Health Indicators identified and confirmed decision latitude at work as a key non-medical determinant of health.¹⁵⁷ Because women tend to have lower levels of control over their work circumstances, this is also a particularly important determinant of work stress and health for women. Higher levels of decision latitude at work are therefore a positive indicator for women's health.

Results

Across the country more men than women have high decision latitude at work. However, the 1994/95 National Population Health Survey also showed a clear east-west gradient, with British Columbians and Albertans reporting considerably more control over their work situations than residents of the Atlantic provinces and Quebec. Both men and women in the four Atlantic provinces were more likely than other Canadians to report low or medium decision latitude at work. Among women, Newfoundland and Labrador women had the lowest level of control over their work, with 58.1% reporting low or medium decision latitude, compared to 44% of women in Canada as a whole (Figure 27).

In the 2000/01 Canadian Community Health Survey, Statistics Canada only reported provincial results for this indicator for those provinces in which survey respondents in all health regions answered the "work stress" module. Thus, 2000/01 provincial results are available for Prince Edward Island, Nova Scotia, Quebec, Ontario, Manitoba, and Alberta, but not for Newfoundland, New Brunswick, Saskatchewan, or British Columbia.

¹⁵⁴ Statistics Canada, <http://www.statcan.ca/english/freepub/82-221-XIE/00502/defin2.htm#49>

¹⁵⁵ Kathryn Wilkins and Marie Beaudet, "Work Stress and Health," Statistics Canada, *Health Reports*, volume 10, no. 3, Winter 1998, pages 47-62

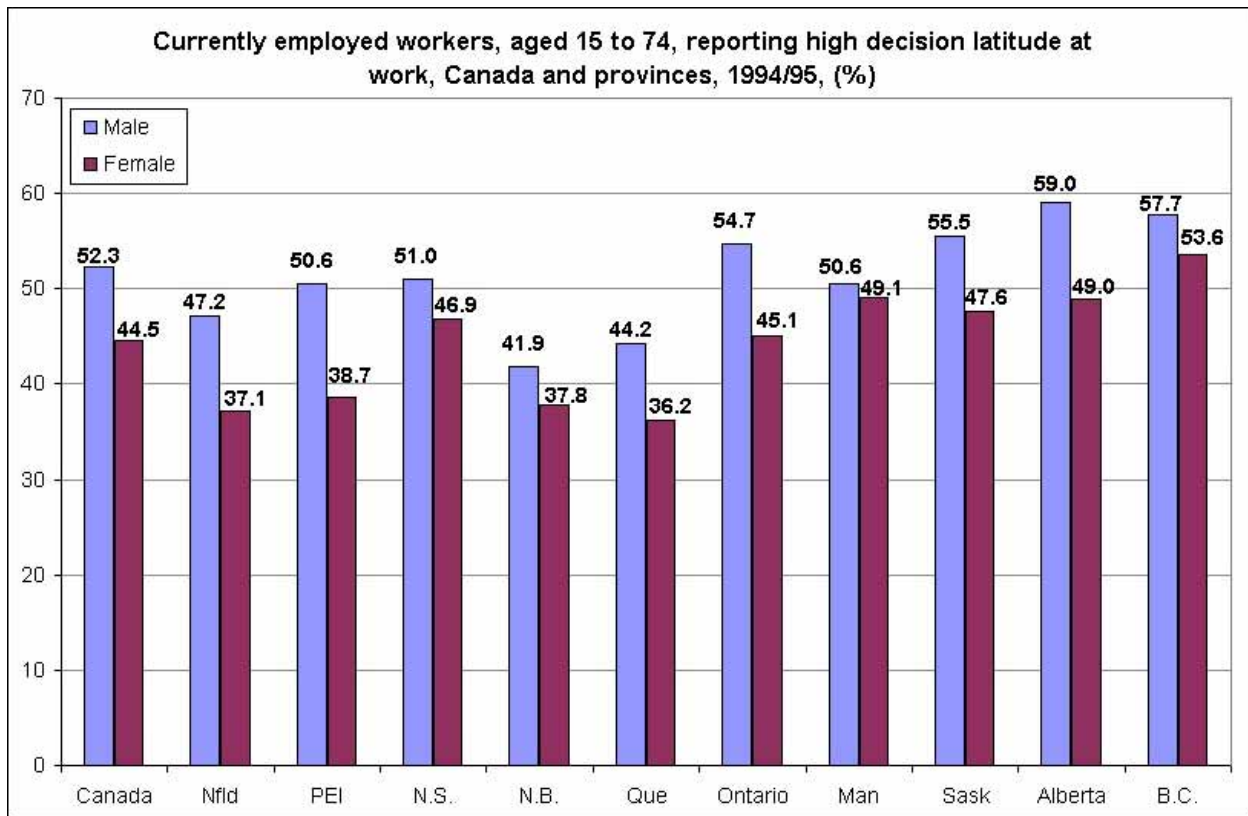
¹⁵⁶ Health Canada, *Toward a Healthy Future: Second Report on the Health of Canadians*, Ottawa, 1999, page 57.

¹⁵⁷ *National Consensus Conference on Population Health Indicators: Final Report*, Canadian Institute for Health Information, Ottawa, 1999, pages 5 and B9.

By contrast to the 1994/95 results, the east-west division had virtually disappeared by 2000/01 with workers in the Maritimes and Quebec reporting greater decision latitude at work in 2000/01 than in 1994/95. On average, the male-female gap also narrowed, with women generally more likely to report a high level of control over their work situation in 2000/01 than in 1994/95

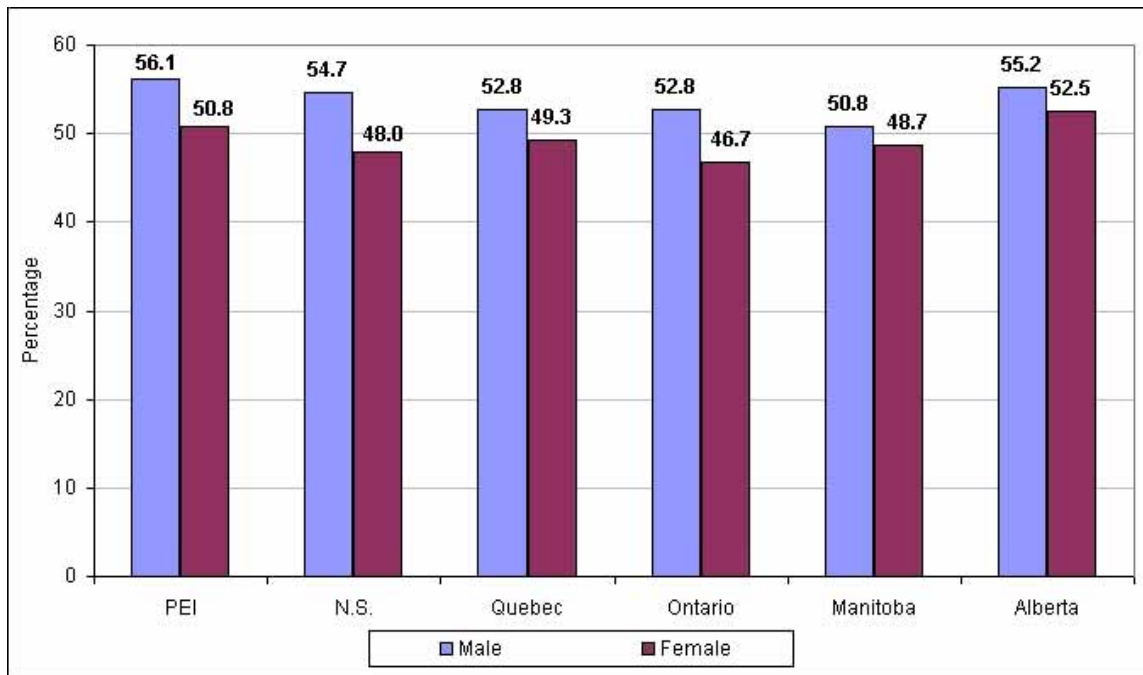
Among the six provinces for which 2000/01 estimates are given, Prince Edward Island men were more likely to report high decision latitude at work (56.1%) than men in any other province. PEI women were the second most likely to report high decision latitude at work (50.8%) after Albertan women (52.5%). This is a shift from the 1994/95 results, where both PEI men and women were less likely to report high decision latitude than the Canadian average (Figures 28 and 29).

Figure 27. Currently employed workers, aged 15 to 74, reporting high decision latitude at work, Canada and provinces, 1994/95, (%)



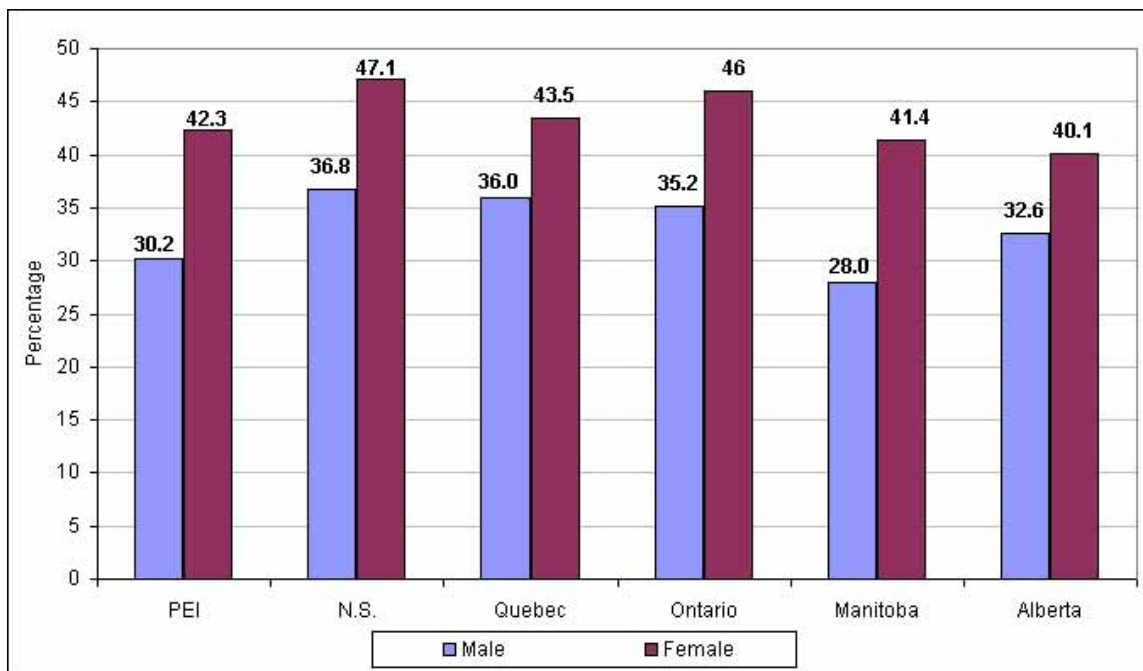
Source: Statistics Canada, National Population Health Survey, 1994/95, cross sectional sample, health file.

Figure 28. Currently employed workers, aged 15-74, male and female, reporting high decision latitude at work, six provinces reporting results, 2000/01, (%)



Source: Statistics Canada, Canadian Community Health Survey 2000/01

Figure 29. Currently employed workers, aged 15-74, male and female, reporting low or medium decision latitude at work, six provinces reporting results, 2000/01, (%)



Source: Statistics Canada, Canadian Community Health Survey 2000/01.

2.8 Unemployment

Indicator description

Definitions of unemployment vary. The official Statistics Canada definition is as follows:

Unemployed persons are those who, during reference week:

- a) were on temporary layoff during reference week with an expectation of recall and were available for work, or*
- b) were without work, had actively looked for work in the past four weeks, and were available for work, or*
- c) had a new job to start within four weeks of reference week, and were available for work.*

The unemployed, in short, are defined by their availability for paid work, and their active search for paid work. The unemployment rate is therefore expressed as a percentage of the labour force, which includes all those working for pay and actively looking for work.

However, Statistics Canada has recognized that this definition does not distinguish between those unemployed for long periods and those experiencing very short spells of unemployment between jobs. The former is likely a better indicator of job and financial insecurity than the latter. The official definition also excludes many people who want jobs, but have become so discouraged that they have given up looking for work. It also excludes estimates of underemployment, including the extra hours that involuntary part-time workers would work if they could find full-time employment. To provide this information, Statistics Canada has recently developed “supplementary measures of unemployment” that expand the official definition.

Statistics Canada’s supplementary unemployment rates provide measures of:

- 1) long-term unemployment – the proportion of the labour force unemployed for more than one year;
- 2) the proportion of the labour force unemployed for more than three months;
- 3) what Canadian unemployment rates would look like if the stricter U.S. definition of unemployment were used;
- 4) “discouraged searchers” – people not looking for work because they believe no jobs are available (this rate is particularly high in Newfoundland and in areas like Cape Breton);
- 5) people who are not officially included in the labour force because they are waiting to start a new job. This includes a) those not looking for work because they are awaiting replies from prospective employers; b) those not looking because they were waiting to be recalled to a former job; and c) people with jobs lined up to start in more than 4 weeks.
- 6) involuntary part-timers, or those who are “underemployed” and want to be working longer hours. These are people who would be working full-time if full-time work were available. Statistics Canada expresses this measure in terms of full-time job equivalents, to reflect the quantity of hours lost to underemployment.

Categories (1) and (2) above are smaller than the official unemployment rate, because they only count people who are in the labour force and actively looking for work, and are already included in the official unemployment statistics. Category (3) is also smaller than the official Canadian rate, because the U.S. definition of unemployment is even stricter than the Canadian one.

Categories (4) and (5) include people not working for pay, but excluded from the official unemployment counts because they are not officially recognized as being in the labour force. Category (6), by contrast, counts some people who are normally counted as employed – involuntary part-timers – but who are actually underemployed. Only those hours lost to unemployment, expressed as full-time job equivalents, are included in these supplementary unemployment calculations.¹⁵⁸

Finally, Statistics Canada provides a comprehensive measure of unemployment that adds categories (4), (5), and (6) above to the official statistics, and thus includes discouraged searchers, those waiting to start work, and the underemployed portion of involuntary part time work. (As noted, the long-term unemployed in categories (1) and (2) are already part of the official unemployment statistics.)

Relevance

Losing a job can be the ultimate form of job and income insecurity. As noted earlier, evidence points to serious physical and mental health impacts related to unemployment.

Any gender-based analysis of employment patterns must include the supplementary and comprehensive measures of unemployment described above because the comprehensive measures swell the official unemployment figures far more for women than for men. This is primarily because women have a much higher rate of part-time work than men, so the absolute *number* of female involuntary part-timers is also much larger than for men, even though the male and female *rates* of involuntary part-time work are comparable. A high rate of female underemployment added to the official unemployment statistics will therefore swell the official statistics much more than a similar rate of underemployment for men. This demonstrates the care that must be taken in any gender-based analysis.

Because unemployment rates are assessed only as a proportion of those *wanting* to work for pay, lower rates of female unemployment – according to both the official rates and the supplementary and comprehensive rates – are taken as a positive indicator for women's health.

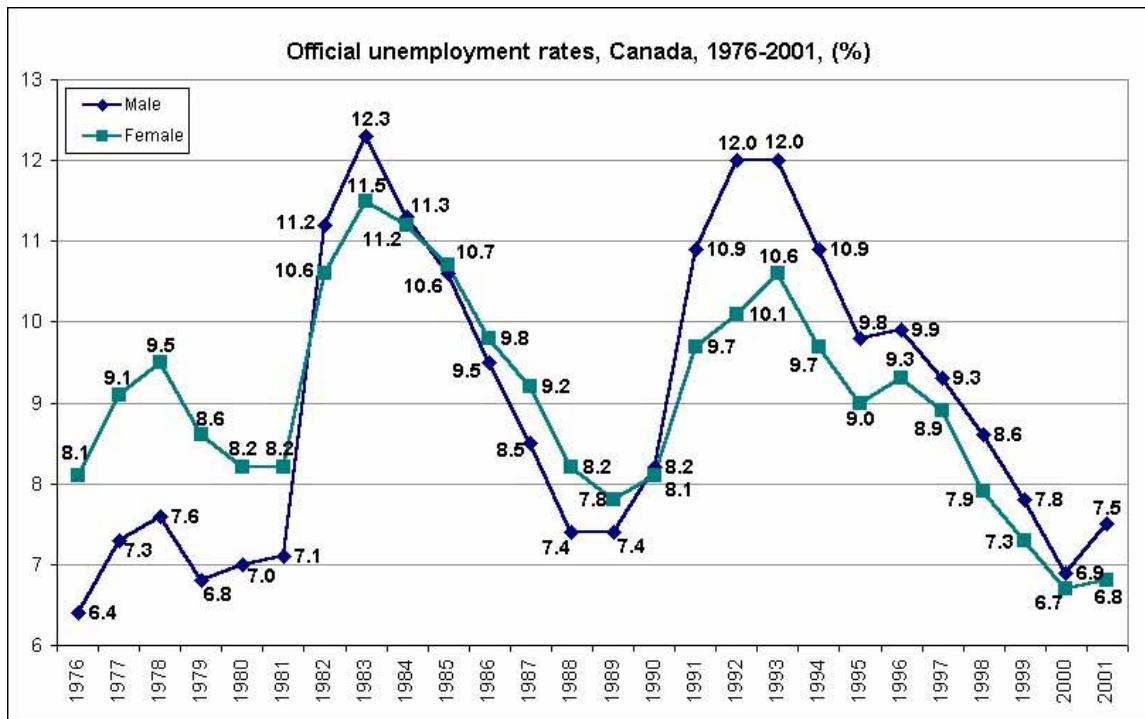
Results

Adding female underemployment statistics to the official Canadian unemployment statistics for 2001 swells the female unemployment rate by 3.3 percentage points compared to only 1.3 percentage points for men. Statistics Canada's comprehensive measure of unemployment that includes discouraged searchers, those waiting to start a new job, and the underemployed, would have raised the official unemployment statistics for Canada in 2001 from 7.5% to 9.7% for men, and from 6.8% to 10.5% for women. Standard reporting mechanisms, based on official statistics, therefore note a lower female than male unemployment rate for Canada, (Figures 30 and 31) whereas Statistics Canada's comprehensive measures, which are much more rarely applied, show the opposite (Figures 32 and 33).¹⁵⁹

¹⁵⁸ Statistics Canada, "Supplementary measures of unemployment," *Labour Force Update*, catalogue no 71-005-XPB, volume 3, no. 3, summer, 1999.

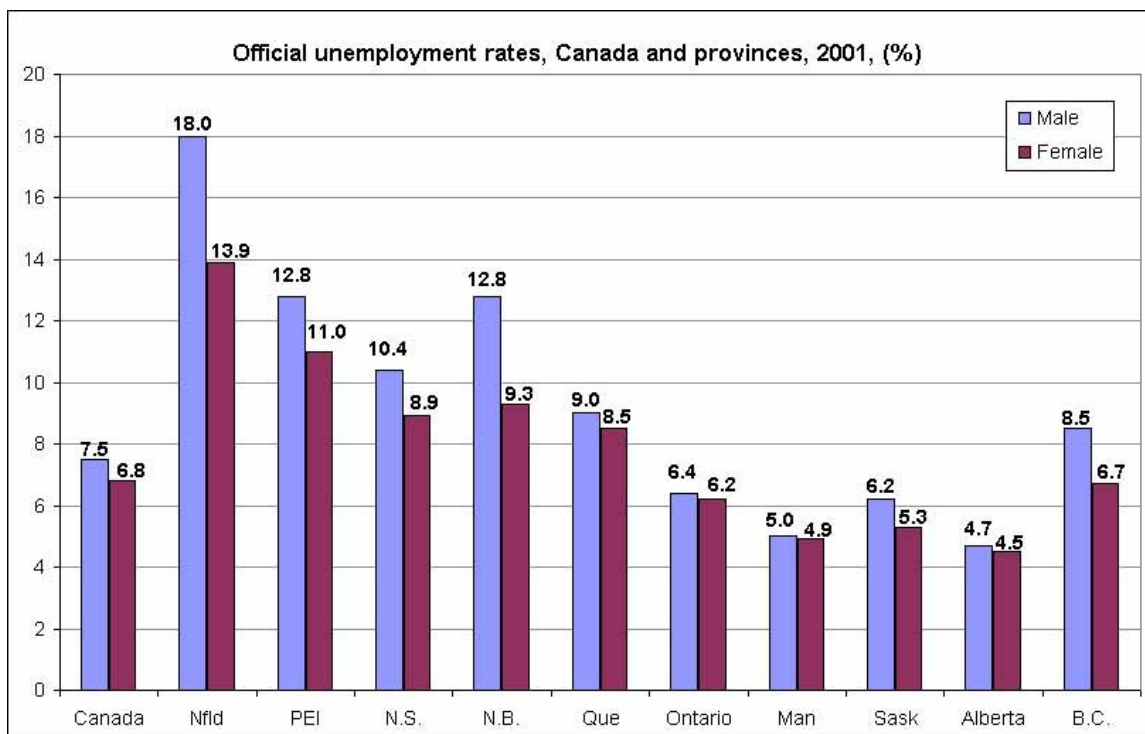
¹⁵⁹ Statistics Canada, "Supplementary unemployment rates by age groups, sex, Canada, provinces, annual averages," *Labour Force Historical Review 2001*.

Figure 30. Official unemployment rates, Canada, 1976-2001, (%)



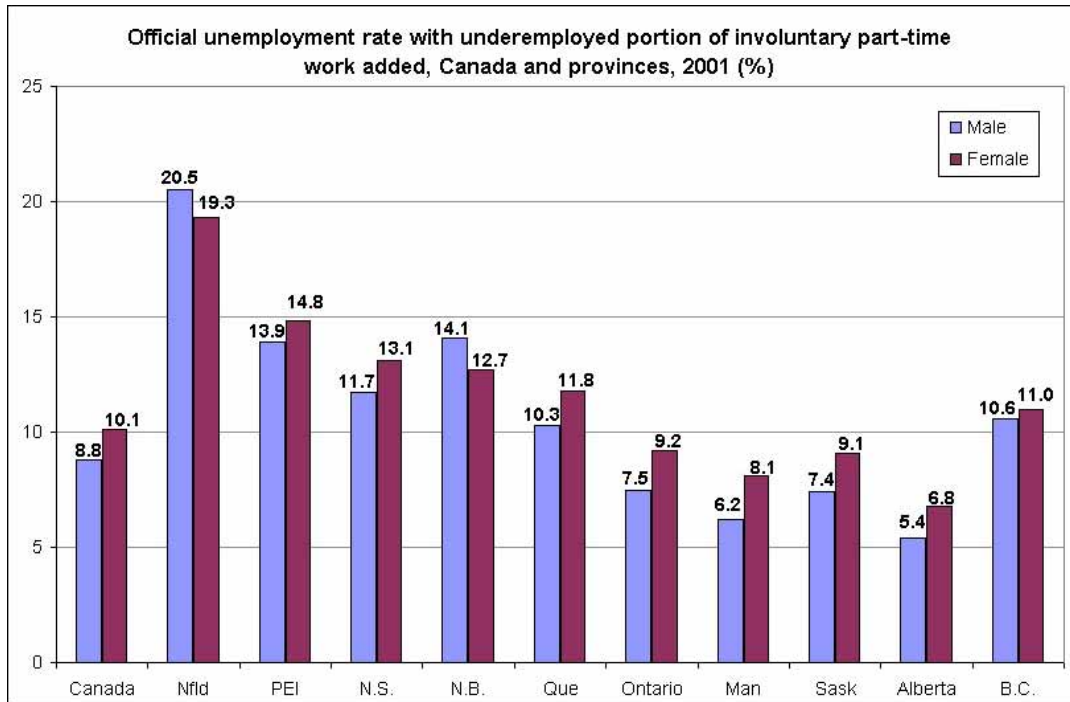
Source: Statistics Canada, Labour Force Historical Review 2001.

Figure 31. Official unemployment rates, Canada and provinces, 2001, (%)



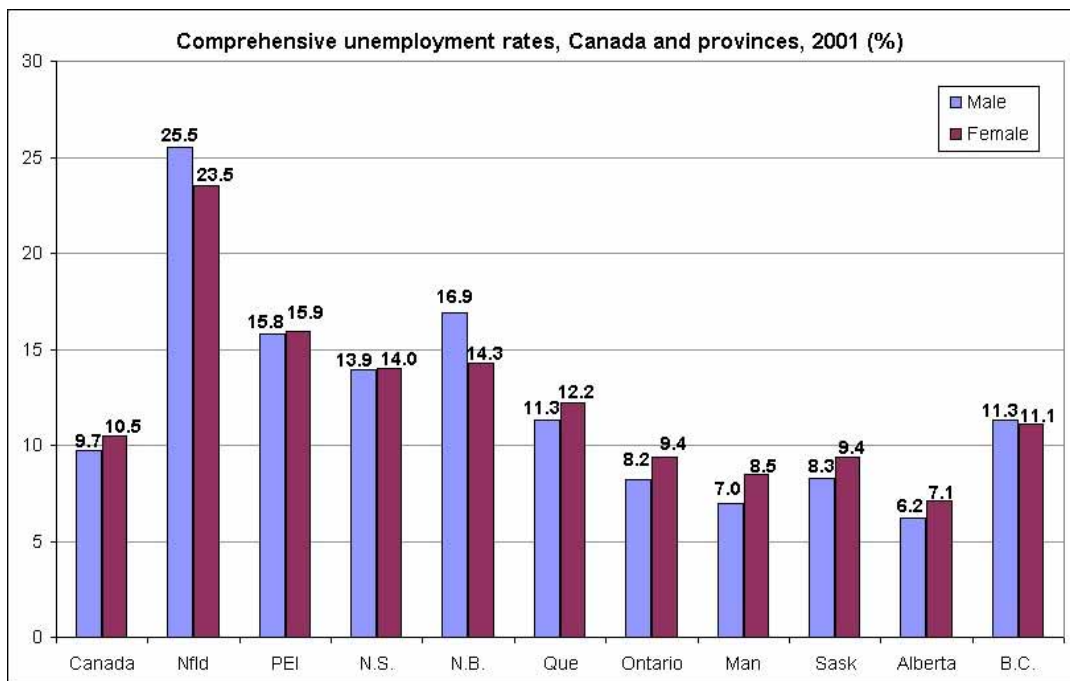
Source: Statistics Canada, Labour Force Historical Review 2001.

Figure 32. Official unemployment rate with underemployed portion of involuntary part-time work added, Canada and provinces, 2001 (%)



Source: Statistics Canada, Labour Force Historical Review 2001.

Figure 33. Comprehensive unemployment rates, Canada and provinces, 2001 (%)



Source: Statistics Canada, Labour Force Historical Review 2001.

Note: Comprehensive rates include discouraged searchers, those waiting to start work, and full-time job equivalent estimates of the underemployed portion of involuntary part-time work.

Most government sources, including those specifically analyzing women's work, use only the official unemployment statistics and make no mention of Statistics Canada's supplementary measures. Heisz et al. (2002) conclude that "while unemployment was higher for women than men in the 1980s, by 1998-2000 this was reversed." Similarly, the Work Chapter Update to Statistics Canada's Women in Canada report notes that "unemployment rates are currently slightly lower among women than men."¹⁶⁰ Again, the more comprehensive measures would produce the opposite conclusion.

As noted above, official unemployment rates in Canada were generally higher for women than men in the 1980s, and lower in the 1990s. For workers aged 25-54, male unemployment rates dropped marginally from 6.6% to 6.5% from the late 1980s to the late 1990s, while for women, they dropped sharply from 7.9% to 6.3%. Interestingly there has also been a convergence between men and women on the duration of unemployment. For unemployed men, the average duration of unemployment dropped marginally from 4.6 weeks to 4.5 weeks between the mid-1980s and the mid-1990s, while for women the duration of unemployment rose from an average 3.8 weeks to 4.3 weeks. One Statistics Canada analysis admits frankly that "little is known regarding these relative shifts in earnings, employment and unemployment, and this remains one area requiring further research."¹⁶¹

Other measures of unemployment seek to demonstrate the causes and dynamics of unemployment. For example, "structural unemployment" occurs when workers are unable to fill available jobs because they lack the skills, do not live where jobs are available, or are unwilling to work at the wage rate offered in the market. Structural unemployment is assessed by comparing the type, location, and salary of job vacancies with the characteristics of those seeking work. A Statistics Canada analysis concluded that "although during the 1980s the outward shift in the relationship between the Help-Wanted Index and the unemployment rate raised concerns that structural unemployment was an increasing problem in Canada, that shift has been reversed in the 1990s."¹⁶² This indicator inventory cannot examine these deeper analytical issues, but does provide measures of both the official and supplementary unemployment rates for Canada and the provinces.

All these averages conceal significant differences among women by age, education, and other characteristics. To illustrate the importance of assessing information for different sub-groups of women, evidence on unemployment by education is also presented. Women with higher education are far less likely to be unemployed than high school graduates or those with less than a Grade 9 education (Figure 34).¹⁶³

¹⁶⁰ Heisz, Andrew, A. Jackson, and G. Picot, *Winners and Losers in the Labour Market of the 1990s*, Statistics Canada, catalogue no. 11FOO19, no. 184, March, 2002, page 17; and Statistics Canada's *Women in Canada: Work Chapter Update*, page 8.

¹⁶¹ Heisz, Andrew, A. Jackson, and G. Picot, *Winners and Losers in the Labour Market of the 1990s*, Statistics Canada, catalogue no. 11FOO19, no. 184, March, 2002, page 17; and Statistics Canada's *Women in Canada: Work Chapter Update*, pages 8-9, and Table 12, page 18.

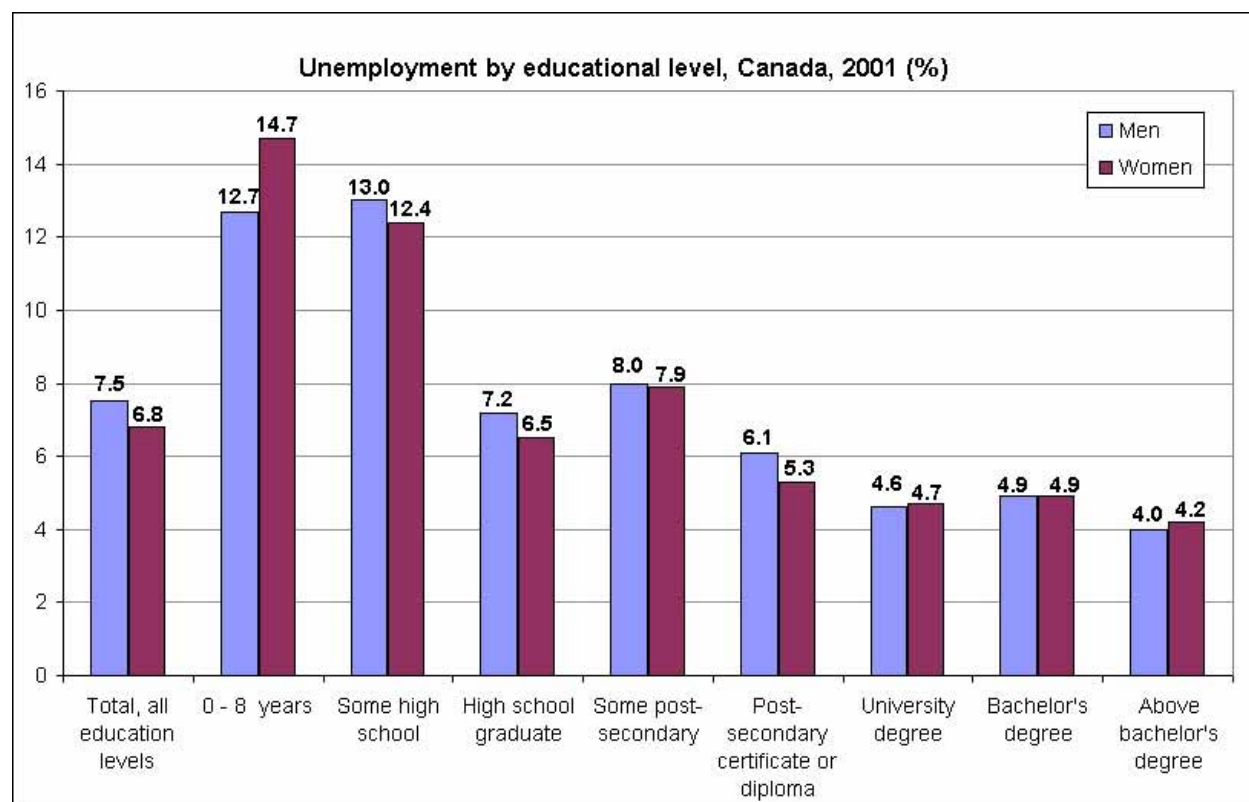
¹⁶² Lin, Zhengxi, and Lars Osberg, "How much of Canada's unemployment is structural?", Statistics Canada, catalogue no. 11F0019 – MPE, no. 145, October 16, 2000.

¹⁶² Statistics Canada, *Labour Force Historical Review 2001*.

¹⁶³ Statistics Canada, *Labour Force Historical Review 2001*.

We have already noted wide disparities by region, and below we present separate data on unemployment for youth. These data on sub-groups of women demonstrate that averages for Canadian women conceal wide disparities by region, age, education, and other characteristics. Indeed the data presented here indicate that the overall male-female gaps are far less wide than gaps based on age, education, and region.

Figure 34. Unemployment by educational level, Canada, 2001 (%)



Source: Statistics Canada, Labour Force Historical Review 2001.

2.9 Long-term unemployment

Indicator description

Statistics Canada tracks long-term unemployment for the proportion of the labour force unemployed for more than one year, and for that proportion unemployed for more than three months. Because official unemployment figures only include those actively looking for work, it is likely that most of those unemployed for more than a year have actually given up looking for work. They are therefore more likely to be captured in the “discouraged searcher” category, listed separately by Statistics Canada in its supplementary unemployment statistics, rather than in the “long-term unemployment” category. This indicator therefore focuses on those unemployed for more than three months, and still actively looking for work.

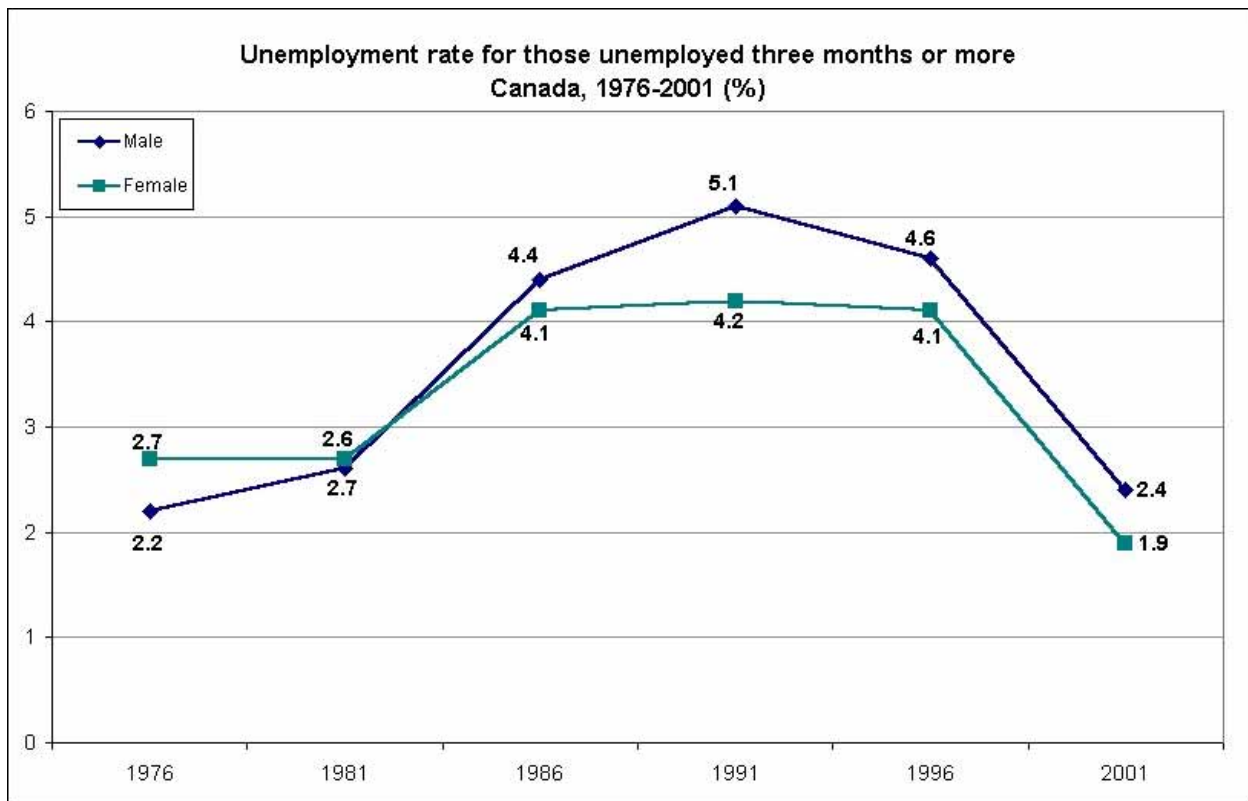
Relevance

Those who have been looking for paid work and unable to find it for three months or more are likely to experience much greater job and income insecurity than those unemployed for shorter periods. Because diversity is a key attribute of Health Canada's Women's Health Strategy, regional differences are important. Thus women in Newfoundland and Labrador have long-term unemployment rates that are three times than in Ontario, five times higher than in Manitoba, and eight times higher than in Alberta. Because it may have particularly serious impacts on health, long-term unemployment is recommended as a separate indicator of women's health, with lower rates clearly signifying progress.

Results

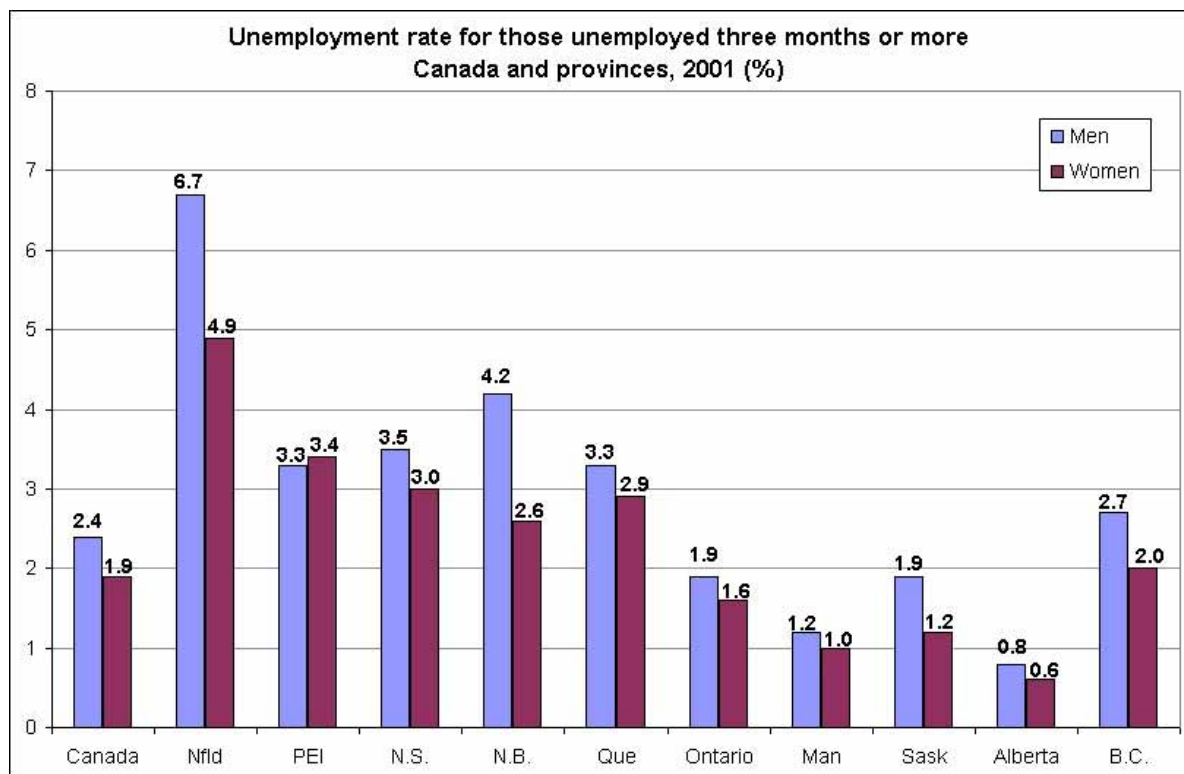
Long-term unemployment rates have dropped sharply in recent years for both men and women throughout Canada, but still remain higher in the Atlantic provinces and Quebec than in other regions.

Figure 35. Unemployment rate for those unemployed three months or more, Canada, 1976-2001 (%)



Source: Statistics Canada, Labour Force Historical Review 2001.

Figure 36. Unemployment rate for those unemployed three months or more, Canada and provinces, 2001 (%)



Source: Statistics Canada, Labour Force Historical Review 2001.

2.10 Youth unemployment

Indicator description

“Youth unemployment” is the number of unemployed aged 15-24, expressed as a percentage of the labour force aged 15-24. In other words, it includes only those youth actively looking for and available for work. Statistics Canada does not count full-time students as being available for work or in the labour force if they say they are looking for full-time jobs.¹⁶⁴

Relevance

For many of the indicators presented above, as noted, averages for Canadian women as a whole conceal marked disparities among sub-groups of women by region, education, and age. For this reason, Health Canada’s Women’s Health Strategy recognizes “diversity among women and the fact that they are not a homogeneous group.”¹⁶⁵ Thus, youth unemployment rates also differ markedly from those of other age groups. This indicator is particularly important in a gender

¹⁶⁴ Statistics Canada, *Guide to the Labour Force Survey*, catalogue no.71-543-GIE: Section 2: “Determining Labour Force Status,” especially page 7.

¹⁶⁵ Health Canada, *Health Canada’s Women’s Health Strategy*, Ottawa, March, 1999, page 19.

analysis, since the differences between young men and young women explain almost the entire difference between the official unemployment rates for *all* Canadian men and women.

Youth unemployment may exacerbate the stress and financial pressures of rising tuition and student debt loads. These combined economic pressures may have health impacts for young people. For example, during a period of high youth unemployment, job insecurity, and falling real wages for young Canadians, the 1994-95 National Population Health Survey found that depression rates were highest and psychological wellbeing lowest among youth. The survey also found that mental wellbeing increases with age. This is a remarkable reversal from the patterns of a generation ago, when seniors were more likely than younger Canadians to be depressed. It is likely that the major reduction in low-income rates among the elderly since 1980, and the corresponding increase in unemployment and low-income among youth during the same period are correlated with this shift in mental wellbeing.¹⁶⁶

Youth unemployment is a particularly important indicator for women's health as it may exacerbate the already high stress rates among young women. According to Statistics Canada, young women aged 15-24 are more than twice as likely to be time-stressed as young men; and young women under 18 are five times more likely to be squeezed for time than men under 18.¹⁶⁷ This clearly has implications for health. For example, surveys have found that stress relief is a key motivation for smoking among teenage girls. More teenage girls now smoke than boys. Among 15-19 year-old Canadians, 23.6% of girls smoked in 2001, compared to 21.4% of boys. Among 15-17 year-olds, 20.9% of girls and 16.2% of boys smoke.¹⁶⁸

Thus, the stress of unemployment among young people may contribute, along with other stressors, to adverse health behaviours. As an indicator of women's health, lower unemployment rates for young women are clearly a sign of progress.

Results

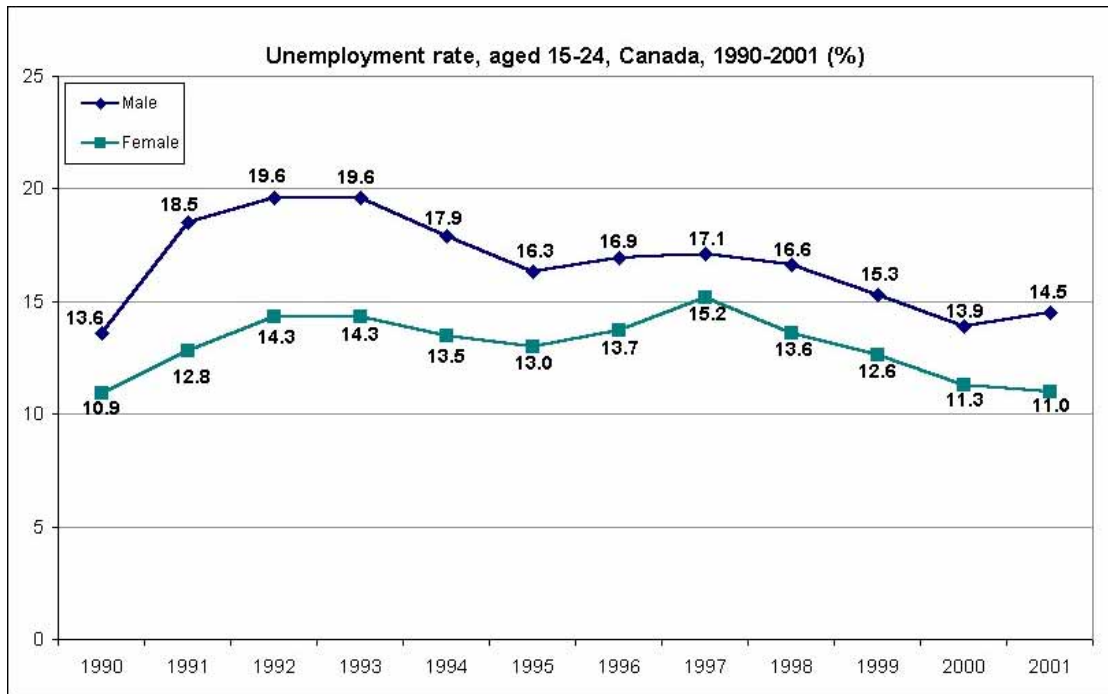
Unemployment rates for youth aged 15-24 are more than twice as high as for older workers, and they are about one-third higher for young men than for young women (Figure 37). Indeed, the male-female gap among young people explains nearly the entire disparity between *overall* male-female unemployment rates. Thus, reports that Canadian women have a lower overall rate of unemployment than Canadian men are entirely attributable to the lower youth unemployment rate among women. Women over the age of 25 were about as likely to be unemployed as men.

¹⁶⁶ Health Canada, *Toward a Healthy Future: Second Report on the Health of Canadians*, Ottawa, 1999, page 16.

¹⁶⁷ Respondents classified as "severely time stressed" by Statistics Canada are those who give affirmative answers to seven out of ten questions on a time stress questionnaire that includes questions like "Do you consider yourself a workaholic?", "Do you worry that you don't spend enough time with your family and friends?", and "Do you feel that you're constantly under stress trying to accomplish more than you can handle?" Statistics Canada, *The Daily*, November 9, 1999, catalogue no. 11-001E, pages 2-4; Statistics Canada, General Social Survey, Cycle 12, 1998, Housing, Family and Social Statistics Division, special tabulation; Statistics Canada, *As Time Goes By...Time Use of Canadians*, General Social Survey, by Judith Frederick, December, 1995, catalogue no. 89-544E, pages 15-16.

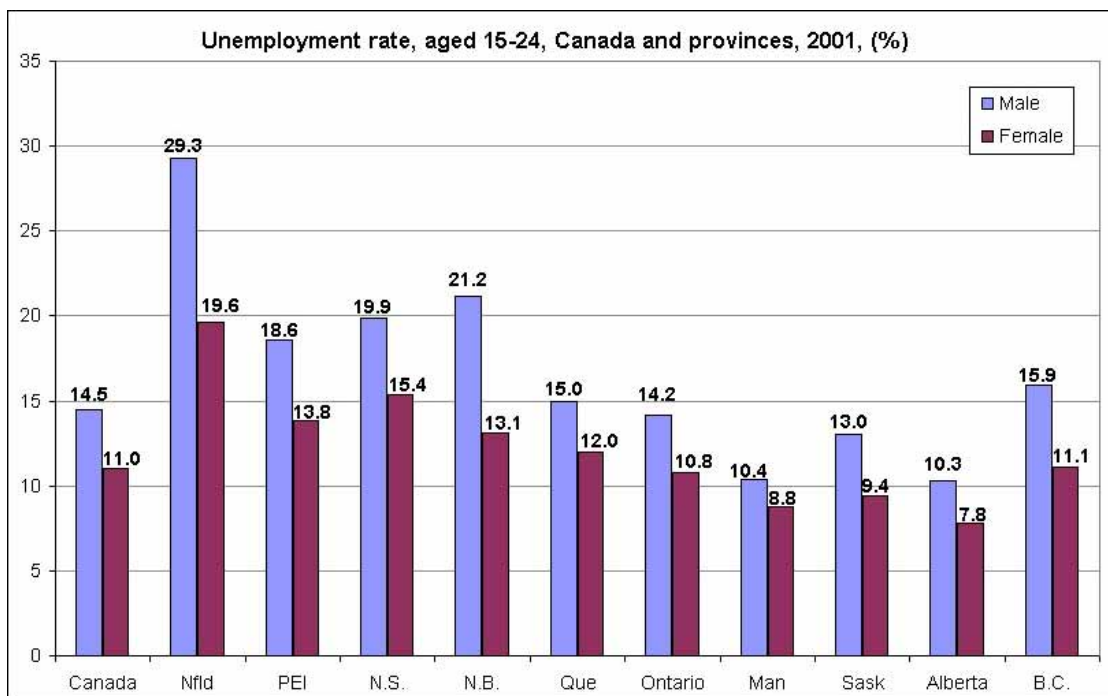
¹⁶⁸ Statistics Canada and Health Canada, *Canadian Tobacco Use Monitoring Survey 2001*, Table 1. Smoking status and average number of cigarettes smoked per day, by age group and sex, age 15+, Canada 2001, available at: http://www.hc-sc.gc.ca/hecs-sesc/tobacco/research/ctums/2001/table_01.html.

Figure 37. Unemployment rate, aged 15-24, Canada, 1990-2001 (%)



Source: Statistics Canada, Labour Force Historical Review 2001.

Figure 38. Unemployment rate, aged 15-24, Canada and provinces, 2001, (%)



Source: Statistics Canada, Labour Force Historical Review 2001.

3. Balancing Paid & Unpaid Work

Indicator description

Statistics Canada classifies unpaid housework, child-care, and elder-care as “work” in the sense that it is productive activity producing an output that can conceivably be an object of exchange. To make this criterion operational, Statistics Canada further specifies that it must be possible to delegate the activity to another person or to pay someone else to do the work. Thus, cleaning house, doing laundry, taking care of the garden, meal preparation, food shopping, and supervising children are all economic activities that can be purchased in the market and delegated to a paid employee. By contrast, getting a haircut and receiving medical treatment are excluded from the definition because such activities cannot be delegated.

Statistics Canada tracks unpaid work in two ways – through the Census, and through detailed time diaries administered once every six years as part of the agency’s General Social Surveys (GSS). Both the Census and the GSS count the number of hours Canadians, aged 15 and over, spend doing unpaid work, but they do so in different ways, and the Census and GSS results are therefore not comparable to each other. The latest 2001 Census results are referenced in this section, but the GSS time diaries provide far more accurate, precise, and detailed information, and are therefore recommended for use in this indicator.

The GSS time diaries provide separate measurements for unpaid work done in the home, and for unpaid civic and voluntary work performed outside the home. The former is here called “household work” and the latter is designated as “voluntary work.” This indicator focuses on unpaid household work. Voluntary work is considered separately as an indicator of “social support.” Thus caring for one’s own children or aging parents in one’s own home is counted here as part of household work, but taking care of aging relatives or neighbours in their own separate homes is counted in the GSS as voluntary work. The GSS as well as Statistics Canada’s volunteer surveys distinguish between such “informal voluntary work” offered directly to individuals, and “formal voluntary work” offered through organizations.

It should be noted that this differs from the Census definition, which combines measures of unpaid housework for members of one’s own household, with housework done for family members outside the household, and for friends or neighbours. These last two categories would be designated informal voluntary work in the GSS and volunteer surveys. The Census definition of unpaid housework does, however, exclude “formal” volunteer work for a non-profit or religious organization, charity or community group. Both definitions exclude work without pay in the operation of a family farm, business or professional practice.¹⁶⁹

This indicator uses the GSS definition, and defines unpaid household work as housework, maintaining the house, doing yard work, and caring for children and seniors within the home without getting paid for doing so. For example, it includes time spent preparing meals, washing

¹⁶⁹ Statistics Canada, *2001 Census Dictionary*, available at:
<http://www.statcan.ca/english/census2001/dict/pop052.htm>.

dishes, mowing the lawn, cleaning the house, shopping, and feeding, diapering, bathing, and reading to children.

Another major difference in measuring systems is that the Census allows overlapping measurements, while the GSS time diaries do not. Thus, the GSS time diaries count only “primary” child-care, which is time devoted to exclusively to one’s children as the primary activity of the moment. It does not count time spent supervising children while engaged in another primary activity like cooking, cleaning, or watching TV. That form of “secondary” child-care is counted in the Census child-care measurements.

Thus, the GSS time diaries measure the labour *inputs* into production, and therefore exclude double-counting of labour hours – each block of work time can only be designated to one primary activity. The Census, by contrast, measures *outputs* or total production – the total amount of housework or child-care produced, even when these activities are co-occurring.¹⁷⁰

Relevance

Data on unpaid work, combined with information on paid work, provide a more complete picture of the work activities of all Canadians. According to Statistics Canada:

“This information can be used to study that part of the population whose main activity is unpaid household work; to analyze the division of household work between men and women; to better understand the contribution of men and women to the economy; to evaluate the capacity of the unpaid sector to absorb care-giving responsibilities no longer provided by the paid sector; and to analyze how workers balance their job and household responsibilities.”¹⁷¹

Statistics Canada has also recognized that measuring unpaid work is essential to overcoming gender discrimination through under-valuation of women’s economic and social contribution:

“Since women do most of the unpaid household and volunteer work, their significant contribution to overall production and economic welfare is grossly understated in the major economic aggregates.”¹⁷²

Thus, unpaid household work is invisible in the Gross Domestic Product and other standard economic indicators that are conventionally used to measure societal progress, wellbeing, and prosperity. That invisibility, in turn, keeps women’s double-work burden, and the stresses that accompany juggling of paid and unpaid work responsibilities, off the policy agenda.

Failing to value women’s unpaid work can also produce subtle wage discrimination. Work traditionally done by women in the home and therefore considered “free,” such as domestic services and child-care, also fetches particularly low wages in the market economy. Women still predominantly provide those services in the market economy. The failure to value and provide

¹⁷⁰ Harvey, Andrew, and Arun K. Mukhopadhyay, “The role of time use studies in measuring household outputs,” section 3B, “Accounting for Time”, *Conference of the International Association for Research on Income and Wealth*, Lillhammer, Norway, August, 1996.

¹⁷¹ Statistics Canada, *Canada’s Workforce: Unpaid Work: 2001 Census*, available at: <http://www.statcan.ca/english/IPS/Data/97F0013XCB2001000.htm>.

¹⁷² Statistics Canada, *Households’ Unpaid Work: Measurement and Valuation*, System of National Accounts, catalogue no. 13-603E, no. 3, page 3.

support for unpaid work also contributes indirectly to the high rates of poverty among single mothers, whose household and child-care responsibilities inhibit their capacity to work full-time for pay.

The 1985 United Nations report on the Decade for Women, the 1995 United Nations World Summit on Social Development in Copenhagen, and the 1995 United Nations Fourth World Conference on Women in Beijing, all called for the measurement of unpaid work:

*[T]he unremunerated contributions of women to all aspects and sectors of development should be recognized, and appropriate efforts made to measure and reflect these contributions in national accounts and economic statistics....*¹⁷³

Proper recognition and valuation of unpaid work likely lead, in turn, to greater efforts to implement flexible work options, and other “family-friendly” work arrangements that allow better balancing of paid and unpaid work responsibilities.

The last quarter century has seen dramatic changes in women’s labour market participation, as the previous indicators on employment clearly show. As Statistics Canada analyses have acknowledged, we do not have a good understanding of the reasons for many of the shifts in women’s employment and unemployment patterns, or for the persistent gender wage gap.¹⁷⁴ We have even less understanding of the social implications of these rapidly changing patterns, or of their implications for women’s health.

One of the biggest knowledge gaps is in understanding the impacts of these labour market changes on women’s *total* work burden. We do know that women have significantly higher time stress levels than men, that time stress has been growing, and that stress has adverse effects on health. We also know that the gender division of labour within the household has not changed nearly as markedly as the gender division of labour in the market economy.

We know further that policy has not kept pace with the rapid changes in women’s employment patterns. For example, a coherent national child-care policy has not emerged to deal with the remarkable growth in employment rates for women of infants and very young children. Nor have most workplace arrangements satisfactorily accommodated the growing need to balance job and household responsibilities. Far more dedicated research is required to explore and understand these issues in greater depth.

For all these reasons, any inventory of women’s health indicators must track trends in women’s unpaid work. This is essential in order that the employment trends described in the previous section not be seen in isolation, and so that potential health impacts can be assessed in the context of women’s *total* work load.

¹⁷³ Cited in Statistics Canada, *Households’ Unpaid Work: Measurement and Valuation*, System of National Accounts, catalogue no. 13-603E, no. 3, pages 3-4.

¹⁷⁴ Heisz, Andrew, A. Jackson, and G. Picot, *Winners and Losers in the Labour Market of the 1990s*, Statistics Canada, catalogue no. 11FOO19, no. 184, March, 2002; Drolet, Marie, *The Persistent Gap: New Evidence on the Canadian Gender Wage Gap*, Statistics Canada, catalogue no 11F0019-MPE, no. 157, January, 2001.

Inclusion of unpaid work indicators also demonstrates that the conventional indicators of population health, used by Statistics Canada and recommended by the Canadian Institute for Health Information (CIHI) in its National Consensus Conference on Population Health Indicators, may be insufficient for assessments of women's health. Thus, unpaid work trends are not currently tracked by these agencies as *health* indicators. Similarly, Statistics Canada and CIHI include crime rates as a key non-medical determinant of health, but they do not mention family violence. Therefore, this inventory of women's health issues recognizes that it is essential to go beyond the conventional indicators of population health to consider special indicators, like unpaid work and family violence, that are particularly pertinent to women's health and wellbeing.

The key indicators of unpaid work recommended here are:

1. Trends in total household work hours
2. Gender division of labour in household = women's share of household work
3. Women's total work load (paid + unpaid hours), including for different sub-groups of women (e.g. full-time employed mothers, employed single parents)
4. Rates of time stress for men and women (Statistics Canada's time stress scale)
5. Impacts of women's unpaid and total work load on total free time and personal care time (including sleep) that can buffer stress
6. Changing patterns of household work, particularly those that may affect health (e.g. shifts from home cooking to eating out)
7. Adoption of policies and initiatives to balance paid and unpaid work responsibilities more successfully.

Indicators 1-6 can all be tracked using the time diaries administered once every six years in Statistics Canada's General Social Surveys. The seventh indicator can be assessed by a scan of Canadian federal and provincial policies by comparison with best practices internationally. Indicators 1 and 2 can also be partially tracked through the Census questions on unpaid work. If indicators of unpaid work are seen as key determinants of women's time stress and health, Statistics Canada should be requested to collect the time diary data at more frequent intervals (e.g. annually or biennially rather than once every six years.)

As indicators of women's health, a reduction in women's total work burden, a more equitable gender division of labour in the household, reduced rates of time stress for women, and increased levels of free time and personal time can be seen as signs of progress with potentially positive impacts on women's health. Adoption of employment policies like flexible work hours, shorter work weeks, and improved pay, benefits, security, and career advancement opportunities for part-time workers, may indicate a better balance between paid work, household, and family responsibilities, with correspondingly positive health outcomes for women.

Results

Canadian women have more than doubled their rate of paid work since 1961, but still do 62% of the household work. This has fallen slightly from 65% in 1992, and from 68% in 1986 where it had remained almost unchanged since 1961.¹⁷⁵ In other words, there has been a modest change in

¹⁷⁵ Trends and sources in Colman, Ronald (2000), *Women's Health in Atlantic Canada*, Atlantic Centre of Excellence for Women's Health and GPI Atlantic, Halifax, page 26.

the gender division of labour in the household, but it has not matched the increased hours that women put in for pay in the market economy, so women have experienced an absolute loss of free time.

Results from the 2001 Census, released February 11, 2003, confirm the earlier GSS results and indicate that women are still doing the lion's share of housework and child-care. In the week before the Census, 21.4% of Canadian women spent at least 30 hours doing housework compared to 7.8% of men. The same pattern exists with child-care. The Census found that 16% of women spent 30 or more hours a week diapering, bathing, feeding, reading to, and otherwise taking care of children compared to just 6.9% of men (Tables 7 and 8).

Table 7. Number of persons aged 15 and over, by number of unpaid hours doing housework, Canada, 1996 and 2001

	1996		2001	
	Number of persons	%	Number of persons	%
Both sexes	22,628,925	100.0	23,901,355	100.0
No hours	2,612,075	11.5	2,475,110	10.4
Less than 5 hours	5,138,765	22.7	5,625,165	23.5
5 to 14 hours	6,867,640	30.3	7,540,180	31.5
15 to 29 hours	4,348,355	19.2	4,716,120	19.7
30 to 59 hours	2,582,905	11.4	2,524,015	10.6
60 or more hours	1,079,180	4.8	1,020,765	4.3
Women	11,606,470	100.0	12,274,570	100.0
No hours	897,600	7.7	924,845	7.5
Less than 5 hours	1,819,670	15.7	2,139,030	17.4
5 to 14 hours	3,263,075	28.1	3,650,145	29.7
15 to 29 hours	2,776,115	23.9	2,929,165	23.9
30 to 59 hours	1,965,495	16.9	1,834,035	14.9
60 or more hours	884,520	7.6	797,360	6.5
Men	11,022,450	100.0	11,626,785	100.0
No hours	1,714,475	15.6	1,550,265	13.3
Less than 5 hours	3,319,100	30.1	3,486,140	30.0
5 to 14 hours	3,604,570	32.7	3,890,035	33.5
15 to 29 hours	1,572,240	14.3	1,786,960	15.4
30 to 59 hours	617,415	5.6	689,980	5.9
60 or more hours	194,660	1.8	223,405	1.9

Note: Refers to the week preceding Census Day.

Source: Statistics Canada, 2001 Census.

That household gender division of labour has shifted very slightly since the 1996 Census, when 24.5% of women and 7.4% of men spent 30 hour or more hours a week doing housework, and

16.8% of women and 6.2% of men spent at least 30 hours taking care of children.¹⁷⁶ According to Statistics Canada senior analyst, Diane Galarneau:

"It's barely changed. In a five-year period you cannot see a very big change."

Commenting further on the Census results, University of Lethbridge sociology professor, Muriel Mellow, notes that there are still "extreme inequalities in terms of unpaid work":

*"There's a sense that women's lives have become more like men's – in that they've entered full-time paid employment – than men's lives have become like women's – in picking up the slack."*¹⁷⁷

Table 8. Number of persons aged 15 and over, by unpaid hours looking after children, Canada, 1996 and 2001

	1996		2001	
	Number of persons	%	Number of persons	%
Both sexes	22,628,925	100	23,901,360	100.0
No hours	13,937,410	61.6	14,799,060	61.9
Less than 5 hours	2,205,130	9.7	2,340,885	9.8
5 to 14 hours	2,310,715	10.2	2,363,360	9.9
15 to 29 hours	1,534,260	6.8	1,632,290	6.8
30 to 59 hours	1,174,445	5.2	1,235,825	5.2
60 or more hours	1,466,965	6.5	1,529,940	6.4
Women	11,606,470	100.0	12,274,570	100.0
No hours	6,696,720	57.7	7,173,070	58.4
Less than 5 hours	1,004,715	8.7	1,095,585	8.9
5 to 14 hours	1,113,780	9.6	1,156,525	9.4
15 to 29 hours	836,100	7.2	883,200	7.2
30 to 59 hours	788,795	6.8	795,500	6.5
60 or more hours	1,166,360	10.0	1,170,685	9.5
Men	11,022,455	100.0	11,626,790	100.0
No hours	7,240,690	65.7	7,625,985	65.6
Less than 5 hours	1,200,420	10.9	1,245,300	10.7
5 to 14 hours	1,196,935	10.9	1,206,835	10.4
15 to 29 hours	698,160	6.3	749,090	6.4
30 to 59 hours	385,645	3.5	440,325	3.8
60 or more hours	300,605	2.7	359,255	3.1

Note: Refers to the week preceding Census Day.

Source: Statistics Canada, 2001 Census.

¹⁷⁶ Statistics Canada, *The Changing Profile of Canada's Labour Force*, catalogue no. 96F0030-XIE-2001009, available at: <http://www12.statcan.ca/english/census01/products/analytic/companion/paid/canada.cfm>.

¹⁷⁷ Both cited in Anthony, Lorraine, Canadian Press, "Census: Canada's Workforce: News flash! Women still do most of the housework: Most child care, cleaning, care of aged parents falls to females," reported in *The Chronicle-Herald*, Halifax, 12 February, 2003, page A10.

The data on unpaid work that follow come from the time use survey in Statistics Canada's 1998 General Social Survey. These are the most recent time diary data on unpaid household work available in Canada, and the next data will not become available till the end of 2005, when results from the 2004 General Social Survey are released. The paid work data are from the 2001 Labour Force Survey.

Canadian women who work full-time at a paid job put in an average of four hours a week less than most full-time employed men were 43.7 hours a week in 1976, and 43.1 hours in 2001. Average usual hours for full-time employed women were 39.4 hours a week in 1976 and 39.3 hours in 2001. When all jobs, full and part-time are counted, men put in an average of 6.7 hours more per week in paid work time than women (40.4 hours compared to 33.7 hours).¹⁷⁸

But this does not tell the whole story. Canadian women put in an average of 28.4 additional hours of unpaid household work per week, 11.6 hours more than Canadian men, who put in an average of 16.8 additional hours of unpaid work each week.

These averages conceal major differences among different groups of women. Full-time working mothers put in an average 74-hour work week when paid and unpaid work are both counted, and full-time working single mothers average 75 hours a week. By contrast, parents working part-time put in about 10 fewer hours a week in total work time, and have correspondingly more free time and personal time.¹⁷⁹

Interestingly, historical studies have found that, when children and labour force status are taken into account, there has been no fundamental change in housework hours in the last 100 years, despite the introduction of a wide range of so-called "labour-saving" devices. The constancy of household work hours over time is illustrated both by the unpaid work hours of non-employed married mothers, for whom data are available going back to the early part of the century (Figure 39), and by the fact that overall unpaid housework hours have hardly changed across Canada in 30 years.¹⁸⁰ The trend toward smaller families living in larger dwellings may mean that fewer household members carry a growing burden of cleaning and maintenance.¹⁸¹

Figure 39 refers only to the unpaid household work of non-employed married mothers. For all Canadians, 15 and older, average unpaid household work hours remained fairly stable, increasing slightly between 1992 and 1998 by 1.2 hours a week for men, and decreasing marginally by half an hour a week for women. Across the country, the gender division of labour in households narrowed slightly between 1992 and 1998. In 1992, Canadian women did about 65% of the unpaid household work and child-care. In 1998, they did 63% of the household work (Table 9;

¹⁷⁸ Statistics Canada, *Labour Force Historical Review 2001*.

¹⁷⁹ Statistics Canada, *Overview of the Time Use of Canadians in 1998*, catalogue no. 12F0080-XIE, Ottawa, November, 1999, Table 1, page 5, and Table 3, page 14.

¹⁸⁰ Sources of historical information are listed in Colman, Ronald, *The Economic Value of Unpaid Housework and Child Care*, GPI Atlantic, Halifax, 1998, page 76, footnote 128, and in Schor, Juliet, *The Overworked American: The Unexpected Decline of Leisure*, New York, Basic Books, 1991, pages 87 and 200. 1986, 1992 and 1998 data are from Statistics Canada's General Social Surveys. See also Colman (1998) op. cit., Figure 4.3, page 50.

¹⁸¹ Colman, Ronald, *The Economic Value of Unpaid Housework and Child Care*, GPI Atlantic, Halifax, 1998, pages 83-87, especially Table 6.1, and Figures 6.4 - 6.7.

Figures 40 and 41).¹⁸² That marginal change is confirmed by the recently released 2001 Census results.

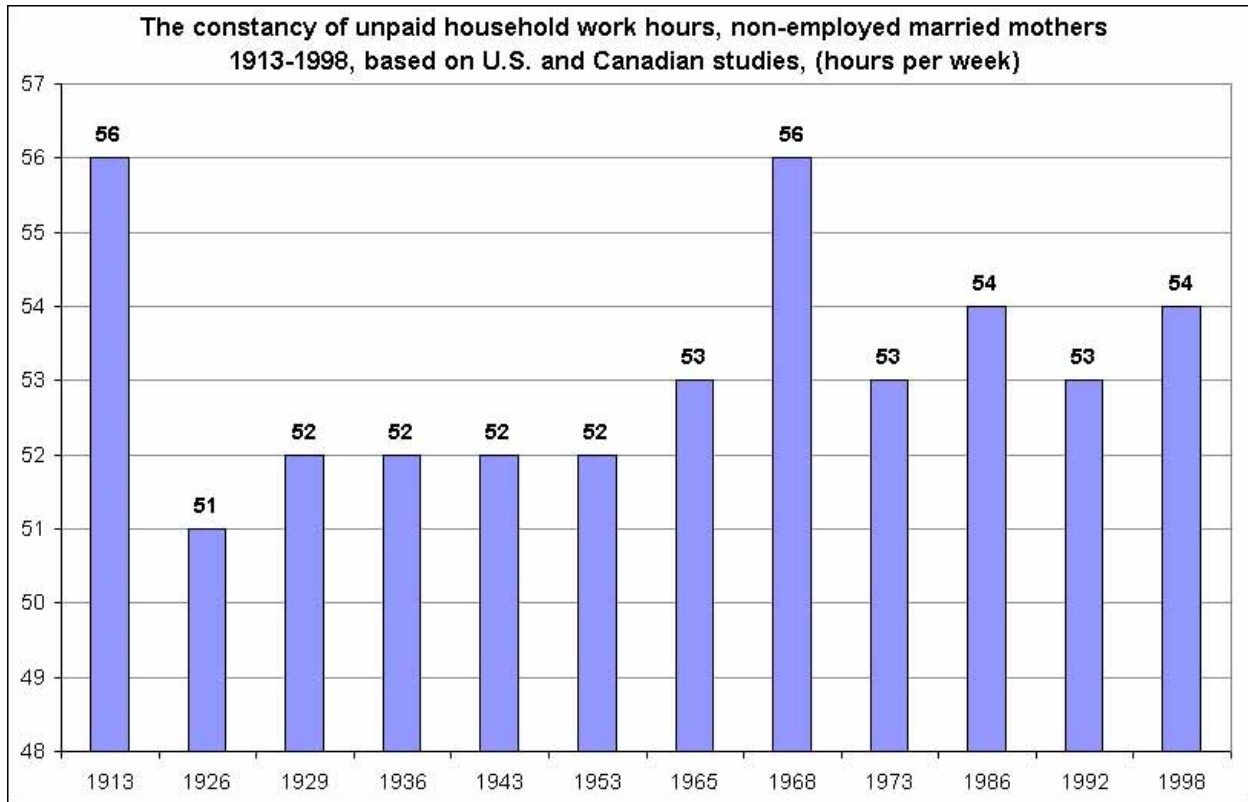
Table 9. Paid, unpaid, and total work hours, population 15 and over, Canada, 1992 and 1998, (hours), and female percentage of these hours (%).

		1992	1998
Paid + unpaid work hours	All	50.2	50.6
	Male	49.8	50.9
	Female	50.4	50.5
	Female %	50.3	50
Total paid work hrs	All	25.0	25.6
	Male	31.5	31.7
	Female	18.7	19.5
	Female %	37.3	38
Formal + informal voluntary work	All	2.7	2.5
	Male	2.7	2.3
	Female	2.8	2.6
	Female %	50.9	53
Total household work hours	All	22.4	22.8
	Male	15.6	16.8
	Female	28.9	28.4
	Female %	64.9	62.8
Cooking and washing up	All	5.5	5.4
	Male	2.6	3.2
	Female	8.2	7.6
	Female %	75.9	70.4
Cleaning and doing laundry	All	4.6	4.8
	Male	1.5	2.2
	Female	7.6	7.2
	Female %	83.5	76.6
Shopping	All	5.3	5.6
	Male	4.3	4.8
	Female	6.2	6.3
	Female %	59	56.8

Notes: Total work hours excludes education. Formal and informal voluntary work denotes volunteer work offered through organizations (formal) and directly to individuals (informal). Paid work includes commuting time, lunch breaks, unpaid work for farm and business, and time spent looking for work. Source: Statistics Canada, *General Social Surveys* 1992 and 1998.

¹⁸² Statistics Canada, *General Social Survey: Overview of the Time Use of Canadians*, November, 1999, Table 1: Canada, regions and provinces, special tabulations run for GPI Atlantic; Statistics Canada, *Initial Data Release from the 1992 General Social Survey on Time Use*, catalogue no. 11-612, #30, Table 1.

Figure 39. The constancy of unpaid household work hours, non-employed married mothers, 1913-1998, based on U.S. and Canadian studies, (hours per week)

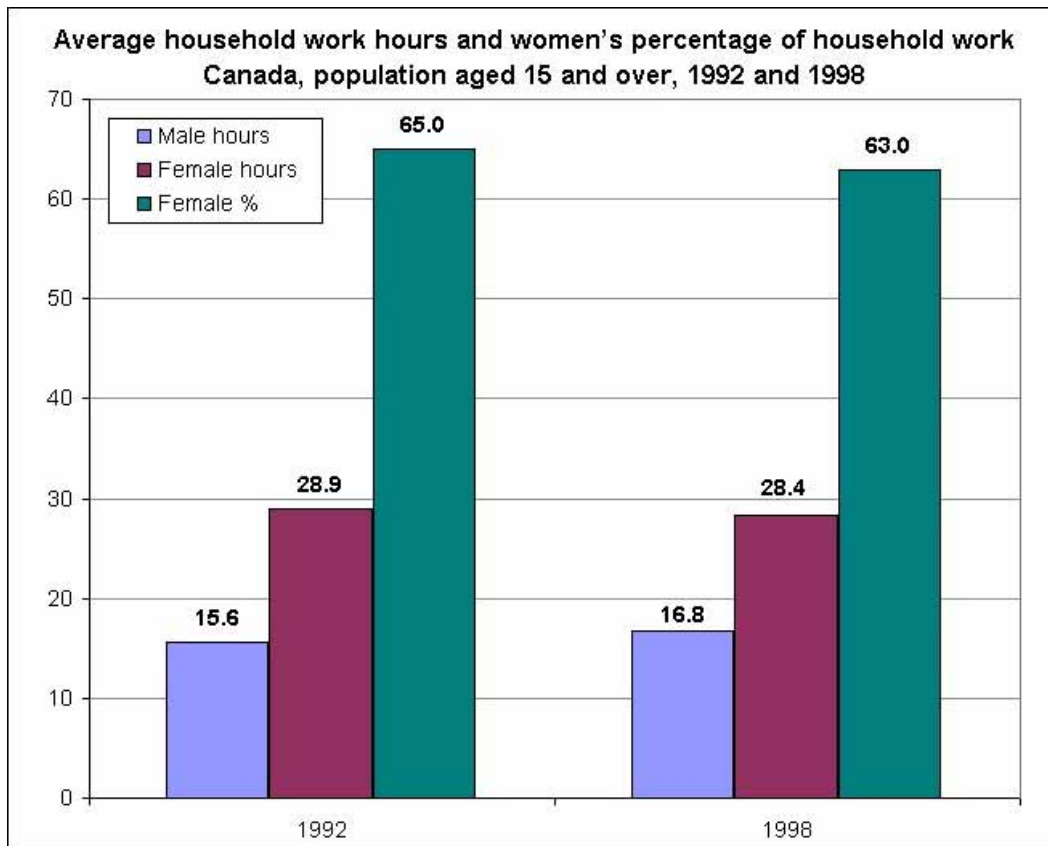


Sources: Statistics Canada, *General Social Surveys*; historical sources are listed in Colman (1998), *The Economic Value of Unpaid Housework and Child Care*, footnote 128, page 76.

The most dramatic change was in Prince Edward Island, where women reduced their housework hours by 11%, but men increased their hours by 38%. PEI men now put in more household work time than men in any other province. As a result, PEI now has the narrowest male-female gap in the country, with PEI women doing 59% of the unpaid household work, down from 69% in 1992. It was noted earlier that PEI also has the narrowest gender wage gap in the market economy. It is also the only province where women constitute a majority of paid workers. By contrast, Alberta has the widest gender gap in Canada in the division of household work, with women in that province contributing 65% of the unpaid housework and child care.

It should be noted that Statistics Canada's time use data from the General Social Surveys are averaged over the entire population 15 and older, and are not therefore comparable to data from the Labour Force Survey or other sources. In other words, paid work hours are averaged over the entire adult population, *including* those who are not employed and not in the labour force. Volunteer hours are averaged over the entire population, *including* those who do not volunteer, and so on.

Figure 40. Average household work hours and women's percentage of household work, Canada, population aged 15 and over, 1992 and 1998



Sources: Statistics Canada, General Social Surveys, 1992 and 1998.

Changes in types of household work

Beyond broad workload and stress issues, people's time use reveals important information about the nature of the gender division of labour within the household. In fact, the overall numbers for unpaid household work conceal some significant shifts among different types of household work. Women still do about three-quarters of the cooking, cleaning, and laundry, but their share of these tasks declined somewhat in the 1990s. Across Canada, women's share of cooking and washing up declined from 75.9% in 1992 to 70.4% in 1998; and their share of housekeeping dropped from 83.5% in 1992 to 76.6% in 1998. Women's share of repair and maintenance work has grown somewhat during the same period, though men still did 79% of it in 1998, down slightly from 83% in 1992.¹⁸³

Patterns of household work have also changed. Canadians are spending less time cooking meals at home and more time shopping and cleaning. In fact, the decline in cooking time has been

¹⁸³ Statistics Canada, *General Social Survey: Overview of the Time Use of Canadians*, November, 1999, Table 1: Canada, regions and provinces, special tabulations run for GPI Atlantic; Statistics Canada, *Initial Data Release from the 1992 General Social Survey on Time Use*, catalogue no. 11-612, #30, Table 1.

steady and continuous for 40 years, as the increase in dual-earner families has left less time to prepare meals at home.¹⁸⁴

Impacts on free time and personal time

The changing work patterns illustrated above have affected the free time available to Canadian women and men for socializing, reading, sports, movies, and other relaxation, as well as for personal care like sleep and meals. These changes again have health impacts, although they are not yet well documented and understood. What is known is that adequate sleep is necessary for good health, that stress is influenced by time available for relaxation, and that stress, in turn, can trigger a variety of ailments and has been documented as the most costly health risk factor.¹⁸⁵

Table 10. Free time and personal care (incl. sleep), Canada, 1992 and 1998, (hours/week)¹⁸⁶

		1992	1998
Free time	All	40.0	40.4
	Male	42.0	41.9
	Female	38.2	39.0
Personal care	All	73.6	73.0
	Male	72.0	71.6
	Female	75.3	74.4

Source: Statistics Canada, *General Social Surveys* 1992 and 1998.

Interpretation: Impacts of changing work patterns on health

Women's changing work patterns have impacts on health. Statistics Canada reports that rates of time stress increased sharply across Canada for both men and women between 1992 and 1998. Women in 1998 registered rates of time stress that were more than 30% higher than those of men.¹⁸⁷

Adequate free time and personal care time are essential elements of relaxation and a buffer against stress. But women's double work burden may well be eroding that buffer and contributing to a significant increase in female stress levels in the last 15 years. While the 1990s saw no marked change in women's free time and personal care, longer-term trends indicate an erosion of free time for women, particularly for working mothers. According to Statistics

¹⁸⁴ Statistics Canada, *Family Food Expenditure in Canada*, catalogue no. 62-554, and *Family Expenditure in Canada*, catalogue no. 62-555; Colman, Ronald (1998) *The Economic Value of Unpaid Housework and Child Care*, GPI Atlantic, Halifax, Figure 4.7, page 55.

¹⁸⁵ On the health costs of stress, see for example, Goetzel, Ron (ed), "The Financial Impact of Health Promotion," *American Journal of Health Promotion* 15 (5), May / June, 2001.

¹⁸⁶ Statistics Canada, *General Social Survey: Overview of the Time Use of Canadians*, November, 1999, Table 1: Canada, regions and provinces, special tabulations run for GPI Atlantic; Statistics Canada, *Initial Data Release from the 1992 General Social Survey on Time Use*, catalogue no. 11-612, #30, Table 1.

¹⁸⁷ Statistics Canada, *Overview of the Time Use of Canadians in 1998*, General Social Survey, catalogue no. 12 F0080-XIE, November, 1999, and Statistics Canada, *The Daily*, November 9, 1999.

Canada, full-time working mothers now put in a 74-hour work week when paid and unpaid work are both counted.¹⁸⁸

In 1985, across the country, women registered lower levels of chronic stress than men, by more than 6% nation-wide. Ten years later, female stress levels across Canada were 20% above male levels.¹⁸⁹ The recent 2000/01 Canadian Community Health Survey shows 6% more women reporting “quite a lot” of life stress than men. As in all previous surveys, Newfoundland and PEI still register the lowest stress levels in the country.¹⁹⁰

The time may be ripe for Canadians to learn from European countries that have sought to increase free time and quality of life by reducing work hours. International time use studies, for example, show that people have 11 hours more free time per week in Denmark than in Canada. This is due not only to shorter paid work hours and longer vacations, but to shorter unpaid work hours. Danes spend seven and a half hours less per week on housework than Canadians (Figure 41).¹⁹¹

The results may be partly a function of the propensity for smaller living spaces that require less cleaning time. Denmark, for example, has been a world leader in creating more efficient “co-housing” units that have smaller individual residences and shared facilities that can reduce the burden of domestic chores. These models are clearly worthy of careful study for their potential to reverse the trends toward overwork and stress indicated here.

Changing work patterns have also affect lifestyles and health behaviours. As dual-earner families have less time to prepare meals at home, for example, it is likely that healthy diets have suffered in the transition from home cooking to greater reliance on prepared fast food. That trend, in turn, may be contributing to a sharp increase in obesity across the country.¹⁹²

A Harvard University study of 16,000 children released in 2000 found that the more frequently families ate together, the more fruits and vegetables and the less fried foods were consumed. Children who had regular family meals also had a far higher intake of important nutrients such as calcium, fibre, folate, iron, and vitamins B and E, and had healthier diets at other times of day as well, compared to children who rarely ate family meals.¹⁹³

Columbia University professor, Dr. Michael Rosenbaum, commented on the study results: “In terms of teaching your children good habits, the dinner table is great.... There is a tremendous

¹⁸⁸ Statistics Canada, *Overview of the Time Use of Canadians in 1998*, catalogue no. 12F0080-XIE, Ottawa, November, 1999, Table 1, page 5, and Table 3, page 14.

¹⁸⁹ Statistics Canada, *Health Statistics, 1999*, CD-ROM, Table 00060139.IVT: “Levels of Stress,” and Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999.

¹⁹⁰ Statistics Canada, “Life stress, by sex, household population aged 18 and over, Canada, provinces, territories, health regions and peer groups, 2000/01,” available at: <http://www.statcan.ca/english/freepub/82-221-XIE/00502/tables/html/2336.htm>.

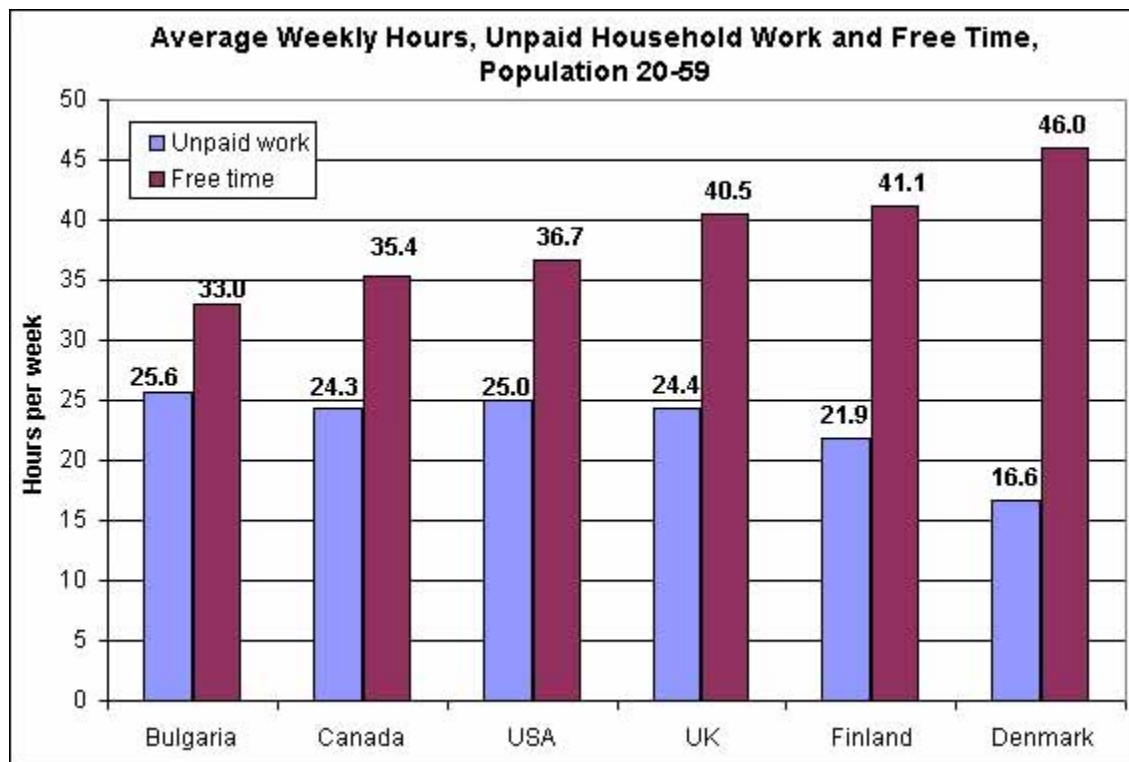
¹⁹¹ Source: Harvey, Andrew, “Canadian Time Use in a Cross-National Perspective,” *Statistics in Transition*, volume 2, no. 4, November, 1995, page 603.

¹⁹² Statistics Canada, *Canadian Community Health Survey 2000/01*, “Counts and rates by body mass index (international standard),” reported in Statistics Canada, *The Daily*, May 8, 2002.

¹⁹³ Randi Hutter Epstein, “Linking Children’s Health to Family Meals: Study shows families who eat together have better eating habits,” *The New York Times*, reprinted in *The Chronicle-Herald*, Halifax, 29 March, 2000.

amount of data to show that healthy habits learned early persist into adulthood.”¹⁹⁴ In short, the trend away from home cooking and family meals towards fast food and eating out, revealed by Statistics Canada’s time use and family expenditure surveys, may have negative health impacts into adulthood.

Figure 41. Average weekly hours, unpaid household work and free time, population aged 20-59, selected countries (hours).



Note: Definitions of unpaid work have been adjusted for comparability.

Source: Harvey, Andrew, “Canadian Time Use in a Cross-National Perspective,” *Statistics in Transition* 1995.

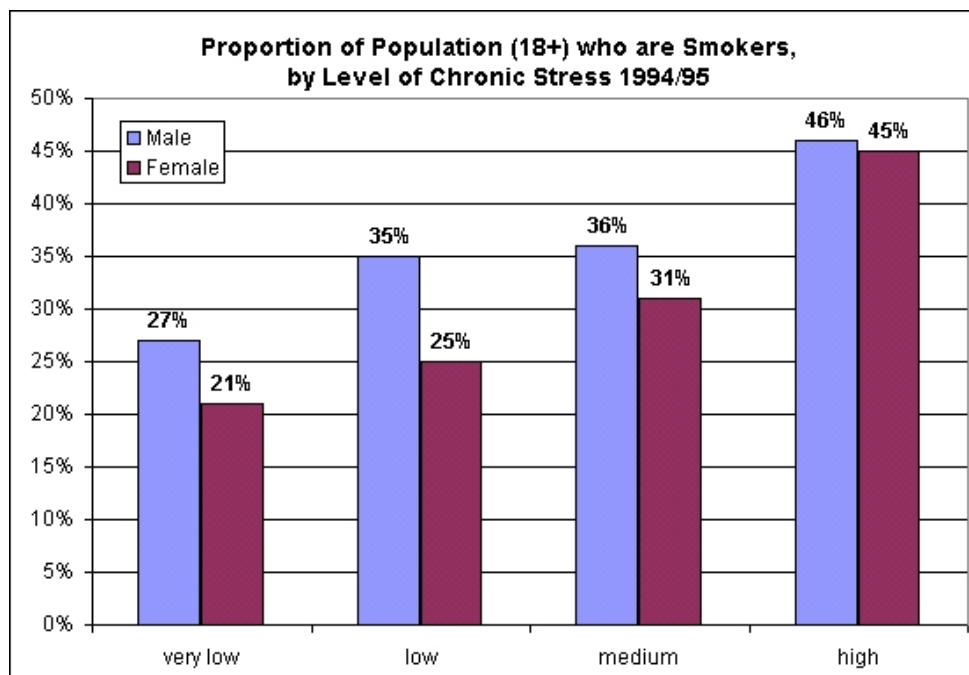
Further analysis is required to assess the impact of changing work roles and gender divisions of labour both in the market economy and in the household on women’s health. But the trends indicated above indicate that an understanding of changes in health status over time cannot be sought simply in individual lifestyle choices. Those choices are themselves clearly dependent on deeper social changes.

Ample evidence indicates that health behaviours are affected by deeper social trends. An analysis of 1994/95 National Population Health Survey results, for example, found that smoking rates are directly linked to stress. Among men, 46% of those who experienced high levels of chronic stress were smokers, compared to just 27% for men with a very low level of stress. The

¹⁹⁴ Idem.

relationship was even more pronounced for women, whose smoking rates ranged from 21% among those with a very low stress level to 45% for those with high stress (Figure 42).¹⁹⁵

Figure 42. Proportion of population (18+) who are smokers, by level of chronic stress and sex, Canada, 1994/95 (%).



Source: Statistics Canada, National Population Health Survey, 1994-95.

To date, research on these underlying social trends has focussed far more extensively on links between lifestyle behaviours, income, and education than on work hours, and policy links have also been better established.

For example, analysts have noted that “health promotion strategies focused purely at individual health behaviours are yielding limited success.”¹⁹⁶ Evidence indicates that those who are marginalized do not attend smoking cessation and nutrition classes, do aerobics, join gymnasiums, or shop for healthy foods. A comprehensive \$1.5 million 5-year cardiovascular disease prevention and lifestyle intervention program in St. Henri, a Montreal neighbourhood where 45% of families live below the poverty line, attracted only 2% participation. The only

¹⁹⁵ Statistics Canada, *National Population Health Survey Overview, 1994-95*, catalogue no. 82-567, pages 10-11; and see Colman, Ronald, *The Cost of Tobacco in Nova Scotia*, GPI Atlantic, Halifax, November 2000, chapter on “Smoking and Stress”, pages 6-8.

¹⁹⁶ Lyons, Renee, and Lynn Langille, *Healthy Lifestyle: Strengthening the effectiveness of lifestyle approaches to improve health*, Atlantic Health Promotion Research Centre, Dalhousie University, prepared for Health Canada, Population and Public Health Branch, April, 2000, page 7

significant result, compared to a control group, was that more people had their blood cholesterol levels measured.¹⁹⁷ The researchers concluded:

*“...unless or until basic living needs are ensured, persons living in low-income circumstances will be unlikely or unable to view CVD [cardio-vascular disease] prevention as a priority.”*¹⁹⁸

Because lifestyle interventions have been most successful in changing the behaviour of those with higher levels of education and income, and least effective for disadvantaged populations who have fewer options and less control over their lives, they have had the unintended effect of deepening health inequalities between socioeconomic levels.¹⁹⁹

More effective interventions to alleviate the negative impacts of poverty on health range from social programs directed towards low-income individuals to wider-ranging social reforms. One example of an effective program that alleviates some effects of poverty is the WIC Special Supplemental Nutrition Program in the U.S., which provides seven million low-income women, infants, and children with food, nutrition information and health services. Every dollar spent on the program saves \$3 in health costs within the same year.²⁰⁰

Supplemental feeding assistance for children from low-income households that are unable to provide adequate nutritious food, can improve health and social outcomes. School lunch and breakfast programs have been shown to relieve hunger and lead to improved nutritional status, enhanced cognitive functioning, improved behaviour, and increased social support for children with inadequate dietary intake at home.²⁰¹

Low income Canadians are more likely to be overweight and to have poorer diets than those with higher incomes, which may be due, in part, to cheaper pricing of poor-nutrient fast foods compared to higher quality healthy foods. For example, 40% of low-income Canadians believe that low-fat products are expensive, and 27% believe that grain products are expensive, compared to 32% and 8% respectively of those with high incomes (Figure 43).²⁰²

¹⁹⁷ Raphael, Dennis, *Inequality is Bad for our Hearts*, York University, 2001. An expanded version of this report, titled “Social Justice is Good for Our Hearts: Why Societal Factors – Not Lifestyles – Are Major Causes of Heart Disease in Canada and Elsewhere” can now be read and downloaded from <http://www.socialjustice.org/>; and see “Having Healthy Heart is Often a Question of Income,” *The Toronto Star*, 9 November, 2001, page F02.

¹⁹⁸ Cited in Lyons and Langille, op. cit., page 22.

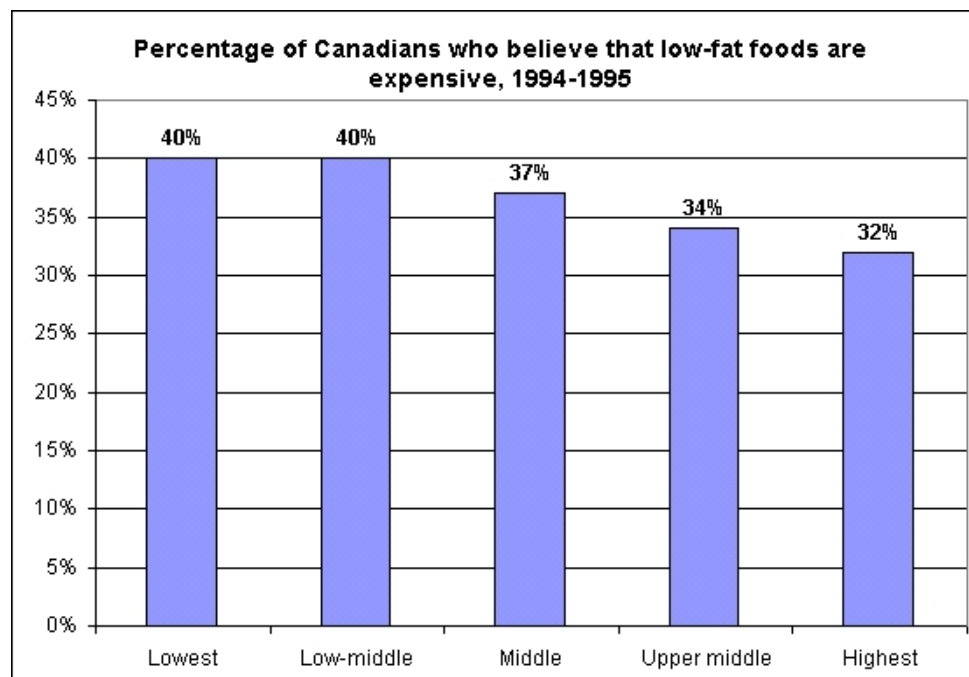
¹⁹⁹ Ibid., pages 23-25.

²⁰⁰ Buescher, Paul, et al., “Prenatal WIC Participation Can Reduce Low Birth Weight and Newborn Medical Costs: A Cost-Benefit Analysis of WIC Participation in North Carolina,” *Supplement of the Journal of the American Dietetic Association*, 93 (2): 163-166, February, 1993; Canadian Nutrition Institute, October 11, 1991, page 2; Matsumoto, Masao, “The WIC Program Meets A Special Need,” *Food Review* 15 (1): 40-42, 1992; Goldberg, Jeanne, and Jean Mayer, “The White House Conference on Food, Nutrition and Health Twenty Years Later: Where Are We Now?”, *Journal of Nutrition Education*, Viewpoint, 1990: 47-50; all cited in Province of British Columbia (1996), *Cost Effectiveness / Value of Nutrition Services: An Annotated Bibliography*, Prevention and Health Promotion Branch, Ministry of Health, B.C., pages 2-4.

²⁰¹ McIntyre et al., “School-Based Feeding Programs: A Summary of the Literature,” *A Special Report of the Canadian School Boards Association*, July, 1992, cited in Province of British Columbia (1996) *Cost Effectiveness / Value of Nutrition Services: An Annotated Bibliography*, Prevention and Health Promotion Branch, Ministry of Health, B.C., page 6,

²⁰² Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, September, 1999, page 267.

Figure 43. Percentage of Canadians who believe that low-fat foods are expensive, 1994-1995



Source: Statistics Canada, *National Population Health Survey*, 1994-95

However, the disparity here may be related to education, strategy, and policy as much as to income. One study found that simple substitution of healthy alternatives for equivalent foods in the “average” diet, increased food costs by 11-14%, which can help explain why low-income earners have poorer diets. However, *restructuring* the diet to include more cereals, whole grains, fruits, and vegetables (rather than simply *substituting* healthier equivalents such as leaner meat), reduced food costs per megajoule of energy. The researchers concluded that healthful eating is not necessarily more expensive and that restructuring the diet is more cost effective than substitution.²⁰³

In the longer term, health researchers have pointed to the need for wider social reforms that increase the income of the poor, prevent material deprivation, and address social exclusion and powerlessness. Recommendations include increasing the minimum wage, ensuring pay equity, providing a guaranteed minimum income, increasing welfare payments, improving access to education and training, protecting minority rights through legislation, building housing cooperatives, and funding daycare programs. According to one Toronto physician:

*“These are reasonable solutions that are within our grasp as a society concerned about creating a healthier future for all its citizens. Preventing heart disease is possible, if we resist doing the familiar and insist on doing the political.”*²⁰⁴

²⁰³ McAllister, Marian et al., “Financial Costs of Healthful Eating: A Comparison of Three Different Approaches,” *Journal of Nutritional Education* 25 (3): 131-139, May-June, 1994, cited in Province of British Columbia (1996), *Cost Effectiveness / Value of Nutrition Services: An Annotated Bibliography*, Prevention and Health Promotion Branch, Ministry of Health, B.C., page 12.

²⁰⁴ “Having Healthy Heart is Often a Question of Income,” *The Toronto Star*, 9 November, 2001, page F02.

The same attention that is increasingly paid to the links between income, lifestyle, and health must also be paid to the links between work hours, shifting gender divisions of labour, and health outcomes. While a seminal Statistics Canada study has now definitively linked longer work hours with increased rates of smoking, overweight, physical inactivity, and depression among women, researchers have not yet explored the relationship between *total* workload (paid and unpaid) and health.²⁰⁵ In fact, we earlier noted two Statistics Canada analyses that have acknowledged that even gender shifts in paid employment patterns, unemployment trends, and gender wage gaps are not well understood and cannot be fully explained. The knowledge gap is even wider when unpaid work issues are added to the equation.

When those relationships between work and health are better understood, there may be greater incentive to seek solutions to health problems in more profound social changes than in individual lifestyle shifts alone. For example, European models of longer vacations and shorter work hours may hold greater promise from a population health perspective than the U.S. model of longer work hours that Canada is currently emulating.

The Netherlands, for example, drastically reduced its unemployment rate and increased labour productivity by making part-time work more attractive and thereby reducing and redistributing work hours. Legislation in the Netherlands ensures part-time workers equal hourly pay, pro-rated benefits, and equal opportunity for career advancement, and the country, not surprisingly, now has the highest rate of part-time work among OECD countries. Its rate of involuntary part-time work is minimal – 6%, much less than the Canadian rate.²⁰⁶

Canada has so far lagged in the adoption of employment policies designed to improve the balance between paid and unpaid work responsibilities, and to increase free time and quality of life. The Quebec government's proposal for a four-day workweek for parents of younger children is an important step in this direction and one that may have positive implications for women's health in that province. The social trends observed in this chapter and the last indicate that the time is right to study the potential for such models to improve health in general and women's health in particular, and to assess the applicability of European experiments in this field to Canada.

²⁰⁵ Shields, Margot, "Long Working Hours and Health," Statistics Canada, *Health Reports* 11 (2), Autumn, 1999, pages 33-48.

²⁰⁶ For an excellent account of shorter work time initiatives in Europe, see Hayden, Anders, *Sharing the Work, Sparing the Planet: Work Time, Consumption, and Ecology*, Between the Lines, Toronto, 1999. For Danish figures and comparative free time estimates among nations, see Harvey, Andrew, "Canadian Time Use in a Cross-National Perspective," *Statistics in Transition*, November, 1995, volume 2, no. 4, pages 595-610, especially Table 3, page 603. For comparative annual work hours, see International Labour Organization, *Key Indicators of the Labour Market*, September, 1999, available at <http://www.ilo.org/public/english/60empfor/polemp/kilm/kilm.htm>. See also European Industrial Relations Observatory, Netherlands, 1999, "Political compromise on proposed part-time work legislation," available at <http://www.eiro.eurofound.ie/1999/10/inbrief/NL9910170N.html>.

SOCIAL-PSYCHOLOGICAL DETERMINANTS OF HEALTH

The following social and psychological determinants of women's health are considered here:

Education

- Levels of schooling, women and men, by highest level of educational attainment

Social Supports

- Percentage of women and men reporting high levels of social support
- Percentage of women and men providing unpaid care to seniors
- Volunteer participation rates, women and men
- Annual hours per volunteer
- Volunteer service hours per capita

Crime

- Crime rates, adults and youth, female and male
- Sexual violence
- Spousal violence and spousal homicide

Stress

- Percentage of women and men reporting quite a lot of life stress

Social exclusion and vulnerability

- Brief discussion, though few accepted indicators are currently available, and reporting is hampered by lack of data on vulnerable groups. A brief profile of some key Aboriginal health issues will be provided

4. Educational Attainment & Literacy

Statistics Canada includes two indicators of educational attainment in its non-medical determinants of health – graduation rates and average number of years of schooling.

Indicator description

Schooling is certainly not synonymous with knowledge and educational attainment, for which there are no accepted indicators or data sets. But years of schooling can at least be used as an indicator of equity between men and women, and as a relative proxy for changes in educational attainment over time within groups, even if schooling is not an absolute indicator of actual knowledge.

For its health indicators, Statistics Canada assesses graduation rates for:

- (i) high school graduates as the proportion of the population aged 25 to 29 who have a high school graduation certificate;
- (ii) post-secondary graduates as the proportion of the population aged 25-54 who have obtained a post-secondary certificate, diploma or degree.²⁰⁷

²⁰⁷ Statistics Canada, <http://www.statcan.ca/english/freepub/82-221-XIE/00502/defin2.htm#40>.

It assesses years of schooling by the average number of years (or grades) of schooling at the elementary, secondary, post-secondary, and university levels, for the population aged 25-54.²⁰⁸

However, Statistics Canada's health indicators data sets do not break down rates of graduation and years of schooling by gender. For that reason, these women's health indicators, developed for Health Canada's Women's Health Bureau, rely on a different source – Statistics Canada's *1996 Census: Nation Series*.²⁰⁹ Summary results are also given from the 1997 International Adult Literacy Survey.

Relevance

Educational attainment is positively associated both with health status and with healthy lifestyles. For example, in the 1996-97 National Population Health Survey, only 19% of respondents with less than high school education rated their health as "excellent," compared with almost 30% of university graduates.²¹⁰ Self-rated health, in turn, has been shown to be a reliable predictor of health problems and longevity.²¹¹

Educational attainment has also been reliably linked both to health behaviours and health care utilization. For example, those with only a high school education are 64% more likely to be overweight than those with a university degree.²¹² One Canadian study found that those with no high school degree use 49% more physician services than do those with a B.A., and those with just a high school diploma use 12% more than those with a university degree.²¹³ From a health determinants perspective, education is clearly a good investment that can reduce long-term health care costs.

Educational attainment is an important indicator of women's health. It is a key to improved employment and income for women, and facilitates better access, understanding, and use of health-related information by women. Higher earnings by women with university degrees, and increasing educational parity between men and women, are signs of progress that may have positive health outcomes. It has been noted that language and financial barriers to post-secondary education exist for some immigrant and refugee women in Canada.²¹⁴

At the same time, it must be acknowledged that not all degrees are created equal, that they do not necessarily provide equity of opportunity for employment, that being employed does not mean

²⁰⁸ Statistics Canada, <http://www.statcan.ca/english/freepub/82-221-XIE/00502/defin2.htm#42>.

²⁰⁹ Statistics Canada, *1996 Census: Nation Series*, catalogue no. 93F0028XDB96001. Statistics Canada's Health Indicators data set, providing composite numbers on graduation rates and years of schooling, but not broken down by gender, can be found at: <http://www.statcan.ca/english/freepub/82-221-XIE/01002/nonmed/living1.htm>.

²¹⁰ Health Canada, *Towards a Healthy Future: Second Report on the Health of Canadians*, Ottawa, 1999, page 51; Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999, page 30.

²¹¹ Health Canada, *Toward a Healthy Future*, page 14.

²¹² Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999, page 267.

²¹³ Kephart, George, Vince Salazar Thomas, and David MacLean, "Socioeconomic Differences in the Use of Physician Services in Nova Scotia," *American Journal of Public Health*, 88 (5): 800-803, May, 1998.

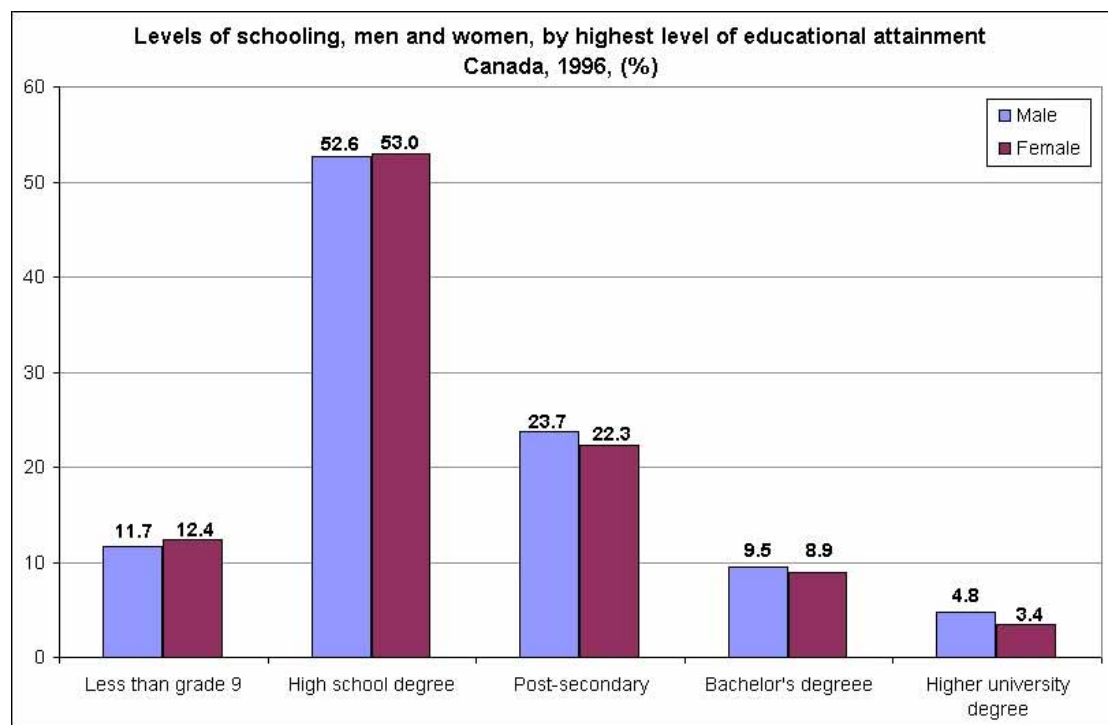
²¹⁴ Abdool S, Vissandjée B. An Inventory of Conceptual Frameworks and Women's Health Indicators. Montréal: Consortium Université de Montréal, 2001.

making use of the degree earned, and that jobs may not be available even for well qualified female graduates.

Results

The last 30 years have seen remarkable and positive progress in closing the gender gap in formal educational attainment. There were over four times as many female university graduates, aged 25 and over, in 1996 as there were in 1971. By contrast, men doubled their rate of university graduation during this period.²¹⁵ Nationwide, there are now almost as many women with post-secondary education as men (Figure 44), and in some regions, like the Atlantic provinces, there are now more women than men with post-secondary education.

Figure 44. Levels of schooling, men and women, by highest level of educational attainment, Canada, 1996, (%)²¹⁶



Source: Statistics Canada, 1996 Census.

Although there are still more men than women with masters and doctoral degrees in the population, the overall education gap has been narrowing rapidly, and the trend is toward ongoing convergence between men and women. Canadian girls are now more likely to finish high school than boys, and young women are more likely than young men to have a university degree. In 1996, 13% of women aged 20-24 were university graduates, compared to 9% of men in this age group.²¹⁷

²¹⁵ Statistics Canada, *1996 Census: The Nation Series*, catalogue no. 93F0028SDB96001.

²¹⁶ Statistics Canada, *1996 Census: Nation Series*, catalogue no. 93F0028XDB96001

²¹⁷ Statistics Canada, *Women in Canada 2000*, catalogue no. 89-503-XPE, page 86.

The gap is likely to close quickly at higher levels of education, since women currently make up the majority of full-time university students in Canada. In the 1997-98 academic year, 55% of all full-time university students were female, up from 52% in 1992-93, and 37% in 1972-73. Since 1972-73, women have nearly doubled their share of total enrolment among Master's students (from 27% to 51%), and they have more than doubled their share of total enrolment at the doctoral level (from 19% to 43%).²¹⁸

On a separate measure of educational attainment, 1997 International Adult Literacy Survey found that women's scores in prose literacy were higher than those of males for all age groups. There were no significant differences between men and women in document literacy scores at any age level, nor in quantitative literacy (numeracy) scores at most ages. Men scored higher than women in quantitative literacy (numeracy) only in the age groups 16-25 and over 65.²¹⁹

5. Social Support

According to Health Canada:

*"Families and friends provide needed emotional support in times of stress, and help provide the basic prerequisites of health such as food, housing and clothing. The caring and respect that occur in social networks, as well as the resulting sense of well-being, seem to act as a buffer against social problems. Indeed, some experts in the field believe that the health effect of social relationships may be as important as established risk factors such as smoking and high blood pressure."*²²⁰

Strong social support has also been shown to improve resilience and aid recovery from illness. Conversely, lack of social support from family, friends and communities is linked to higher rates of cardiovascular disease, premature death, depression, and chronic disability.²²¹

Two indicators of social support are considered here as key determinants of women's health, one at the more personal, individual level and the second at the wider societal level:

1. Degree to which women have someone they can confide in and count on for advice, care, love, and help.
2. Strength of community networks, as measured by level of voluntary work.

Following these indicators, consideration will be given to a measure of *negative* social support – family violence. While family can act as a key pillar of social support that strengthens health outcomes, an abusive relationship can have the opposite effect and undermine health. All *three* of these indicators can therefore be considered measures of positive or negative social support.

²¹⁸ Statistics Canada, *Women in Canada 2000*, catalogue no. 89-503-XPE, page 87.

²¹⁹ Health Canada, *Toward a Health Future: Second Report on the Health of Canadians*, Ottawa, 1999, pages 52-531 and Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999, page 31.

²²⁰ Health Canada, *Toward a Healthy Future: Second Report on the Health of Canadians*, Ottawa, 1999, page 60.

²²¹ Lyons, Renee, and Lynn Langille, *Healthy Lifestyle: Strengthening the Effectiveness of Lifestyle Approaches to Improve Health*, Atlantic Health Promotion Research Centre, Dalhousie University, prepared for Health Canada, Health Promotion and Programs Branch, April, 2000, pages 17-19.

5.1 Social support – personal

Indicator description

Statistics Canada's National Population Health Surveys and Canadian Community Health Survey have tested social support levels by questions such as whether respondents had someone to confide in, count on in a crisis, count on for advice, and make them feel loved and cared for. Social support was also identified and confirmed as a key non-medical determinant of health by CIHI's National Consensus Conference on Population Health Indicators.²²²

In the 1994/95 and 1996/97 National Population Health Surveys, this indicator was defined as the “level of perceived social support reported by population aged 12 and over, based on their responses to four questions about having someone to confide in, someone they can count on in a crisis, someone they can count on for advice, and someone who makes them feel loved and cared for.”²²³

The 2000/01 Canadian Community Health Survey increased the questions to eight, and defined the indicator slightly differently as the “level of perceived social support reported by population aged 12 and over, based on their responses to eight questions about having someone to confide in, someone they can count on in a crisis, someone they can count on for advice, and someone with whom they can share worries and concerns.”²²⁴

Data sources for this indicator, therefore, are Statistics Canada's National Population Health Surveys, 1994/95 and 1996/97, cross sectional sample, health file; and Statistics Canada's Canadian Community Health Survey 2000/01.

Relevance

Social networks may play as important a role in protecting health, improving reliance, buffering against disease, and aiding recovery from illness as behavioural and lifestyle choices such as quitting smoking, losing weight, and exercising.²²⁵ Conversely, as noted, lack of social support is linked to higher rates of cardiovascular disease, premature death, depression, and chronic disability.²²⁶

Social supports are a particularly important indicator of women's health, as they may help to mitigate and ameliorate other social and economic inequities to which women have traditionally been subject. Higher levels of social support are clearly a sign of progress, with positive implications for women's health. Women generally have higher levels of social support than men, but some sub-groups of women have markedly lower levels of social support than others.

²²² *National Consensus Conference on Population Health Indicators: Final Report*, Canadian Institute for Health Information, Ottawa, 1999, pages 5 and B9.

²²³ Statistics Canada, <http://www.statcan.ca/english/freepub/82-221-XIE/00502/defin2.htm#54a>

²²⁴ Statistics Canada, <http://www.statcan.ca/english/freepub/82-221-XIE/01002/tables/html/2326.htm>.

²²⁵ See for example: Mustard, J.F., & Frank, J. (1991). *The Determinants of Health*. (CIAR Publication No. 5) Canadian Institute for Advanced Research, Toronto.

²²⁶ Lyons, Renee, and Lynn Langille, *Healthy Lifestyle: Strengthening the Effectiveness of Lifestyle Approaches to Improve Health*, Atlantic Health Promotion Research Centre, Dalhousie University, prepared for Health Canada, Health Promotion and Programs Branch, April, 2000, pages 17-19.

Among household types, for example, single parents have been found to have significantly lower levels of social support than members of two-parent families.²²⁷ That lack of social support, in turn, may be linked to poorer health outcomes reported by single mothers. A Statistics Canada analysis of both the 1994/95 and 1996/97 National Population Health Surveys found that "lone mothers reported consistently worse health status than did mothers in two-parent families," and that longer-term single mothers had particularly bad health. Single mothers scored lower on two scales of "self-perceived health" and "happiness," and substantially higher on a "distress" scale. They had higher rates of chronic illness, disability days and activity restrictions than married mothers, and were three times as likely to consult a health care practitioner for mental and emotional health reasons.²²⁸ Further investigation is necessary to determine the degree to which these adverse health outcomes are linked to low incomes, lack of social support, or other factors.

Results

In the 1994/95 and 1996/97 National Population Health Surveys, provincial data for reports of "low" social support had a coefficient of variation (CV) greater than 33.3% and were suppressed due to extreme sampling variability. Fortunately the much larger sample size of the 2000/01 Canadian Community Health Survey allows provincial comparisons of low social support to be reported for the first time (Figure 45). However, provincial estimates were given by Statistics Canada only for those provinces in which survey respondents in all health districts answered the "social support" module of the survey. 2000/01 provincial results are therefore available for seven provinces, but not for Ontario, Manitoba, or Saskatchewan.²²⁹

Throughout Canada, women report higher levels of social support than men.

Both the earlier National Population Health Surveys (NPHS) and the most recent Canadian Community Health Survey (CCHS) show the Atlantic region leading the country in high levels of social support, with Newfoundland and PEI consistently showing among the highest levels in all three surveys.

Quebec had the lowest levels of social support in the country in the 1994/95 and 1996/97 surveys, but higher levels in 2000/01, relative to other provinces. Saskatchewan also had high levels of social support for women in 1994/95 and 1996/97, but results are not available at this time for 2000/01. British Columbians reported among the highest levels of social support in 1996/97, but much lower levels in 2000/01 relative to other provinces.

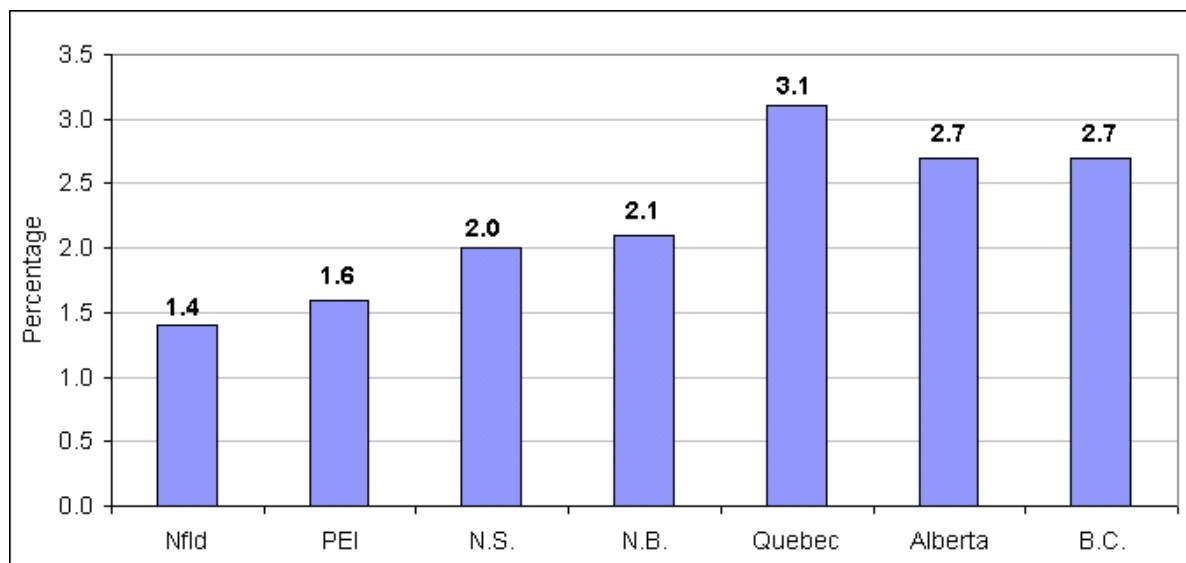
At this time, in light of the slightly different definitions noted above, it is not clear to the author whether the 2000/01 CCHS results are comparable to the earlier 1994/95 and 1996/97 NPHS results. Because of the slight change in definition noted above, results from the different surveys are presented separately below (Figures 46, 47, and 48).

²²⁷ Health Canada, *Toward a Healthy Future*, page 60; and Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999, page 22.

²²⁸ Claudio Perez and Marie Beaudet, "The Health of Lone Mothers," Statistics Canada, *Health Reports*, volume 11, no. 2, Autumn 1999, catalogue no. 82-003-XPB, pages 21-32.

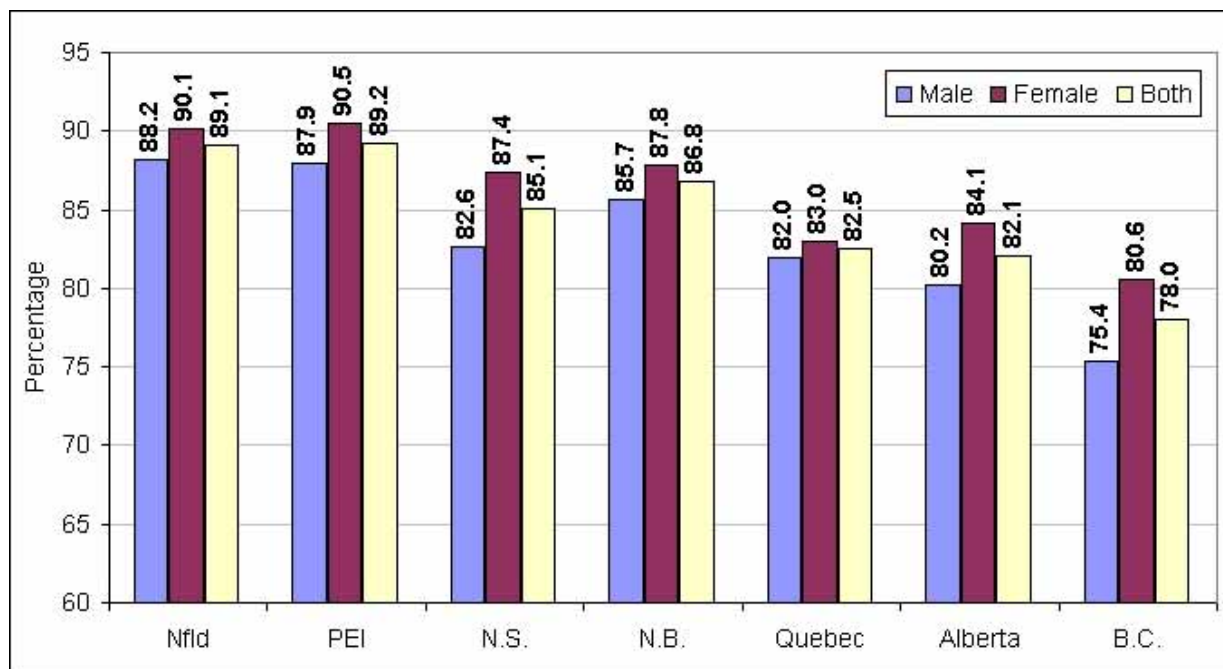
²²⁹ These new data were released by Statistics Canada on 23rd December, 2002. See Statistics Canada, <http://www.statcan.ca/english/freepub/82-221-XIE/01002/tables/html/2326.htm>.

Figure 45. Proportion of the population, aged 12 and over, reporting low levels of social support, selected provinces, 2000/01, (%)



Source: Statistics Canada, Canadian Community Health Survey, 2000/01.²³⁰

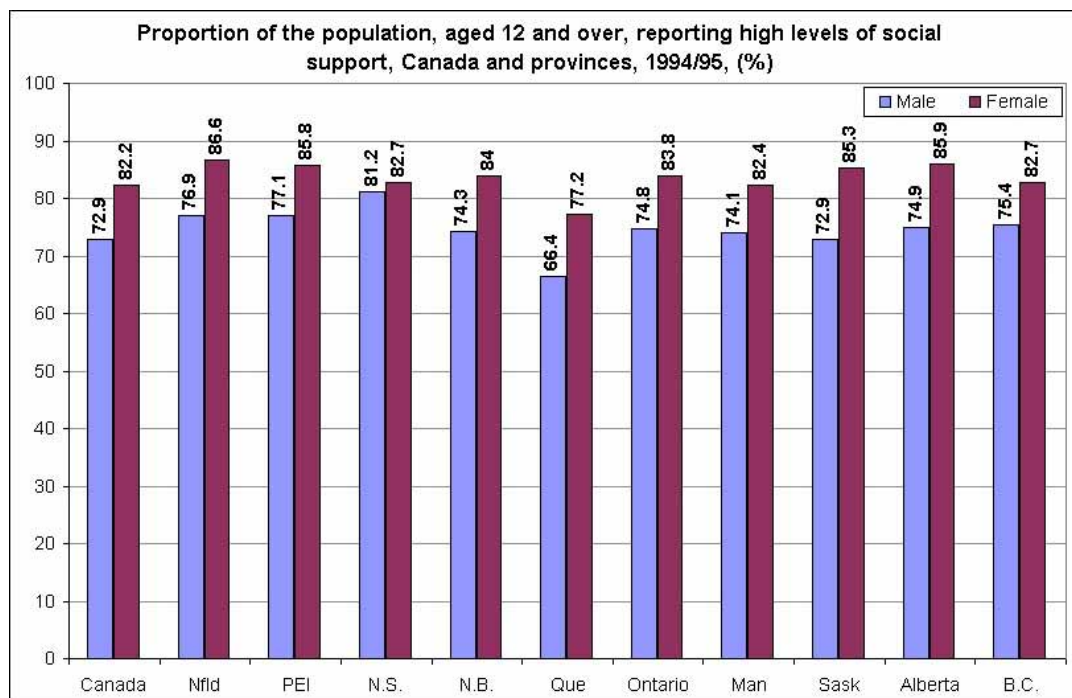
Figure 46. Proportion of the population, aged 12 and over, reporting high levels of social support, selected provinces, 2000/01, (%)



Source: Statistics Canada, Canadian Community Health Survey, 2000/01.

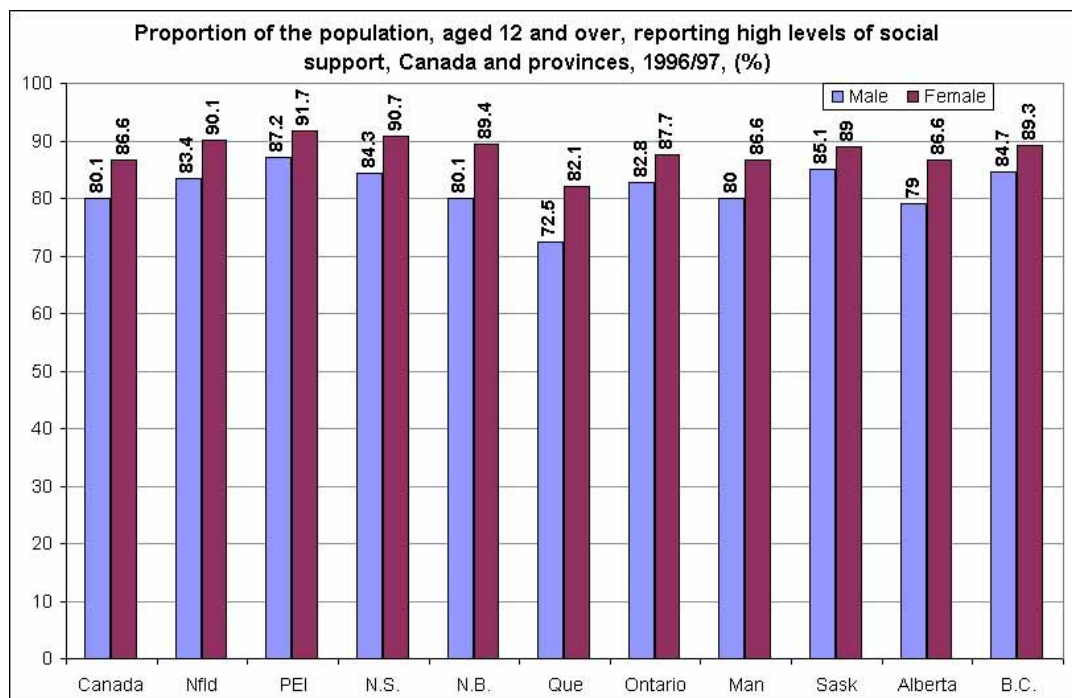
²³⁰ Statistics Canada, <http://www.statcan.ca/english/freepub/82-221-XIE/01002/tables/html/2326.htm>, extracted 2 February, 2003. Both 2000/01 charts in this section are derived from the same source.

Figure 47. Proportion of the population, aged 12 and over, reporting high levels of social support, Canada and provinces, 1994/95, (%)



Source: Statistics Canada, National Population Health Survey, 1994/95, cross sectional sample, health file.

Figure 48. Proportion of the population, aged 12 and over, reporting high levels of social support, Canada and provinces, 1996/97, (%)



Source: Statistics Canada, National Population Health Survey, 1996/97, cross sectional sample, health file.

Interpretation

It appears that gaps between men and women in the area of social support narrowed considerably between 1994/95 and 2000/01. This trend is worthy of investigation.

As the results of three population health surveys show, Newfoundlanders have very high levels of social support. Newfoundlanders have lower incomes and higher rates of unemployment than the rest of Canada, as well as high levels of behavioural risk factors, all of which are conventionally associated with health problems. Yet they consistently record the highest rates of self-reported excellent and very good health, the highest rates of psychological wellbeing, the lowest stress and depression rates, and the lowest rates of several chronic ailments in the country. It has been suggested that strong communities, social networks, and other social supports may help explain this apparent anomaly.²³¹

While social supports and social processes may ameliorate the adverse health impacts of economic stresses, as the Newfoundland case appears to indicate, it is also likely that social processes are closely tied to and thus may exacerbate economic pressures. It is noteworthy, for example, that the 1996/97 survey indicated markedly higher levels of social support for both men and women in every single province in the country than in 1994/95. As the results of these two surveys are comparable, this trend is worthy of investigation.

One hypothesis that merits exploration is the potential link of social supports to unemployment and income trends. The recession of the early 1990s saw unemployment in Canada peak at 12% for men and 10.6% for women in 1993. By 1994 the unemployment rate was still 10.9% for men and 9.7% for women.²³² The economic recovery of the mid-1990s saw a gradual decline in unemployment, which by 1997 had fallen to 9.3% for men and 8.9% for women and was continuing to fall. The links between unemployment, economic stresses, and family violence have been well established.²³³ It is therefore possible that the adverse economic circumstances of the 1994/95 period saw pressures on the family and other social structures that undermined social supports, and that the greater optimism of the economic recovery two years later strengthened these supports.

5.2 Social support – societal: volunteerism

Indicator description

“Formal” voluntary activity describes work for charitable, non-profit, and community organizations. “Informal” voluntary work is assistance given directly to individuals, not through any organization, such as shopping, cleaning and doing yard work for a disabled, sick, or elderly neighbour.

²³¹ Colman, Ronald (2000), *Women's Health in Atlantic Canada*, Atlantic Centre of Excellence for Women's Health and GPI Atlantic, Halifax, February, 2000, pages 10-11, and 40.

²³² Statistics Canada, *Labour Force Historical Review 2001*, Ottawa, 2002.

²³³ See for example Statistics Canada, Canadian Centre for Justice Statistics, *Family Violence in Canada: A Statistical Profile 2000*, catalogue no. 85-224-XIE, June 2002, page 17.

New information on formal voluntary work trends was released in August, 2001, allowing an assessment of trends since 1987 and 1997, when similar surveys were conducted. The stated goal of Statistics Canada's 2000 National Survey of Giving, Volunteering, and Participating was to "determine whether the care that Canadians demonstrate for one another, their communities and their environment is growing, remaining stable, or on the wane."²³⁴

Trends in combined formal and informal voluntary work can be assessed once every six years from the time diaries in Statistics Canada's General Social Surveys. The most recent GSS results are from 1998. The next assessment of trends in combined formal and informal voluntary work will be the 2004 General Social Survey, for which results should become available at the end of 2005.

Finally, the 1996 and 2001 Census results provide information on the proportion of Canadians who spend time caring for the elderly.

Relevance

According to Health Canada, social support networks extend from close family and friends to the broader community, and are "reflected in the institutions, organizations and informal giving practices that people create to share resources and build attachments with others."²³⁵ For this reason, Health Canada uses volunteerism as a key indicator of a "supportive social environment" that can enhance health.²³⁶

Voluntary services may also play a direct role in providing basic resources necessary to health and in aiding recovery from illness through voluntary services offered in soup kitchens, food banks, hospitals, nursing homes, shelters, help lines, and other institutions dedicated to helping the sick, disabled, poor, mentally ill, and infirm elderly.

Volunteerism is also a particularly important indicator for women's health, as women have higher rates of voluntary activity than men. As the latest 2001 Census results demonstrate, women also spend considerably more time than men taking care of aging parents and other elderly relatives than men.²³⁷ Thus, the burnout and stress that plague many caregivers and overworked volunteers may affect women disproportionately, with consequent impacts on women's health. In this case, higher *rates* of volunteerism may generally be interpreted as a sign of progress, but longer hours worked by volunteers may lead to burnout and have adverse impacts on health.

²³⁴ Hall, Michael, Larry McKeown, and Karen Roberts, *Caring Canadians, Involved Canadians: Highlights from the 2000 National Survey of Giving, Volunteering and Participating*, Statistics Canada, catalogue, no. 71-542-XPE, Ottawa, August, 2001, page 5.

²³⁵ Health Canada (1999), *Toward a Healthy Future: Second Report on the Health of Canadians*, Ottawa, page 60.

²³⁶ Health Canada (1999), *Toward a Healthy Future: Second Report on the Health of Canadians*, Ottawa, pages 60-62.

²³⁷ Statistics Canada, *The Changing Profile of Canada's Labour Force*, catalogue no. 96F0030-XIE-2001009, available at: <http://www12.statcan.ca/english/census01/products/analytic/companion/paid/canada.cfm>.

Results

Combined formal and informal voluntary work

Statistics Canada's 1992 and 1998 General Social Surveys found a nation-wide decline in combined formal and informal voluntary work, with Canadians giving 8.7% fewer hours per capita in 1998 than in 1992.²³⁸

Provincial differences in personal social supports observed above are matched at the societal level. Counting both formal and informal voluntary work, the four Atlantic provinces have the highest volunteer participation rates in the country. Atlantic region residents also put in considerably more hours of voluntary work per week than other Canadians – 43% higher than the national average in Nova Scotia, and 33% higher in Newfoundland. Quebec has the lowest level of volunteer activity in the country, matching the comparatively low level of personal social supports noted above.

Informal caregiving

As the Romanow Report recognized, “home care has become a partial substitute for care that was previously provided primarily in hospitals or by physicians.”²³⁹ The de-institutionalization of the health care system, including a strong trend toward fewer and shorter hospital stays for the sick, has sharply increased reliance on informal care-giving services in the home. According to the Romanow Commission:

*“Quite simply, home care could not exist in Canada without the support of social networks and informal caregivers.... Informal caregivers play a critically important role in providing ongoing care, support, and advocacy for people with physical disabilities.... In addition to informal caregivers, there also is an abundance of volunteers who devote hours of service caring for people who are ill.”*²⁴⁰

Romanow recommended “direct support to informal caregivers to allow them to spend time away from work to provide necessary home care assistance at critical times,” and he explicitly recognized the potential health impacts of caregiving, especially for women:

*“Informal caregivers play an essential role in the delivery of home care services and in the health and care of their families and friends. Many informal caregivers are more than happy to provide care and support to their loved ones, but the reality is that caregiving is becoming an increasing burden on many in our society, especially women. A recent study suggests that caregivers experiencing the strain of caregiving have 63% higher mortality rates (Schultz and Beach 1999.”*²⁴¹

²³⁸ Colman, Ronald (1998, with updates in 1999 and 2000), *The Economic Value of Civic and Voluntary Work in Nova Scotia*, GPI Atlantic, Halifax; and see Colman (2000), *Women's Health in Atlantic Canada*, pages 42-46.

²³⁹ Romanow, Roy, *Building on Values: The Future of Health Care in Canada: Final Report*, Ottawa, November, 2002, page 172.

²⁴⁰ Romanow, op. cit., page 184.

²⁴¹ Romanow, op. cit., pages 183 and 184. Citation in this quote is Schulz, R., and S.R. Beach, “Caregiving as a Risk Factor for Mortality: The Caregiver Health Effects Study,” *Journal of the American Medical Association* 282 (23): 2215-2219, reference in Romanow, op. cit., page 353.

Statistics Canada's 2001 Census found a 17% increase in the number of Canadians providing care for seniors since the 1996 Census. Taking the country's population increase into account, the Census reported a 10% increase in the proportion of Canadians providing such care – a remarkable increase in a very short period of time. The number of Canadians spending 10 or more hours per week caring for the elderly increased by 20%.

Nearly twice as many women as men spend long hours caring for the elderly. In the week prior to the 2000 Census more than 430,000 Canadian women (3.5% of adult women) spent more than 10 hours per week caring for aging parents and other elderly relatives, compared to fewer than 220,000 men (1.9% of adult men) (Table 11).²⁴²

Table 11. Number of persons aged 15 and over, by unpaid hours spent providing care or assistance to seniors, Canada, 1996 and 2001

	1996		2001	
	Number of persons	%	Number of persons	%
Both sexes	22,628,920	100.0	23,901,360	100.0
No hours	18,905,475	83.5	19,555,605	81.8
Less than 5 hours	2,443,210	10.8	2,768,390	11.6
5 to 14 hours	735,680	3.3	925,900	3.9
15 to 29 hours	544,555	2.4	651,470	2.7
30 to 59 hours			327,100	1.4
60 or more hours			324,375	1.4
Women	11,606,470	100.0	12,274,570	100.0
No hours	9,382,045	80.8	9,703,440	79.1
Less than 5 hours	1,388,900	12.0	1,554,940	12.7
5 to 14 hours	473,650	4.1	584,470	4.8
15 to 29 hours	361,885	3.1	431,725	3.5
30 to 59 hours			216,690	1.8
60 or more hours			215,035	1.8
Men	11,022,455	100.0	11,626,790	100.0
No hours	9,523,430	86.4	9,852,165	84.7
Less than 5 hours	1,054,315	9.6	1,213,450	10.4
5 to 14 hours	262,035	2.4	341,425	2.9
15 to 29 hours	182,675	1.7	219,750	1.9
30 to 59 hours			110,410	0.9
60 or more hours			109,340	0.9

Note: Refers to the week preceding Census Day. Blank cells indicate that data are not available for a specific reference period.

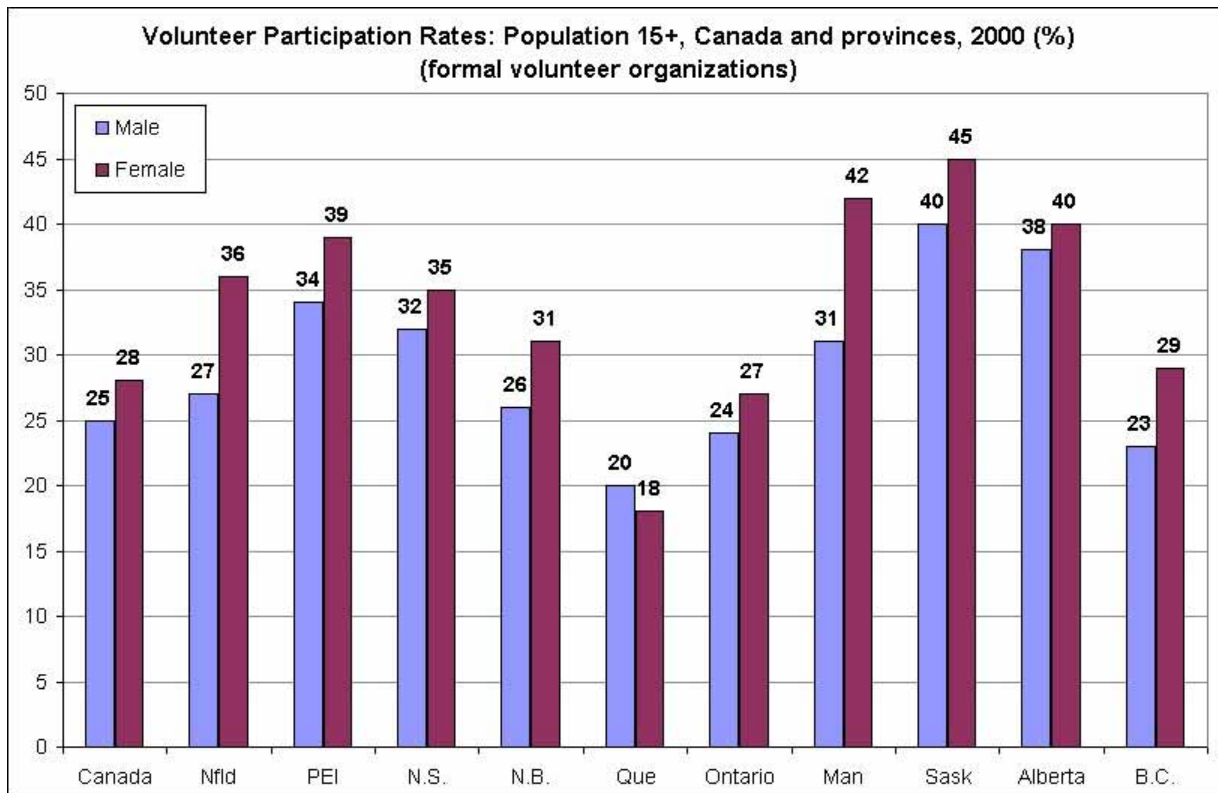
²⁴² Statistics Canada, 2001 Census, "Number of persons aged 15 and over, by unpaid hours spent providing care or assistance to seniors, Canada, 1996 and 2001," *The Changing Profile of Canada's Labour Force*, catalogue no. 96F0030-XIE-2001009, released 11 February, 2003, available at: <http://www12.statcan.ca/english/census01/products/analytic/companion/paid/canada.cfm>.

Formal voluntary work

Results from the 2000 National Survey of Giving, Volunteering, and Participating indicate that more women than men volunteer formally through non-profit organizations. This is true in every province in the country except Quebec, where slightly more men than women volunteer. However, Quebec has the lowest volunteer participation rate in the country for both men and women. Among women, the three Prairie provinces have the highest volunteer participation rate (Figure 49). However, volunteers in the four Atlantic provinces put in the most hours per volunteer – about one-third more than in the Prairies (Figure 50).

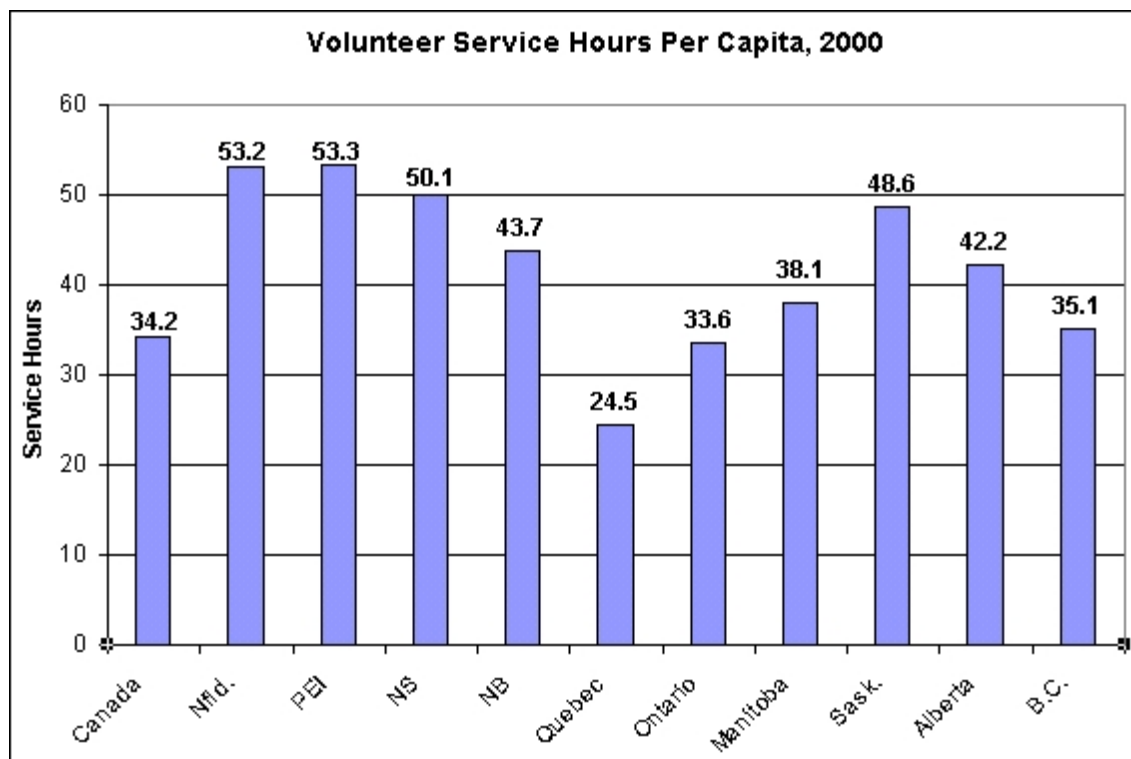
The 2000 survey results also show a sharp decline in formal voluntary work throughout Canada. Nationwide, 12.8% fewer Canadians volunteered in 2000 than in 1997, and the volunteer participation rate dropped from 31% to 27% of Canadians. There were parallel declines among both men and women. In 2000, 28% of Canadian women volunteered, down from 33% in 1997. In 2000, 25% of Canadian men volunteered, down from 29% in 1997. Despite a 2.5% growth in population, there were 960,000 fewer Canadian volunteers in 2000 than there were in 1997.

Figure 49. Volunteer Participation Rates: Population 15+, Canada and provinces, 2000 (%) (formal volunteer organizations)



Source: Statistics Canada, Caring Canadians, Involved Canadians 2001.

Figure 50. Volunteer service hours per capita, 2000, (total volunteer hours divided by population)



Source: Statistics Canada, Caring Canadians, Involved Canadians 2001.

However, the remaining volunteers picked up some of the slack in order to protect the services their organizations offer, and increased their own volunteer hours by 8.7%. When the decline in the number of volunteers and the longer hours of remaining volunteers are combined, there was a net decrease of 5% between 1997 and 2000 in the total number of hours volunteered in Canada (Table 12).²⁴³

However the changes in volunteer participation rates underestimate the impact of this decline in volunteerism on those Canadians who benefit most from voluntary activity, such as the elderly, disabled, sick, homeless, youth in need, abused women and children, and other vulnerable groups. From the perspective of the beneficiaries of voluntary work, the most accurate measure of progress is volunteer service hours offered per capita, taking into account changes in population rather than just the absolute number and hours of volunteers.

The actual level of voluntary services received by Canadians is therefore a function of three variables – the number of volunteers, the number of hours contributed by those volunteers, and the change in population size. Combining and tracking changes in those three variables over time allows an assessment of whether Canadians in need are getting more or less volunteer services than previously. The calculations that follow therefore assess whether volunteer service hours per capita have increased or declined.

²⁴³ Hall et al. (2001), Statistics Canada, op. cit, pp. 11 ff.

Table 12. Fewer volunteers putting in longer hours leads to net loss of volunteer services in Canada, increase in Atlantic Canada (formal volunteer organizations 1987-2000)

	Numbers of volunteers (thousands)				Total annual volunteer hours (thousands)		
	1987	1997	2000	% change 1997-2000	1987	1997	2000
Canada	5,337	7,472	6,513	-12.3%	1,017,548	1,108,924	1,053,200
Nfld	110	150	138	-8.0%	22,600	20,494	28,600
PEI	32	38	40	+5.2%	4,669	4,869	7,400
N.S.	218	283	253	-10.7%	40,901	40,029	47,200
N.B.	162	208	174	-16.3%	34,097	34,121	33,000
Quebec	1,005	1,313	1,135	-13.6%	206,911	196,974	180,500
Ontario	1,870	2,890	2,378	-17.7%	352,923	421,596	393,500
Manitoba	303	344	312	-9.3%	48,748	44,763	43,700
Sask.	276	361	323	-10.5%	50,497	48,311	49,700
Alberta	701	878	913	+4.0%	121,035	128,323	127,000
B.C.	661	1,005	845	-15.9%	135,166	169,443	142,600
	Average annual hours per volunteer				Volunteer service hours per capita (total population)		
	1987	1997	2000	% change 1997-2000	1987	1997	2000
Canada	191	149	162.0	+8.7%	38.3	36.5	34.2
Nfld	206	137	207.2	+51.2%	39.2	36.7	53.2
PEI	148	127	185.0	+45.7%	36.2	35.5	53.3
N.S.	188	141	186.6	+32.3%	45.6	42.3	50.1
N.B.	211	164	189.7	+15.7%	46.6	44.8	43.7
Quebec	206	150	159.0	+6.0%	30.4	26.5	24.5
Ontario	189	146	165.5	+13.4%	36.4	36.8	33.6
Manitoba	161	130	140.1	+7.8%	44.2	39.2	38.1
Sask.	183	134	153.9	+14.9%	49.2	47.3	48.6
Alberta	172	146	139.1	-4.7%	49.5	44.9	42.2
B.C.	205	169	168.8	-0.1%	44.1	43.0	35.1

Notes: (1) Figures for absolute volunteer numbers and annual volunteer hours do not account for population increases.

(2) Hall et al. provide rounded numbers only for total volunteer hours.

Sources: Statistics Canada, Caring Canadians, Involved Canadians, catalogue no. 71-542-XPE, 1998; Doreen Duchesne, Statistics Canada, Giving Freely: Volunteers in Canada, catalogue no. 71-535, no. 4, 1989; Hall, Michael, Larry McKeown, and Karen Roberts, Caring Canadians, Involved Canadians: Highlights from the 2000 National Survey of Giving, Volunteering and Participating, Statistics Canada, catalogue, no. 71-542-XPE; Ross, David, Economic Dimensions of Volunteer Work in Canada, Department of the Secretary of State of Canada, January, 1990, page 11; Colman, Ronald, The Economic Value of Civic and Voluntary Work in Nova Scotia, GPI Atlantic, Halifax, July, 1998; Statistics Canada, Quarterly Demographic Statistics, July – September, 1997, catalogue no. 91-002-XPB; Statistics Canada, Provincial Economic Accounts, Annual Estimates, 1996, catalogue no. 13-213-PPB, population, page 167; Statistics Canada, CANSIM II database, table 051-0001.

From that perspective, volunteer hours per capita declined by 6.3% between 1997 and 2000. In other words, on a per capita basis, Canadians received 6.3% fewer volunteer services in 2000

than they did in 1997 (Table 12).²⁴⁴ The Atlantic provinces and Saskatchewan contribute higher levels of formal voluntary service than the rest of the country. As with personal social supports, Newfoundland and PEI lead the country in volunteer services (Figure 50).

The latest trends towards fewer volunteers working longer hours indicate a dangerous situation. While the voluntary sector makes an enormous contribution to the wellbeing, standard of living, and quality of life of Canadians, it is clear that this responsibility and burden rests on ever fewer shoulders. A smaller number of dedicated volunteers is being spread increasingly thin, and the danger of volunteer burnout is real.

Formal volunteer service hours have declined steadily across the country, and are now 11% lower than in 1987. On the whole, Atlantic Canadians dramatically bucked that national trend. Only four provinces in Canada *increased* their per capita formal volunteer service hours between 1997 and 2000 – Newfoundland (by 45%), Prince Edward Island (by 50%), Nova Scotia (by 18%), and Saskatchewan (by 3%). In all these provinces except for PEI, however, the increase was entirely achieved by fewer volunteers putting in longer hours.

Among all the Canadian provinces, only PEI and Alberta saw modest increases in the number of volunteers, but the 4% Alberta gain in volunteers was counteracted by a 4.7% decline in hours per volunteer contributed. In fact, Alberta and British Columbia were the only provinces in which volunteers worked fewer hours in 2000 than they did in 1997. When Alberta's population increase is taken into account, Albertans actually saw a 6% decline in voluntary services received on a per capita basis, despite the increase in the number of volunteers.

British Columbia saw the largest decrease in per capita voluntary services of any province – 18.4%, nearly three times the drop at the national level (6.3%). What this means in practical terms is that British Columbians in need are receiving substantially fewer services from the voluntary sector on a per capita basis than they did in 1997. When that loss is combined with cuts in government services in that province, there may well be a substantial enough decline in social services in that province to have a significant impact on the health of vulnerable groups.

Even the Atlantic provinces that increased their per capita voluntary services did so on the backs of fewer volunteers. Newfoundland and Labrador had 12,000 fewer volunteers in 2000 than in 1997; Nova Scotia had 30,000 fewer; and New Brunswick had 34,000 fewer, the second largest percentage drop in the country after Ontario in number of volunteers. In total, Atlantic Canada had 74,000 fewer volunteers in 2000 than it did in 1997.

To compensate for this decline, volunteers in all four Atlantic provinces increased their contributions more dramatically, as measured by hours per volunteer, than volunteers in any other province. The remaining Atlantic volunteers worked 51% more hours in Newfoundland, 46% more in PEI, 32% more in Nova Scotia, and 16% more in New Brunswick.

²⁴⁴ Statistics Canada does not provide this calculation, even though it is probably the most accurate measure of the actual impact of the voluntary sector on Canadians, and the key variable in assessing the potential health impacts of volunteerism. Thus GPI *Atlantic* simply derives volunteer service hours per capita by dividing the total annual volunteer hours (from Hall et al. above) by the total population of Canada and of each province. This takes into account population changes over time.

Atlantic Canadian volunteers now work longer hours than volunteers in any other province. Newfoundland volunteers put in the longest hours of any volunteers in Canada, 28% higher than the national average, with New Brunswick volunteers ranking second (17% higher), Nova Scotian volunteers third (15% higher), and Prince Edward Islanders fourth (14% higher).

Interpretation

Voluntary work is being spread more thinly in the population among an ever smaller number of volunteers, and their substantial contribution to the health and wellbeing of Canadians rests on a narrower and ever more fragile base. As Statistics Canada notes:

“Such reliance on a small minority of the population to provide the bulk of volunteer time and charitable donations may be a source of vulnerability for charitable and non-profit organizations and the people they serve. Any decline in number among this small core group of contributors could have dramatic repercussions.”²⁴⁵

The 1997-2000 trend continues the decline in formal voluntary service hours received by Canadians that was first observed between 1987 and 1997. Thus, the accelerating 6.3% decline between 1997 and 2000 builds on an earlier 4.7% decline between 1987 and 1997. Cumulatively since 1987, and taking Canada’s population increase into account, volunteer service hours per capita have dropped by 10.7% nationwide. Every province in the country, with the exception of Newfoundland, PEI, and Nova Scotia, shared in that decline. Since 1987, Newfoundland increased its volunteer hours per capita by 36%, PEI by 47%, and Nova Scotia by 10%.

The decline in voluntary services has implications for health, as well as wider social and economic implications. If volunteer work had continued to be offered through community-based organizations at the same rate as in 1987, Canadians would have received the benefits of 126 million more hours of voluntary services than they actually did. What this means in practical and human terms is that the sick, elderly, and disabled are no longer receiving the same level of volunteer health supports as before. The poor are receiving fewer volunteer social services; and victims of crime and abuse are receiving less support and counselling than they used to. It is harder to find volunteers to staff telephone help lines, to organize church events, to coach sports, and direct theatre, arts and other cultural events in children’s after school and weekend programs. And it is getting harder to fundraise for charities and for hospital telethons, and to find volunteers to serve on the boards of community organizations.

Across Canada, volunteers are trying to compensate for these losses by putting in longer hours, but only in Newfoundland, PEI, Nova Scotia, and Saskatchewan have these extra hours succeeded in maintaining, and even increasing, the level of voluntary services. In the rest of Canada, there are simply fewer volunteer services than there used to be, with corresponding impacts on the health and quality of life of Canadians, and on the strength of Canada’s civil society and communities.

The nationwide loss of voluntary services has economic as well as human implications. A decline in voluntary work of this magnitude can either produce an absolute loss in services, with

²⁴⁵ Hall et al. (2001), op. cit., page 9.

a corresponding decline in standard of living and quality of life, *or* the lost voluntary services can be replaced for pay. “Replacement cost” valuations assess the value of the lost volunteer hours by imputing a market value to the work that volunteers do. At Statistics Canada’s estimated replacement cost rate for volunteer work of \$16 an hour, the decline in formal volunteer services cost Canada more than \$2 billion in lost services in 2000.²⁴⁶ Because voluntary work is not valued or measured in the conventional economic accounts, this \$2 billion loss does not show up in the GDP or in any other market statistics, and is presented here for the first time.

When formal and informal voluntary work are both considered, volunteers contribute the equivalent of \$53 billion worth of services to the Canadian economy. This massive contribution is not counted in our economic growth statistics, and therefore remains invisible in our conventional measures of progress.

Indeed this invisibility is undoubtedly the primary reason why most policy makers are unaware of the decline in voluntary work, and why the unfolding crisis in the voluntary sector has never been debated in any legislature in the country. A 10.7% decline in the gross domestic product would be called a depression and would constitute a national emergency. Yet a decline of this magnitude in unpaid voluntary work does not register on the policy radar screen. This anomaly demonstrates how powerful indicators are in determining the policy agenda of governments, and is the primary reason why the Genuine Progress Index does include the value of voluntary work as one of its core measures of progress. If voluntary work is indeed a mark of community strength and quality of life, and a vital determinant of population health, as Health Canada has stated, then urgent action is clearly needed to support and strengthen the voluntary sector and to reverse the troubling trends of the last 15 years.

Predicting the decline

Are the trends of the last few years unexpected? If voluntary work is not tracked as part of Canada’s core measures of wellbeing and progress, as is currently the situation, then the decline in volunteer services will not be predicted, and will only manifest later in a gradual, subtle, and unexplained deterioration in the health and quality of life of Canadians. If, on the other hand, voluntary work is carefully monitored in a core set of measures of progress, then the trends of recent years are not at all surprising, and were, indeed, entirely predictable.

For example, a July 1998 GPI *Atlantic* report noted that university graduates have the highest rate of participation in formal volunteer work of any educational group. In Canada as a whole, 46% of university graduates volunteered for some non-profit organization, compared to 35% of those with a post-secondary certificate or diploma, 24% of those with only a high school

²⁴⁶ Monetary values are derived using Statistics Canada’s replacement cost (specialist) imputation for volunteer work, in Statistics Canada, *Households’ Unpaid Work: Measurement and Valuation*, catalogue no. 13-603E, no. 3, Table A4, page 71, adjusted to 2000 dollars. For monetary valuation methodology, see Colman, Ronald (1998), *The Economic Value of Civic and Voluntary Work in Nova Scotia*, GPI Atlantic, Halifax, July, 1998, sections 5.2, pages 17-20; 7.2, pages 34-36; and 7.3, page 37. Since university graduates have a disproportionately high rate of contribution to volunteer organizations, the opportunity cost method of valuation is likely to yield a considerably higher value than the replacement cost method used here. The \$2 billion figure given here can therefore be regarded as a conservative estimate.

education, and only 13% of those with less than a high school education. Statistics Canada analyses of results from the 1987 National Survey on Volunteer Activity state conclusively that “the tendency to volunteering rises with the level of education.”²⁴⁷ GPI Atlantic’s own analysis of the data found that “level of education had a much greater effect on the rate of participation in formal volunteer work through organizations than it did on informal voluntary work.”²⁴⁸

The same 1998 GPI report noted the propensity of highly educated Canadians to work increasingly long hours in their paid jobs. This occurred partly as a result of corporate and government “downsizing” in the 1990s, which led employers to retain their most highly skilled and educated employees, and to expect those remaining employees to maintain or increase levels of output. The GPI report cited a 1997 Statistics Canada study, which found that “the propensity to work overtime rises with an employee’s educational attainment.”²⁴⁹ That study found 27% of university graduates working overtime, compared to 17% of those with some postsecondary education, 18% of those with a high school education, and just 9% of those with less than a high school education.

In short, the same highly educated group that contributed a disproportionately large share of voluntary work was found, in the late 1990s, to be working ever-longer hours in the market economy. Three years before results from the 2000 national volunteer survey were released, the 1998 GPI report therefore warned:

“Since hours are finite, there is a strong possibility that voluntary hours have decreased in proportion to the increase in work hours for the highly educated. It must be emphasized that there is currently no firm evidence of this.... But the circumstantial evidence for a link between longer work hours and a potential time squeeze that may threaten the economic and social contribution of volunteer organizations is strong...”

“From the perspective of the GPI, this example illustrates the critical importance of tracking trends in unpaid work. An increase in overtime hours in the market economy will show up as economic growth and as an increase in the GDP. At the same time, a potential cost or consequent loss of economic and social value in the volunteer sector remains invisible in the accounts...”

“The GPI view is that it is more prudent to track such potential problems in a more comprehensive system of accounting that includes the value of civic and voluntary work. This, in turn, can function as an early warning system to enable

²⁴⁷ Duchesne, Doreen, *Giving Freely: Volunteers in Canada*, Statistics Canada, Labour Analytic Report no. 4, catalogue no. 71-535, #4, Ottawa, August, 1989; also Webber, Maryanne, Statistics Canada, Labour and Household Surveys Division, *Volunteers in Sports and Recreation*, presentation to the 16th annual conference and general meeting of the Recreation Association of Nova Scotia, November 16-19, 1989; Catano, Janis Wood, *Volunteers in Nova Scotia: A Profile of Volunteers based on the 1987 National Survey on Volunteer Activity*, Profile no. 28, Voluntary Action Directorate, Multiculturalism and Citizenship Canada, Department of the Secretary of State, Ottawa, 1989.

²⁴⁸ Colman, Ronald (1998), *The Economic Value of Civic and Voluntary Work in Nova Scotia*, GPI Atlantic, Halifax, July, 1998, pages 23-24.

²⁴⁹ Statistics Canada, *Perspectives on Labour and Income*, Winter, 1997, catalogue no. 75-001-XPE; see especially pages 5, 6, 13, 14, and 27.

*policy makers to arrest such a potential decline in volunteer work in its early stages, and before it manifests in social problems that may produce additional costs.*²⁵⁰

Results from the 2000 national volunteer survey confirm these earlier GPI predictions, and are also in line with the “greying” of the Canadian population. According to Statistics Canada:

“Although volunteer rates have declined since 1997 for each education group, the greatest decline was among those with a university education (from 48% to 39%).”

Nor surprisingly, the 35-44 age group experienced the sharpest drop in volunteer rates. Among the volunteers who remain, also not surprisingly, Statistics Canada reported:

“Compared with 1997, the greatest increases in average number of hours volunteered occurred among those with less than high school education.”²⁵¹

By age group, older volunteers experienced the sharpest increase in average annual hours volunteered, with a 21-hour increase in average hours among 55-64 year olds, and a 67-hour increase among those 65 and older.

This changing composition of the volunteer work force, which partly parallels the aging of the Canadian population, in turn has implications for the skill sets available to community and non-profit organizations, and for the kind of voluntary services they can deliver effectively.

Volunteers on the whole are older and less educated. Prime-aged, highly educated volunteers are becoming scarcer.

According to the 1998 GPI report, the “strength of the data on the connecting variables” between volunteer work and market work by educational level constituted “warning signals that the economic and social contributions of voluntary work cannot be taken for granted.”²⁵² The 1998 GPI report pointed to similar dangers to the voluntary sector arising from increasing rates of time stress among women, who constitute the majority of volunteers. And this present analysis points to future dangers to the voluntary sector arising from volunteer burnout and from the increased workload that now rests on fewer volunteer shoulders.

Interestingly, the trends in voluntary work since 1987 show how the growing time crunch on Canadians, confirmed by Statistics Canada’s time stress surveys,²⁵³ manifests differently in

²⁵⁰ Colman (1998), op. cit., pages 22 and 25.

²⁵¹ Hall et al. (2001), op. cit., page 33.

²⁵² Colman (1998), op. cit., page 27.

²⁵³ Statistics Canada’s 1992 and 1998 General Social Surveys asked an identical 10-question time-stress survey. Respondents classified as “extremely time stressed” by Statistics Canada are those who gave affirmative answers to seven out of the ten questions, such as “Do you consider yourself a workaholic?”, “Do you worry that you don’t spend enough time with your family and friends?”, and “Do you feel that you’re constantly under stress trying to accomplish more than you can handle?” Results revealed significantly larger percentages of Canadians being extremely time stressed in 1998 than in 1992. 1992 results are from Judith Frederick, Statistics Canada, *As time Goes By...Time Use of Canadians*, General Social Survey, catalogue no. 89-544E, pages 15-16. 1998 results are from Statistics Canada, *The Daily*, November 9, 1999, catalogue no. 11-001E, pages 2-4; and Statistics Canada, General Social Survey, Cycle 12, 1998, Housing, Family and Social Statistics Division, special tabulation.

distinct phases. More Canadians volunteered in 1997 than in 1987, both in absolute numbers and on a per capita basis. But Canadians were also busier and more time stressed, and so they contributed 22% fewer hours on a per volunteer basis than 10 years earlier. That trade-off, as we saw, led to a net 4.7% decline in volunteer service hours per capita, when population increases were taken into account.

The 1997-2000 trend marks a second phase in the time crunch, in which those who are most time stressed, such as highly educated, working age people putting in longer overtime hours, simply drop out. During this second phase, the composition of the volunteer work force also changes, with fewer remaining volunteers – older, less educated, and less time-stressed – putting in longer volunteer hours.

If the numbers alone are examined, without reference to these social and demographic changes, it might be argued that there is no problem, since average annual hours per volunteer in 2000 are still 15% less than they were in 1987, despite the sharp increase in hours since 1997. But in the context of growing time stress rates, an aging population, a markedly changed volunteer work force, and declining volunteer numbers, a return to 1987 conditions is not an option. The key challenges for the next phase are to prevent burnout among the volunteers themselves, and to reduce workplace pressures and overwork, in order to coax educated and middle-aged Canadians back into the voluntary sector.

6. Crime

Crime is identified in the 2000/01 Canadian Community Health Survey as a non-medical determinant of health. Two indicators of crime are referenced here – crime rates in general, and family violence in particular, since the latter affects women differentially and is therefore a particularly important indicator of women's health. If social support is a key social determinant of health, then crime may signify a temporary or longer-term collapse of that social support, threatening basic physical safety and security, and thereby undermining health and wellbeing.

6.1 Crime rate: adults and youths charged

Indicator description

Statistics Canada reports crime rates according to “the number of youths (aged 12 to 17 years) or adults (aged 18 and over) charged with Criminal Code offences expressed as a rate per 100,000 youths or adults, for violent crimes, property and other crimes, and total. Violent crimes are ‘person offences,’ which include homicide, attempted murder, sexual and non-sexual assault, abduction, and robbery.”²⁵⁴ The crime rate is based on the number of incidents reported to or by the police.

²⁵⁴ Statistics Canada, <http://www.statcan.ca/english/freepub/82-221-XIE/00502/tables/html/49.htm>.

This definition makes inter-provincial comparisons problematic, as reporting rates for different categories of crime may differ in different jurisdictions. In future development of this indicator, therefore, it would be highly desirable to rely as well on victimization surveys, such as those administered by Statistics Canada in its cycle of General Social Surveys, since these capture the incidence of unreported crime as well as reported crime. However, those data are currently available only on an infrequent basis, with 1999 the most recent survey data available. Therefore, the source used here is Statistics Canada's Uniform Crime Reporting Survey, 2000, reported annually by the Canadian Centre for Justice Statistics.

Relevance

Statistics Canada's Health Indicators include crime rates as a "non-medical determinant of health." Both crime rates in general, and youth crime rates in particular, were also confirmed as key non-medical determinants of health at the Canadian Institute for Health Information's National Consensus Conference on Population Health Indicators.²⁵⁵

Crime rates are an important indicator in any gender-based analysis of health determinants, because women represent nearly half of all crime victims, but fewer than one in five criminals. In addition, some categories of crime, like domestic violence, affect women disproportionately and have very serious adverse impacts on health and wellbeing. Any reduction in crime rates clearly signifies progress, and has a positive impact on health and wellbeing.

Results

Across Canada, men commit about five times more crime than women. For violent crimes the male-female ratio is 5.6:1. Yet women represent 49% of all victims of violent crime reported to police. Among victims of violent crime, about half of women are victims of common assault, and another 11% are victims of sexual assault. Women are much more likely than men to be victimized by someone they know – 78% know their attacker, compared to 54% of men. Women have most to fear from their families – 32% of victims are attacked by spouses, 11% by other family members, and 35% by a close friend or business acquaintance. By contrast, only 12% of male victims are attacked by family members – 5% by spouses, and 7% by other families.²⁵⁶

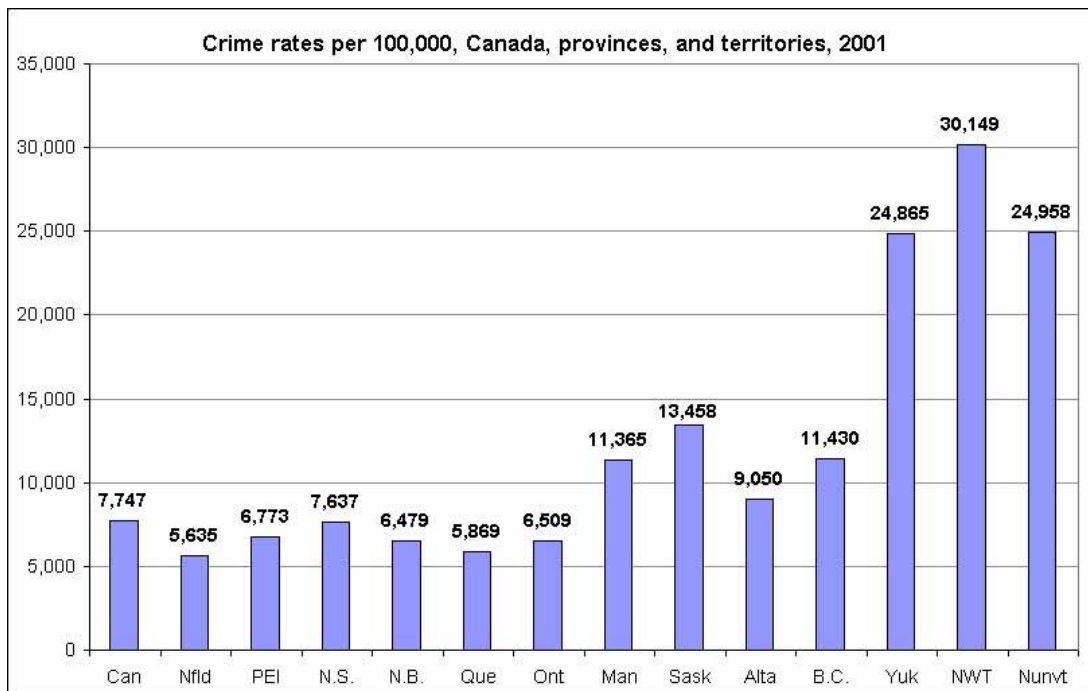
Provincial variations are substantial, though it is not clear to what extent results reflect different reporting rates in each province. Crime rates are highest in the three territories, and in Saskatchewan, British Columbia, and Manitoba, and lowest in the east – with Newfoundland reporting the lowest crime rate in the country. Crime rates in the three territories are more than three times higher than the Canadian average, and adult violent crime in Nunavut is nine times higher.

Adult crime is highest in the three territories. Among the provinces, adult crime is highest in Saskatchewan and Manitoba, and lowest in PEI, Quebec, and Newfoundland. Violent crime is highest in Manitoba and lowest in PEI, with the Manitoba rate almost three times that in PEI.

²⁵⁵ *National Consensus Conference on Population Health Indicators: Final Report*, Canadian Institute for Health Information, Ottawa, 1999, pages 5 and B8.

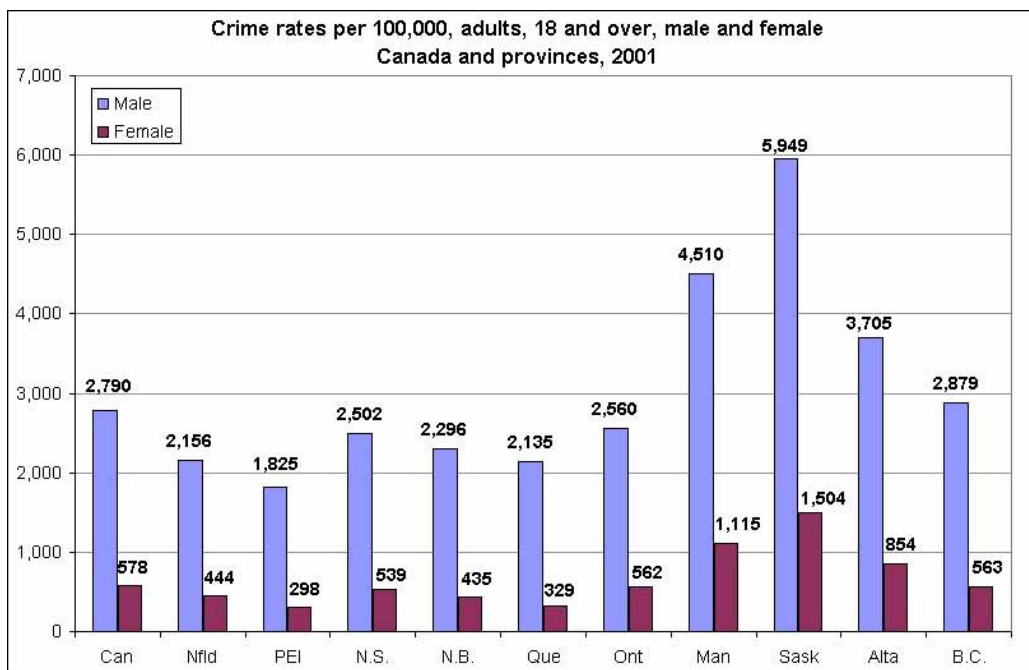
²⁵⁶ Statistics Canada, *Women in Canada 2000: A gender-based statistical report*, catalogue no. 89-503-XPE, page 165, and Tables 8.1 and 8.3, pages 180-18. Numbers are for police-reported crimes in 1998.

Figure 51. Crime rates per 100,000, Canada, provinces, and territories, 2001



Source: Statistics Canada, Canadian Centre for Justice Statistics, Uniform Crime Reporting Survey.

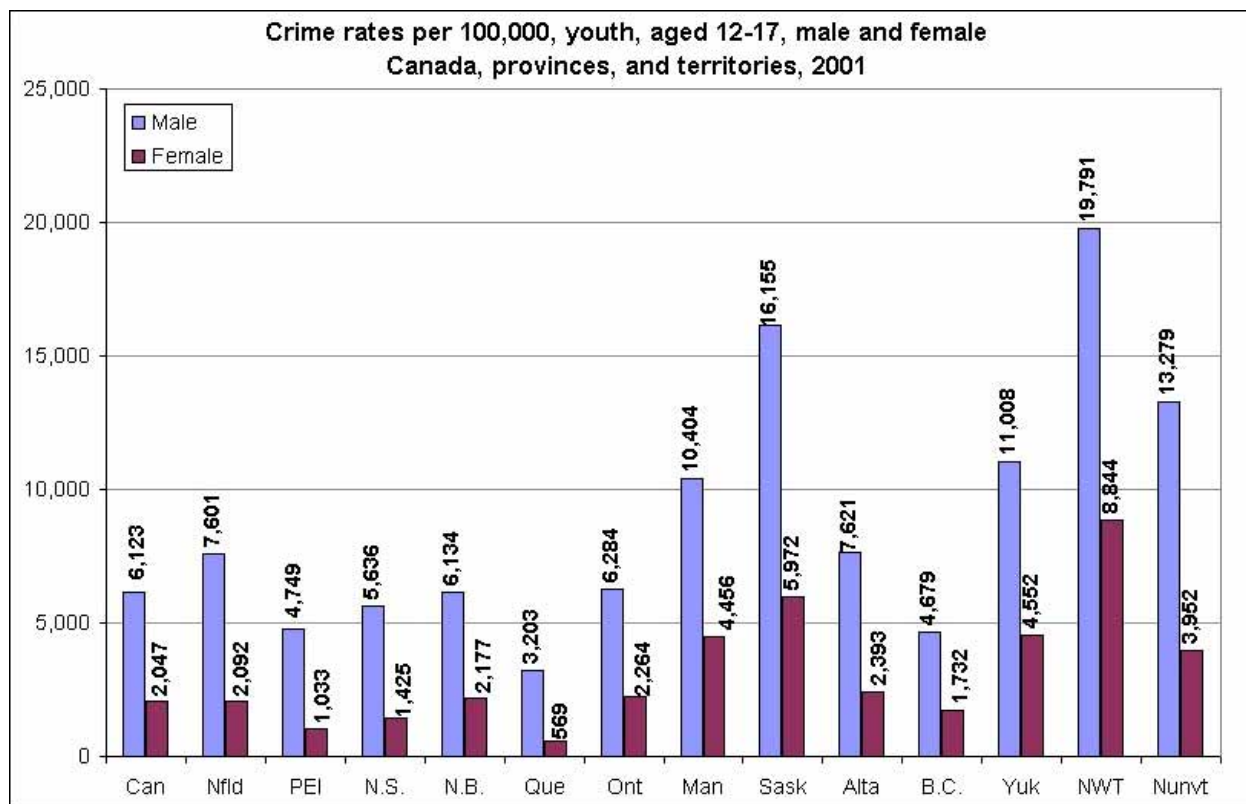
Figure 52. Crime rates per 100,000, adults, 18 and over, male and female, Canada and provinces, 2001



Note: Adult crime rates for the territories are as follows: Yukon: male – 7,067, female – 1,172; NWT: male – 8,554, female – 1,690; Nunavut: male – 13,774, female – 2,739.

Source: Statistics Canada, Canadian Centre for Justice Statistics, Uniform Crime Reporting Survey.

Figure 53. Crime rates per 100,000, youth, aged 12-17, male and female, Canada, provinces, and territories, 2001



Source: Statistics Canada, Canadian Centre for Justice Statistics, Uniform Crime Reporting Survey.

Youth crime exceeds adult crime across the country, with the highest reported rates in the Northwest Territories and Saskatchewan, and the lowest rates in Quebec and PEI. While the gap between male and female crime rates is about five to one for adult crime, it is considerably narrower for youth crime – about three to one.

6.2 Crime – family violence

Indicator description

Three recent Statistics Canada profiles of *Family Violence in Canada*, released in July 2000, June 2001, and June 2002, provide important details on the magnitude of family violence in Canada, and on various types of family violence, including spousal abuse, child abuse and neglect, and violence against elderly family members.²⁵⁷ They also report on the nature and severity of injuries, on the incidence of reporting of crime, on the characteristics of both victims

²⁵⁷ Statistics Canada, Canadian Centre for Justice Statistics, *Family Violence in Canada: A Statistical Profile 2000*, *Family Violence in Canada: A Statistical Profile 2001*, *Family Violence in Canada: A Statistical Profile 2002*, catalogue no. 85-224-XIE.

and perpetrators, and on socio-economic and demographic risk factors. The reports are based on evidence from Statistics Canada's 1999 General Social Survey and are supplemented with data from the Uniform Crime Reporting (UCR) surveys.

Table 13. Crime rates per 100,000, adults and youth, male and female, Canada and provinces, 2001

	Violent Crimes 2000 Rate per 100,000				Property Crimes 2000 Rate per 100,000				Other Criminal Code Crimes 2000 Rate per 100,000			
	Adults 18 and Older		Youth 12 to 17		Adults 18 and Older		Youth 12 to 17		Adults 18 and Older		Youth 12 to 17	
	male	fem	male	fem	male	fem	male	fem	male	fem	male	fem
Can.	880	156	1,355	502	818	231	2,684	916	1,092	191	2,084	629
Nfld	692	129	1,284	408	677	193	3,696	939	787	121	2,621	744
PEI	573	77	743	344	643	143	2,746	475	610	77	1,260	213
NS	810	150	1,193	350	760	258	2,502	699	933	130	1,941	377
NB	659	117	1,255	484	836	209	1,507	1,106	801	110	2,371	676
Que	694	99	919	187	684	136	1,410	283	757	94	874	99
Ont	827	151	1,544	553	662	230	2,547	1,011	1,072	181	2,194	700
Man	1,667	386	2,025	1,134	918	307	4,901	2,044	1,925	421	3,479	1,278
Sask	1,511	349	2,025	1,256	1,434	427	7,551	1,874	3,004	728	6,580	2,843
Alta	951	169	1,443	540	1,173	310	3,463	1,088	1,581	374	2,714	765
B.C.	819	159	1,107	463	1,083	294	2,237	935	819	110	1,335	333
Yuk	2,227	394	2,188	1,445	1,683	330	4,377	1,373	3,157	449	4,443	1,734
Nwt	3,865	767	2,493	1,545	1,421	343	9,372	2,504	3,268	581	7,825	4,795
Nvt	7,785	1,382	2,598	1,031	2,126	349	7,564	1,947	3,863	1,008	3,118	974

Source: Statistics Canada, Canadian Centre for Justice Statistics, Uniform Crime Reporting Survey.

In addition, data on female victims of spousal abuse are available in Statistics Canada's 1999-2000 Transition Home Survey, which is conducted on a biennial basis as part of the federal Family Violence Initiative. That survey is sent to 508 shelters in Canada, which provide residential services for women victims of abuse and their children. Aside from collecting information on admissions and residential services in the previous 12 months, the survey also provides a one-day snapshot of those being served on a specific date.²⁵⁸

Another source of evidence on family violence is the Canadian Incidence Study of Reported Child Abuse and Neglect (CIS), released by Health Canada in 2001.²⁵⁹ Those results are also reported in the 2001 Statistics Canada profile of family violence in Canada.

²⁵⁸ For information about the survey, see Statistics Canada, <http://stcwww.statcan.ca/english/sdds/3328.htm>.

²⁵⁹ Trocme, Nico, and David Wolfe, *Child Maltreatment in Canada: Selected Results from the Canadian Incidence Study of Reported Child Abuse and Neglect*, Health Canada, Ottawa, 2001.

Relevance

Families can be a key pillar of social support that protect health, buffer against social problems and illness, and aid recovery. Indeed, Health Canada has recognized social supports, including families, as one the twelve key determinants of health:

“Families and friends provide needed emotional support in times of stress, and help provide the basic prerequisites of health such as food, housing and clothing.... Indeed, some experts in the field believe that the health effect of social relationships may be as important as established risk factors such as smoking and high blood pressure.”²⁶⁰

Because of the importance of social support networks to health, two key indicators of social support have been examined in some detail – personal supports and volunteerism. This indicator, however, looks at the other side of the coin, and explores the possibility that family may undermine rather than strengthen social supports, and thereby adversely impact health outcomes. As one study noted:

“In some cases family is not a safe place. Family violence can have a devastating effect on the health and wellbeing of women and children in both the short and long term, and divorce can be a healthy alternative to spousal abuse.”²⁶¹

In sum, what can and should be a key pillar of social support, protecting and enhancing health, may well turn into its opposite, and seriously undermine health. Family violence is a particularly important indicator of women’s health, accounting for a very significant proportion of all violence against women, and directly affecting an estimated 8% of all Canadian women in any five-year period.

Results

Family violence in the context of violence against women

Family violence is only one aspect of the broader issue of violence in general, and of violence against women and children in particular. Yet it occupies a remarkably large portion of that violence. For example:

- Spousal violence accounts for 18% of all violence reported to police. Women accounted for 85% of reported spousal abuse – more than six times the rate for men. Nearly one-third of all reported female victims of violence in Canada were attacked by a spouse.²⁶²
- If non-reported offences are added, the incidence of spousal abuse is much higher, as women report only 37% of attacks by their husbands and partners.²⁶³ When non-reported cases are

²⁶⁰ Health Canada, *Toward a Healthy Future: Second Report on the Health of Canadians*, Ottawa, 1999, page 60.

²⁶¹ Colman, Ronald (2000), *Women’s Health in Atlantic Canada: A Statistical Profile*, GPI Atlantic and Atlantic Centre of Excellence for Women’s Health, Halifax, February, 2000, page 41.

²⁶² Statistics Canada, Canadian Centre for Justice Statistics, *Family Violence in Canada: A Statistical Profile 2002*, catalogue no. 85-224-XIE, June, 2002, pages 1 and 6. Statistics Canada, Canadian Centre for Justice Statistics, *Family Violence in Canada: A Statistical Profile 2000*, catalogue no. 85-224-XIE, July, 2000, page 21. Police-reported statistics in this publication represent a subset of 166 police agencies, which represent 53% of the national volume of reported crime.

added, the 1999 General Social Survey found that an estimated 220,000 Canadian women (3% of all women with a spouse or ex-spouse) were victims of spousal violence in the previous 12 months.²⁶⁴

- In 2001, family violence accounted for 43% of all homicides in Canada. Women accounted for 29% of all murder victims, and 52% of these were killed by someone with whom they had an intimate relationship at one time, either through marriage or dating.²⁶⁵ Victims of spousal homicide accounted for 17% of all victims of solved homicides in Canada.²⁶⁶
- Only one-quarter of reported sexual abuse of children and youth under 20 is perpetrated by strangers, with the vast majority of incidents attributable to family, friends, and acquaintances, though youths are twice as likely to be victimized by strangers as children under 12.²⁶⁷
- For children 15 and younger, 16% of sexual abuse is attributable to fathers and step-fathers, 5% to mothers and step-mothers, and 44% to other relatives. Parents are responsible for more than 90% of substantiated cases of physical abuse of children, with non-relatives responsible for only 4%.²⁶⁸

Sexual violence

In other words, the violence that occurs within families constitutes a very large proportion of all violence directed against women and children. But it is still only part of the problem, albeit a major part. The magnitude and dimensions of sexual violence, for example, are staggering:

- Sexual violence actually affects the majority of Canadian women at some point in their lives, with one study estimating that 51% of all Canadian women had experienced at least one instance of sexual violence since the age of 16.
- A national survey on child sexual abuse found that half of adult women and nearly one-third of adult men had been sexually abused as children.
- A Nova Scotia study found that one-third of youth aged 14-24 in that province reported having sexual experience forced on them.²⁶⁹
- The Canadian Incidence Study of Reported Child Abuse and Neglect found that 69% of victims of sexual abuse, aged 15 and younger, were girls.²⁷⁰

²⁶³ Statistics Canada, Canadian Centre for Justice Statistics, *Family Violence in Canada: A Statistical Profile 2000*, catalogue no. 85-224-XIE, July, 2000, page 21.

²⁶⁴ Idem.

²⁶⁵ Statistics Canada, "Homicides," *The Daily*, 25 September, 2002; and Statistics Canada, "Victims and persons accused of homicide, by age and sex," *CANSIM II* database, table 253-0003.

²⁶⁶ Statistics Canada, Canadian Centre for Justice Statistics, *Family Violence in Canada: A Statistical Profile 2002*, catalogue no. 85-224-XIE, June, 2002, page 9.

²⁶⁷ Campbell, Joan, *Environmental Scan of Sexual and Reproductive Health in the Atlantic Provinces*, Health Canada, Health Promotion and Programs Branch, Atlantic Regional Office, April, 1999, section 2.6.

²⁶⁸ Statistics Canada, Canadian Centre for Justice Statistics, *Family Violence in Canada: A Statistical Profile 2001*, catalogue no. 85-224-XIE, June, 2001, page 8, particularly Figure 1.6. Biological fathers are responsible for 46% of cases physical abuse; biological mothers for 43%; step-parents and other relatives for 21%; and non-relatives for 4%. Totals exceed 100% due to multiple responses – for example, cases where a child was assaulted by more than one relative.

²⁶⁹ Campbell, Joan, *Environmental Scan of Sexual and Reproductive Health in the Atlantic Provinces*, Health Canada, Health Promotion and Programs Branch, Atlantic Regional Office, April, 1999, section 2.6.

- Among cases of sexual assault reported to police, 64% involved children under 12 (28%) and youth aged 12-19 (36%).
- According to Statistics Canada's General Social Survey, only 10% of all sexual assaults are reported.²⁷¹
- Among cases reported to police in 2001, 98% of adults charged with sexual assault were male, and 96% of youth aged 12-17 charged were male.²⁷²

Assaults reported to police, while only a fraction of the total, likely represent the most serious cases. According to police records, there were 79 cases of sexual assault reported to police per 100,000 population in 2001. This has fallen from 88 per 100,000 in 1987, 126 in 1992, and 90 in 1997.

However, these averages conceal major provincial differences, with Saskatchewan registering the highest rate of sexual assaults among the provinces – nearly three times the rate in Quebec. All three territories register substantially higher rates of sexual assault, with Nunavut recording 10 sexual assaults for every one in Canada on a per capita basis (Table 14).²⁷³ It is not clear to what extent the changes over time and by region reflect differences in reporting rates.

Table 14. Reported sexual assaults, Canada and provinces, 2001, rate per 100,000 population

	Reported sexual assaults per 100,000 population
Can	79
Nfld	110
PEI	78
NS	90
NB	108
Que	50
Ont	74
Man	119
Sask	140
Alta	87
BC	89
Yuk	254
NWT	360
Nvt	788

Source: Canadian Centre for Justice Statistics, Crime Statistics in Canada 2001.

²⁷⁰ Trocme, Nico, and David Wolfe, *Child Maltreatment in Canada: Selected Results from the Canadian Incidence Study of Reported Child Abuse and Neglect*, Health Canada, Ottawa, 2001, page 24.

²⁷¹ Campbell, Joan, *Environmental Scan of Sexual and Reproductive Health in the Atlantic Provinces*, Health Canada, Health Promotion and Programs Branch, Atlantic Regional Office, April, 1999, section 2.6.

²⁷² Savoie, Josee, "Crime Statistics in Canada 2001," *Juristat*, Canadian Centre for Justice Statistics, Statistics Canada, volume 22, no. 6, catalogue no. 85-002, Table 6, page 19.

²⁷³ Savoie, Josee, "Crime Statistics in Canada 2001," *Juristat*, Canadian Centre for Justice Statistics, Statistics Canada, volume 22, no. 6, catalogue no. 85-002, Table 3, page 16.

Spousal violence

The 1999 General Social Survey found that 8% of Canadian women who were married or living in a common-law relationship, experienced some type of violence by a partner during the previous five years.²⁷⁴

Interestingly, the numbers were almost as high for Canadian men (7%) as for women (8%). But these broad averages conceal the fact that spousal violence against women was much more severe than spousal violence against men. Women were three times more likely than men to be injured as a result of spousal violence. Fully 38% of female victims feared their lives were in danger because of the violence, compared to just 7% of men. Women were also more likely to experience depression, anxiety, and sleep problems as a result of the violence. Women were also more likely than men to report repeated violence by their partners – 65% of those assaulted were victimized more than once, and 26% more than 10 times in the previous five years.²⁷⁵

One-third of female victims of spousal violence had to take time off as a result of the assault (three times as high a rate as male victims), and 15% required medical attention (five times the rate for men). Fully 11% were hospitalized as a result of the violence, compared to just 2% of male victims.²⁷⁶

Despite the very high rate of spousal violence (8% for women), it is actually one-third lower than the rate reported in 1993 (12%). The difference may be related to the recession and higher unemployment rates that prevailed in the early 1990s, as chronic unemployment of a male partner is a documented risk factor and predictor of wife assault.²⁷⁷ Another significant trend is that women reported only half the incidence of violence from their current spouse in 1999 (4%) compared to 1993 (8%), but significantly higher rates of violence from a former partner – 28% of women in 1999, compared to 15% in 1993.²⁷⁸

Between 1993 and 1999 there was also a decline in the severity and frequency of assaults, and in the number of assaults resulting in injury (down from 47% to 40%) or requiring medical attention (down from 21% to 15%).²⁷⁹ Nevertheless, this rate of serious assault remains remarkably high.

²⁷⁴ Statistics Canada, Canadian Centre for Justice Statistics, *Family Violence in Canada: A Statistical Profile 2000*, catalogue no. 85-224-XIE, July, 2000. See Table A4, page 51.

²⁷⁵ Ibid., page 5

²⁷⁶ Statistics Canada, Canadian Centre for Justice Statistics, *Family Violence in Canada: A Statistical Profile 2002*, catalogue no. 85-224-XIE, June, 2002, page 1.

²⁷⁷ Weir, Erica, "Wife Assault in Canada," *Canadian Medical Association Journal* 2000; 163 (3): 328.

²⁷⁸ It should be noted that different survey methods were used in the 1999 survey than in the 1993 survey to derive the proportion of assaults from former partners. The 1999 survey only asked those women who had been in contact with a previous partner about violence from a former partner, and the percentage (28%) is therefore expressed as a proportion only of that more limited survey sample, whereas the 1993 survey asked the question to all women with previous partners. Had the 1993 survey method been used, the relevant rate of violence from former partners would have been 22%, not 28%, still substantially higher than the 1993 rate of 15%. See Statistics Canada, Canadian Centre for Justice Statistics, *Family Violence in Canada: A Statistical Profile 2000*, catalogue no. 85-224-XIE, July, 2000, Table A5, page 51.

²⁷⁹ Statistics Canada, Canadian Centre for Justice Statistics, *Family Violence in Canada: A Statistical Profile 2000*, catalogue no. 85-224-XIE, July, 2000, Table 2.5, page 14 (1999 rates), and Table A9, page 53 (1993 rates).

Another significant change over time is a marked increase in the number of spousal assaults reported to police. The number of incidents reported to police increased by 13% between 1995 and 1999. The reporting rate actually declined by 5% between 1995 and 1997, and then increased by 19% between 1997 and 1999.²⁸⁰ According to the 1999 General Social Survey, 37% of female victims of spousal violence in the previous five years reported the incidents to police, compared to 29% recorded in the 1993 survey. Of incidents reported to police, 84% of female victims saw charges laid by the police.²⁸¹

Clearly reporting to police is still hampered by the secrecy that still surrounds domestic violence, by the frequent economic dependency of the victim on the perpetrator, by the fear of repercussions, and by lack of knowledge. However, Statistics Canada notes that the increase in reporting to police may be due in part to:

*“...a reduction in the social stigma of being a victim of spousal violence and seeking help, increased public awareness, improved training of police- and court-related victim support services, and, consequently, increased public confidence in the ability of the criminal justice system to deal effectively with spousal violence cases.”*²⁸²

In addition, all Canadian jurisdictions have now adopted mandatory charge and prosecution policies for spousal violence that require police to charge in cases of spousal violence when there are reasonable grounds to do so, and the Crown to prosecute when there is a reasonable likelihood of conviction.²⁸³ Despite these changes, a 2001-2002 public opinion survey found that nearly two-thirds of Canadians believe that the court system is unresponsive toward family violence, and 44% believe the police treat cases of family violence too lightly.²⁸⁴

Canadian rates of spousal violence are comparable to U.S. and British estimates. In Canada, 3% of women reported physical assault by their current or former partners in the previous year, compared to 1.5% of U.S. women, and 4.2% of British women.

The U.S. National Violence Against Women Survey in 1995-96 found that 25% of women had been assaulted by their current or former spouse in their lifetimes, including 1.5% of women in the previous 12 months. Of those assaulted, 41% were injured, 11% required medical attention, 9% were hospitalized, 18% lost time from work, and 27% required counselling. In Britain, 23% of women reported being physically assaulted by their current or former partner at some point in their lives, including 4.2% of women during the previous year. When frightening threats were

²⁸⁰ Statistics Canada, Canadian Centre for Justice Statistics, *Family Violence in Canada: A Statistical Profile 2000*, catalogue no. 85-224-XIE, July, 2000.

²⁸¹ Statistics Canada, Canadian Centre for Justice Statistics, *Family Violence in Canada: A Statistical Profile 2002*, catalogue no. 85-224-XIE, June, 2002, pages 7 and 8.

²⁸² Cited in: Statistics Canada, Canadian Centre for Justice Statistics, *Family Violence in Canada: A Statistical Profile 2002*, catalogue no. 85-224-XIE, June, 2002, page 9. See also page 2.

²⁸³ Statistics Canada, Canadian Centre for Justice Statistics, *Family Violence in Canada: A Statistical Profile 2002*, catalogue no. 85-224-XIE, June, 2002, page 13.

²⁸⁴ EKOS Research Associates poll, cited in Statistics Canada, Canadian Centre for Justice Statistics, *Family Violence in Canada: A Statistical Profile 2002*, catalogue no. 85-224-XIE, June, 2002, page 17.

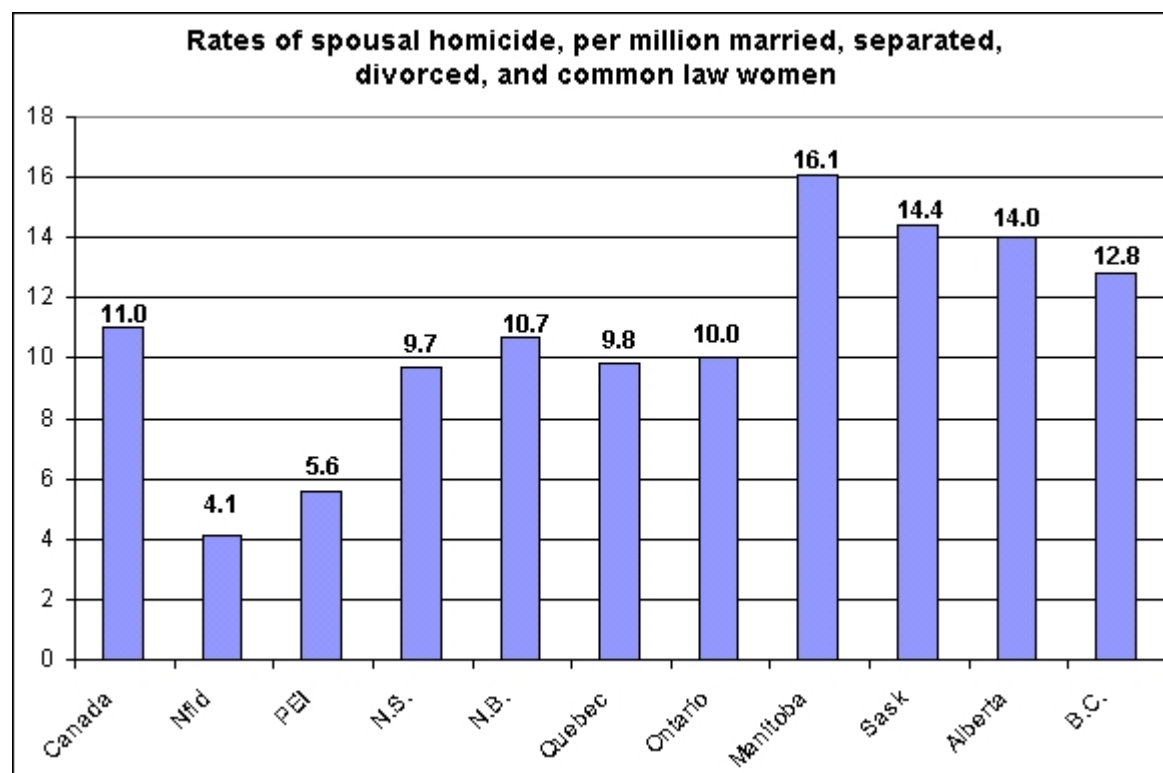
added, these rates went up to 26% and 6% respectively. Half the British victims reported having been assaulted three or more times.²⁸⁵

Spousal homicide

Clearly the most serious form of spousal violence is homicide. Canadian women are more than three times as likely to be victims of spousal homicide as men, with more than two-thirds of cases involving a prior history of domestic violence. For both homicides and spousal assault in general, young, young, separated women are at much greater risk than older, married women.

The rate of spousal homicide for both women and men has declined sharply since the mid-1970s. Women in 2000 were 62% less likely to be killed by their partners than in 1974, with a decline from 16.5 victims per million couples to 6.3. Spousal homicide rates are also considerably lower in the four Atlantic provinces than in the west, with Newfoundland registering the lowest rate in the country, and Manitoba the highest – at nearly four times the Newfoundland rate. The three Prairie provinces have the highest rates of spousal homicide in the country (Figure 54).²⁸⁶

Figure 54. Rates of spousal homicide, Canada, 1974-2000, rate per million married, separated, divorced, and common law women



Source: Statistics Canada, *Family Violence in Canada: A Statistical Portrait* 2002.

²⁸⁵ Ibid.

²⁸⁶ Statistics Canada, Canadian Centre for Justice Statistics, *Family Violence in Canada: A Statistical Profile* 2002, catalogue no. 85-224-XIE, June, 2002, page 11.

Transition homes

The 1999 General Social Survey reports that the most frequently used social service by female victims of domestic violence is a counsellor or psychologist (28%), and 11% also use transition homes. Statistics Canada's 1999-2000 Transition Home Survey reported nearly 100,000 annual admissions to transition homes throughout Canada, including more than 57,000 women and nearly 40,000 of their children. This has increased from 78,000 in 1991-1992.

Eighty per cent of abused women in transition homes were seeking shelter from an abusive spouse or ex-spouse, and more than two-thirds were escaping physical abuse. Others were fleeing threats, harassment, sexual assault, and psychological or financial abuse.²⁸⁷ Provincial profiles of transition homes in all the Canadian provinces, and characteristics of women and children who use them, are available on Statistics Canada's web site.²⁸⁸

Interpretation

There appears to be a strong relationship between the declining rates of spousal violence and the social and economic changes described in the economic indicators of women's health. Statistics Canada cites studies that have noted:

"Increasing gender equality over the past several decades, including rising income levels and labour force participation rates among women, are linked to both delayed marriage and improvements in women's economic status. These factors may have helped expand women's alternatives to either entering or remaining in a violent relationship...."

*"As the proportion of young people getting married has declined, exposure to violence in the highest-risk age groups may be reduced. Furthermore, the increase in the age of first marriage may reflect greater selectivity among would-be spouses."*²⁸⁹

While Statistics Canada's General Social Survey did not address the causes of family violence, an EKOS public opinion survey found that Canadians were most likely to identify stress in the family, including money problems and unemployment, as the key factor (54%). Alcohol and drugs were identified by one third of respondents, and a history of violence or learned behaviour in childhood was identified by 23%.²⁹⁰

²⁸⁷ Statistics Canada, Canadian Centre for Justice Statistics, *Family Violence in Canada: A Statistical Profile 2000*, catalogue no. 85-224-XIE, June, 2002, page 18.

²⁸⁸ Statistics Canada, *Transition Home Survey 1999-2000*, Canadian Centre for Justice Statistics. Available at: <http://www.statcan.ca/english/freepub/85-404-MIE/free.htm>.

²⁸⁹ Statistics Canada, Canadian Centre for Justice Statistics, *Family Violence in Canada: A Statistical Profile 2002*, catalogue no. 85-224-XIE, June, 2002, page 12.

²⁹⁰ Cited in Statistics Canada, Canadian Centre for Justice Statistics, *Family Violence in Canada: A Statistical Profile 2000*, catalogue no. 85-224-XIE, June, 2002, page 17.

7. Life Stress

Indicator description

Respondents to the 2000/01 Canadian Community Health Survey, 18 years and older, were asked to report their level of life stress according to whether they experienced “quite a lot” of stress “some” stress, or no stress at all.²⁹¹

Relevance

Stress is a particularly important determinant of women’s health, as Canadian women have higher rates both of chronic stress in general, and time stress in particular, than men.

Stress is described here as a separate social-psychological determinant of health, but it can clearly flow from any of the economic and social determinants of health described in the previous sections – poverty, unemployment, job insecurity, overwork, lack of control at work, family violence, lack of social support, and so on. As with all determinants of health, the issue is not identifying a separate causal link to health or illness for any one determinant, but to indicate the dynamic interplay and synergy of multiple health determinants, and to identify intervening processes that may exacerbate or ameliorate particular health outcomes.

Stress is like that. It is both an outcome of other health determinants and a key influence on mental and physical health in its own right. As women report higher levels than men of both chronic stress in general and time stress in particular, it is a particularly important indicator of women’s health. Ground-breaking research in the last ten years has identified several of the biological mechanisms by which stress impacts health.

Substantial research has found that stress negatively affects health, weakens the immune system, and increases susceptibility to a wide range of illnesses.²⁹² According to Richard Surwit of Duke University Medical Centre:

*“Experiencing stress is associated with the release of hormones that lead to energy mobilization – known as the “fight or flight” response. Key to this energy mobilization is the transport of glucose into the bloodstream, resulting in elevated glucose levels, which is a health threat for people with diabetes.”*²⁹³

A study in Detroit, Michigan, found that those living in dangerous and high-stress neighbourhoods had higher hypertension levels than those living in low-stress neighbourhoods.²⁹⁴

²⁹¹ Statistics Canada, <http://www.statcan.ca/english/freepub/82-221-XIE/00502/defin2.htm#54a>

²⁹² Chrousos, G.P. and P.W. Gold, 1992, “The concepts of stress and stress system disorders: Overview of physical and behavioral homeostasis,” *Journal of the American Medical Association* 267: 1244-1252.

²⁹³ Surwit, Richard, et al. “Stress Management Improves Long-Term Glycemic Control in Type 2 Diabetes,” *Diabetes Care*, 2002, 25: 30-34, cited at: <http://www.healthjourneys.com/hotresearch.asp>.

²⁹⁴ Kabat-Zinn, Jon, “Psychosocial Factors: Their Importance and Management,” in Ockene, Ira, and Judith Ockene, *Prevention of Coronary Heart Disease*, Little, Brown, and Company, Boston, 1992, page 304.

Abundant evidence exists that stress is an independent risk factor for several chronic illnesses. However, more recent research has uncovered evidence on the physiological pathways between psychosocial stress, emotional arousal, and disease. Two stress-related neuro-endocrine pathways can adversely affect the heart – the pituitary adrenal system, activated when there is depression, withdrawal, or loss of control, and the sympathetic adrenal medullary system, activated in response to the “fight or flight” syndrome.

According to one analysis:

*“[R]epeated sympathetic hyperactivity and chronic oversecretion of stress hormones such as epinephrine, norepinephrine, and cortisol over a long span of time might lead, via mechanisms such as endothelial injury to the coronary arteries, to increased CHD risk in type A individuals compared to type B individuals.”*²⁹⁵

Other pathophysiological pathways between mental and physical illness have been identified in adverse effects on the heart from the excretion of higher levels of testosterone by hostile and cynical individuals, and in depressive effects on the immune system due to isolation, negativity, and lack of trust. Depressed immunity, in turn, has been linked to a reduced ability to identify and reject tumour cells at an early stage.²⁹⁶

Work stress, which may derive from time pressures, work overload, high levels of responsibility, lack of control, and non-supportive superiors, has been particularly identified in many studies as an important predictor of hypertension and coronary heart disease. Male U.S workers with the highest levels of job strain were found to have four times the risk of heart attack as those with the lowest levels of strain, indicating a risk level equal to that of smoking and high blood cholesterol. And a large, prospective, six-year Swedish study similarly concluded that job strain predicted future heart disease independently of other risk factors in a population sample free of symptoms.²⁹⁷

The correlation between high stress and smoking is well documented. For example, among Canadians reporting very low stress rates, just 21% of women and 27% of men are smokers. Among those reporting high stress rates, 45% of women and 46% of men are smokers, with an almost direct linear relationship between stress level and smoking prevalence for both sexes.²⁹⁸

²⁹⁵ Kabat-Zinn, Jon, “Psychosocial Factors: Their Importance and Management,” in Ockene, Ira, and Judith Ockene, *Prevention of Coronary Heart Disease*, Little, Brown, and Company, Boston, 1992, pages 312-313. Type A, or coronary-prone behaviour has been described as “keen and ambitious” with an “engine...always set at full speed ahead.” It is characterized by “a sense of time urgency, impatience, competitiveness, drive, and intense desire to achieve.” See Goldberg, Robert, “Coronary Heart Disease: Epidemiology and Risk Factors,” in Ockene, Ira, and Judith Ockene, *Prevention of Coronary Heart Disease*, page 27.

²⁹⁶ Kabat-Zinn, op. cit., page 314.

²⁹⁷ Kabat-Zinn, Jon, “Psychosocial Factors: Their Importance and Management,” in Ockene, Ira, and Judith Ockene, *Prevention of Coronary Heart Disease*, Little, Brown, and Company, Boston, 1992, page 305.

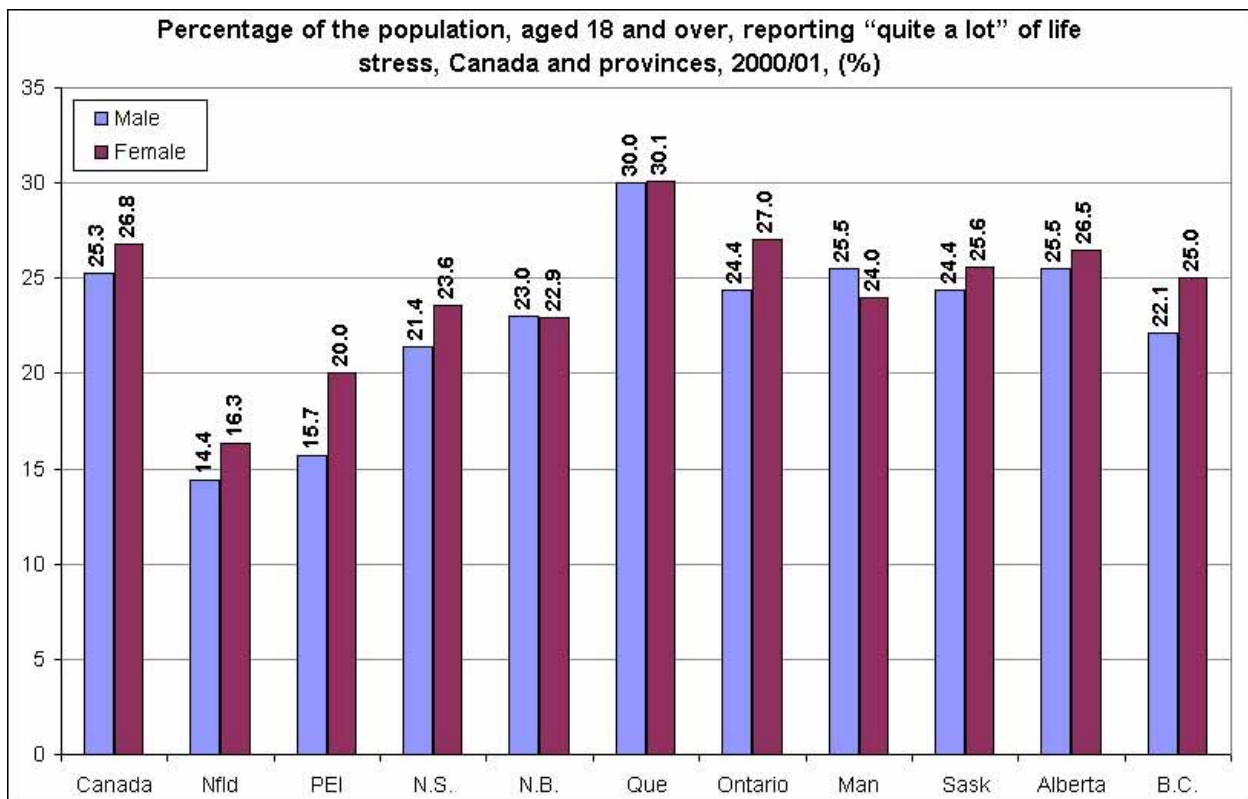
²⁹⁸ Statistics Canada, *National Population Health Survey Overview, 1994-95*, catalogue no. 82-567, pages 10-11. See also Colman, Ronald, *The Cost of Tobacco in Nova Scotia*, GPI Atlantic and Cancer Care Nova Scotia, Halifax, October 1990, Figure 3, page 9.

In a wide-ranging review of the literature, the *American Journal of Health Promotion* found stress to be the most costly of all modifiable risk factors.²⁹⁹ While there are many accepted methods of individual stress reduction, the evidence indicates that underlying social causes must be addressed if this important cause of disease is to be countered effectively. As an indicator of women's health, any reduction in stress levels is clearly a sign of progress with positive implications for health.

Results

More than one in four Canadians experiences "quite a lot" of life stress, with more women experiencing high levels of stress than men (26.8% compared to 25.3%). Atlantic Canadians have the lowest levels of stress in the country, and residents of Quebec experience the highest levels (30%). In the 2000/01 Canadian Community Health Survey, as in previous population health surveys, Newfoundlanders in 2000/01 registered the lowest stress levels in the country (15%), with Prince Edward Islanders recording the second lowest levels (18%). There are more than twice as many Quebecois living with high stress as Newfoundlanders (Figure 55).

Figure 55. Percentage of the population, aged 18 and over, reporting "quite a lot" of life stress, Canada and provinces, 2000/01, (%)



Source: Statistics Canada, Canadian Community Health Survey, 2000/01, health file.

²⁹⁹ Goetzel, Ron (ed), "The Financial Impact of Health Promotion," *American Journal of Health Promotion* 15 (5), May/June 2001.

8. Social Exclusion & Vulnerability

Indicator description

The evidence from both the economic and social indicators clearly indicates that lower socio-economic groups suffer from a cluster of disadvantages that reinforce each other and prevent full participation in the larger society. The concept of “social exclusion” goes beyond conventional measures of poverty and low income, and incorporates lack of education, poor health and nutrition, lack of decent housing, higher rates and longer duration of unemployment, political powerlessness, and more frequent contact with the law. It also includes psychological dimensions such as vulnerability, fear, voicelessness, and a pervasive sense that one is not a valued and respected member of the community. Certain groups are particularly vulnerable to exclusion. These include single mothers and their children, youth, aboriginal people, racial and cultural minorities, the disabled, the unemployed, and the homeless.³⁰⁰

The concept of “vulnerability” is even broader than that of social exclusion. One analysis includes the following examples of vulnerability: low income; food insecurity; lack of family, friends, and social support systems; illiteracy and poor education; inadequate or insecure housing; migrant status and language difficulties; working or living in dangerous, isolated, or stressful places; being born with a chronic disease or disability; lack of health knowledge; inability to cope with problems; difficult childhood or birth; lack of access to health services. Many of these vulnerabilities are experienced as a lack of control over one’s life.³⁰¹

Most aspects of vulnerability and social exclusion are modifiable, or can at least be attenuated through social policy. According to the analysis cited above:

“Preventing and reducing vulnerability is as important as dealing with the effects of vulnerability.... Dealing with the causes of vulnerability is less costly than dealing with the serious effects of vulnerability. Reduced vulnerability has long-term economic and social gains.”³⁰²

Relevance

The various dimensions of social exclusion and vulnerability are closely related to adverse health outcomes. For example:

- Aboriginal people have far higher rates of chronic disease than other Canadians;
- Unemployment is linked to stress and poor health;
- Single mothers and youth suffer higher rates of mental distress and depression; and
- Poor education is linked to a range of risk behaviours, including smoking, obesity, poor nutrition, and lack of physical activity.³⁰³

³⁰⁰ “Social Inclusion,” *Health Promotion Atlantic*, 7 (1), Spring, 2001, pages 10-12.

³⁰¹ Alberta Association of Registered Nurses, *Position Paper on Vulnerability*, Edmonton, September, 1998, page 1, available by contacting aarn@nurses.ab.ca.

³⁰² Ibid., page 2.

³⁰³ For example, see Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999, page 267.

Health Canada's Women's Health Strategy has identified exclusion as an important determinant of women's health, and as a way in which the health system and society at large typecast women based on longstanding traditional roles and attitudes. The Strategy notes that exclusion "translates into reduced access to resources for many women, and under-representation in, or absence from, governance, research and education materials."³⁰⁴ The following examples are given in the Strategy:

"Women are under-represented as policy makers, decision makers and educators in many segments of the health sector. Certain groups of women are doubly disadvantaged in these respects, because of their ethnicity or their sexual orientation or because they have a disability and are less likely to be included in key roles and areas of the health system."

"Where women's representation is high within a profession, that profession tends to be less valued than one where men predominate. Generally, women are over-represented in nursing and under-represented in most fields of medical specialization – the gatekeepers and decision-making disciplines of medicine."

"In a 1994 report, the Medical Research Council's Advisory Committee on Women's Health Research Issues estimated that only 5% of the Council's research funds went specifically to women's health issues. Exclusion of women from research results in problems of validity and important data gaps."

For all these reasons, social exclusion is an important indicator of women's health, and an area where significantly more work is required to develop agreed indicators and robust data sets.

Results

Future updates of this statistical profile of women's health indicators might include a summary of characteristics and health outcomes of vulnerable groups. Many of these data are already included in the prior results on indicators of economic and social determinants of health. Here, two illustrative examples are given simply to indicate both the importance of identifying groups that are particularly vulnerable to social exclusion and the consequent links to health outcomes.

A recent York University study found three groups of Canadians at particularly high risk for poverty and increased heart disease – women (particularly the elderly and single parents), new immigrants, and members of visible minorities. Visible minorities "experience a persistent income gap, above average levels of living on low income, higher levels of unemployment and underemployment, and under-representation in higher paid jobs."³⁰⁵ More than twice as many elderly Canadian women (one in four) live below the low-income cut-off (LICO) line as elderly men, as do 21% of unattached elderly women, and 38% of children in families headed by single mothers.³⁰⁶

³⁰⁴ Health Canada, *Health Canada's Women's Health Strategy*, Ottawa, March, 1999, page 14.

³⁰⁵ Raphael, Dennis, *Inequality is Bad for our Hearts*, York University, 2001. An expanded version of this report, titled "Social Justice is Good for Our Hearts: Why Societal Factors – Not Lifestyles – Are Major Causes of Heart Disease in Canada and Elsewhere" can now be read and downloaded from <http://www.socialjustice.org/>; and see "Having Healthy Heart is Often a Question of Income," *The Toronto Star*, 9 November, 2001, page F02.

³⁰⁶ Statistics Canada, *Income in Canada*, catalogue no. 75-202-XIE, Ottawa, November, 2002, Table 8.1, page 93.

8.1 Aboriginal women's health

Aboriginal peoples include First Nations, Metis, and Inuit, whose conditions and circumstances differ and who are therefore differentially affected by the range of health determinants, particularly as they are accorded differing rights. For example, First Nations peoples with treaty rights are accorded particular benefits not available to those without such rights. Inuit peoples in the far north face particular challenges, including the fact that many are unilingual and may not have access to proper health information.

In general, Canadian Aboriginals have higher rates of poverty, unemployment, poor housing, and low educational attainment than the non-Aboriginal population, and they are also particularly vulnerable to certain diseases, including ones that are almost entirely preventable. In 1997, for example, there were 53.3 cases of tuberculosis per 100,000 population among First Nations groups, compared to just 6.6 cases for Canadians as a whole. In 1999, the First Nations rate for tuberculosis went up to 61.5 cases per 100,000.³⁰⁷

Diabetes rates among First Nations people are triple the Canadian average, with 6.5% of First Nations people over the age of 15 reporting they have been diagnosed with diabetes.³⁰⁸ The Romanow Commission reported growing rates of HIV infection and high rates of disability, cardiac problems, and exposure to alcohol abuse and drug addiction among Aboriginals.³⁰⁹

In 2001, the female Aboriginal population was 499,605, up from 408,140 in the 1996 Census, and comprising roughly 51% of the total Aboriginal population in Canada.³¹⁰ Aboriginal populations (First Nations, Inuit, Métis & Non-Status First Nations) have a noticeably different age structure than the non-Aboriginal population of Canada. While the general Canadian population has been aging at a progressive rate, the Aboriginal populations exhibit a much more youthful structure. Nearly 42% of the female Aboriginal population is between the ages of 0 to 19.

Health Canada provides the following profile of key health issues affecting Aboriginal women.³¹¹

- The health of Aboriginal women has improved considerably over the past few decades, yet significant inequities remain in relation to the general population.
- Life expectancy for Aboriginal women is 76.2 years compared to 81.0 for non-Aboriginal women.

³⁰⁷ Department of Indian and Northern Affairs Canada, *Basic Departmental Data – 2001*, Ottawa, 2002, table 2.2, page 24.

³⁰⁸ Health Canada, First Nations and Inuit Health Branch, “Findings and Observations: Diabetes,” available at: http://www.hc-sc.gc.ca/fnihb-dgspni/fnihb/aboriginalhealth/findings_observations/findings_1.htm#Diabetes.

³⁰⁹ Romanow, Roy, *Building on Values: The Future of Health Care in Canada: Final Report*, Ottawa, November, 2002, pages 218-219.

³¹⁰ Statistics Canada, 2001 Census, “Aboriginal Identity Population (3), Registered Indian Status (3), Age Groups (11B) and Sex (3) for Population, for Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations, 2001 Census - 20% Sample Data.”

³¹¹ Health Canada, “The Health of Aboriginal Women,” available at: http://www.hc-sc.gc.ca/english/women/facts_issues/facts_aborig.htm.

- Aboriginal women experience higher rates of circulatory problems, respiratory problems, diabetes, hypertension and cancer of the cervix than the rest of the general female population.
- Diabetes is three times as prevalent in Aboriginal communities as in the general population, and twice as many Aboriginal women as men are diabetic.
- More than twice as many Aboriginal women have HIV/AIDS than non-Aboriginal women (15.9% compared to 7.0%). Within female Aboriginal AIDS cases, 50% are attributed to intravenous drug use, in comparison to 17% of all female cases.
- The birth rate for Aboriginal women is twice that of the overall Canadian female population. Aboriginal mothers are younger - about 55% are under 25 years of age (compared to 28% for the non-Aboriginal population) and 9% are under 18 years of age (compared 1% for the non-Aboriginal population).
- The mortality rate due to violence for Aboriginal women is three times the rate experienced by all other Canadian women. For Aboriginal women in the 25 to 44 age cohort, the rate is five times that for all other Canadian women.
- Women are often the victims of family dysfunction resulting from alcohol or substance abuse. Hospital admissions for alcohol-related accidents are three times higher among Aboriginal women than they are for the general Canadian population.
- Over 50% of Aboriginal people view alcohol abuse as a social problem in their communities. Fetal Alcohol Syndrome (FAS) and Fetal Alcohol Effects (FAE) have emerged as a health and social concern in some First Nations and Inuit communities.
- Suicide rates remain consistently higher for the Aboriginal population than the general Canadian population as a whole, in almost every age category. Over a five-year span (1989 - 1993), Aboriginal women were more than three times as likely to commit suicide than were non-Aboriginal women.

Interpretation

For Aboriginals, visible minorities, single mothers, unattached elderly women, the unemployed, and other vulnerable groups, clusters of variables contribute to social exclusion and powerlessness, with low income often just the most material and measurable manifestation of a wider range of disadvantages. For example, a detailed Statistics Canada study on the gender wage gap found that women earn substantially less than men even when they have identical work experience, education, and job tenure, and when they perform the same job duties in the same occupations and industries for the same weekly hours. The study found that about 50% of the gender wage gap could not be explained by any of 14 different factors, and could therefore be seen as “gender based labour market discrimination.”³¹²

In short, there is an element of gender-based “social exclusion” that underlies and goes beyond income issues. For groups that are disadvantaged in other ways – as Aboriginals, refugees and recent immigrants, visible minorities, people with disabilities – gender discrimination may exacerbate other social and economic biases, deepening exclusion and vulnerability. The synergy of these different forms of exclusion requires further study, including the degree to which gender reinforces other forms of discrimination.

³¹² Drolet, Marie, “The Persistent Gap: New Evidence on the Canadian Wage Gap,” Income Statistics Division, Statistics Canada, December, 1999, catalogue no. 75F0002MIE-99008, page 13, and table 3.

This brief section on exclusion highlights the fact that there is a tendency in an inventory of indicators such as this to examine various measures of women's health as if they stood alone. The concept of exclusion warns against this, and recognizes the need for a comprehensive and holistic health promotion strategy that acknowledges the full range of socio-economic and cultural determinants of health and the synergistic interaction between them. The good news in this approach is that reducing disadvantage and exclusion in even one area may produce positive spin-off benefits across a wide range of linked dimensions.

HEALTH BEHAVIOURS & LIFESTYLE DETERMINANTS OF HEALTH

" The doctor of the future will give no medicine but will interest his patients in the care of the human frame, in diet, and in the cause and prevention of disease."

Thomas Edison

Any gender-based analysis of women's health indicators must pay close attention to health behaviours, both because lifestyle factors differ markedly between men and women, and because they arise from social and economic conditions that affect men and women differentially. In addition, analysis and understanding of women's health behaviours is essential for efforts to improve women's health, as these behaviours are largely modifiable.

A gender-based analysis can also assist policy makers in targeting public health interventions more effectively and thus spending money more wisely. For example, as noted in the introduction, programs and materials aimed at curbing high rates of smoking among teenage girls will be more effective if they address the particular motivations and circumstances of this group than if they simply employ blanket health warnings about smoking.

One U.S. study found that more than 40% of deaths can be attributed to preventable causes, led by cigarette smoking, lack of exercise, and poor diet.³¹³ The U.S. Department of Health and Human Services concluded that up to 50% of chronic disease mortality is attributable to lifestyle factors that can be changed.³¹⁴ It noted that better control of 10 modifiable risk factors could prevent 40-70% of all premature deaths, and two-thirds of all cases of chronic disability.³¹⁵ And the U.S. Health Care Financing Administration estimates that behavioural risk factors contribute to 70% of the physical decline that occurs with aging.³¹⁶

In an extensive review of the literature, Emory University's Carter Center found that three preventable precursors of premature death accounted for 46% of all deaths, nearly three-quarters of all preventable causes of death, and more than half of preventable hospital days. These three were tobacco (17% of all deaths; 27% of preventable deaths; 20% of preventable hospital days); high blood pressure (15% of all deaths; 24% of preventable deaths; 12% of preventable hospital days); and over-consumption of high-calorie, fatty foods, which can lead to obesity and high serum cholesterol, (14.5% of all deaths; 23% of preventable deaths; 20% of preventable hospital days.)³¹⁷

High blood pressure has been estimated to account for 4% of preventable years of life lost before age 65; over-consumption of high calorie, fatty foods for 3.5%, and tobacco for 12.6% of all preventable years of life lost before age 65. Other preventable causes of death, such as alcohol abuse and injuries, account for fewer deaths than these three, but relatively more preventable years of life lost before age 65, because they frequently kill people at younger ages.³¹⁸

³¹³ McGinnis, J.M., and Foege, W., "Actual Causes of Death in the United States," *Journal of the American Medical Association* 270 (19), 1993, pages 2207-2212.

³¹⁴ U.S. Department of Health and Human Services, *Healthy People 2000: National Health Promotion and Disease Prevention Objectives*, Washington, D.C., 1990, DHHS (PHS) publication no. 91-50213.

³¹⁵ U.S. Department of Health and Human Services, 1990, *Prevention '89/'90: Federal Programs and Progress*, Public Health Service, Washington D.C.

³¹⁶ U.S. Health Care Financing Administration, "Healthy Aging Project," Fact Sheet, 14 October, 1998, available at: <http://www.os.dhhs.gov/news/press/1998pres/981014.html>.

³¹⁷ Amler, Robert, and Bruce Hull (eds.), *Closing the Gap: The Burden of Unnecessary Illness*, Oxford University Press, New York and Oxford, 1987, pages 184-185.

³¹⁸ Amler, Robert, and Donald Eddins, "Cross-Sectional Analysis: Precursors of Premature Death in the United States," in Amler, Robert, and Bruce Hull (eds.), *Closing the Gap: The Burden of Unnecessary Illness*, Oxford University Press, New York and Oxford, 1987, pages 184-185.

An Australian study determined that modifiable risk factors accounted for 38% of the total burden of disease in that country, with tobacco accounting for 9.7%; physical inactivity for 6.7%; high blood pressure for 5.4%; obesity for 4.3%; lack of fruit and vegetables for 2.7%; high blood cholesterol for 2.6%; alcohol for 2.1%; and illicit drugs, occupation, and unsafe sex for smaller proportions.³¹⁹

Because of the substantial burden of preventable risk factors, disease prevention strategies directed to improving women's health must account for behavioural patterns unique to women.

The socio-economic context of health behaviours

Epidemiological studies demonstrate that these behavioural risk factors do not act in isolation, and that they are linked to deeper, underlying social causes. For this reason, data on health behaviours and lifestyle determinants of health are presented here in the context of the underlying social determinants of health described above.

Coronary heart disease, for example, is “a multifactorial disease, and a multiplicity of interacting factors are involved in its development.”³²⁰ Smoking, hypertension, high blood cholesterol, obesity, physical inactivity, and diabetes are all risk factors for heart disease, and those risks are more prevalent among lower socio-economic groups. Epidemiological evidence has linked poverty, unemployment, and low educational attainment to adverse lifestyle factors, including poor nutrition and high rates of smoking, obesity, and physical inactivity, all of which increase the risk of cardiovascular disease.³²¹

Those in the lowest income bracket are two and a half times more likely to smoke than those in the highest income bracket. A study in Alameda County, California, found that those living in poor neighbourhoods had a 50% higher rate of hypertension than those living in affluent neighbourhoods, after controlling for age, race, risk factors, access to medical care, social interaction, and range of other variables.³²² Poor education, too, is linked to a range of risk behaviours, including smoking, obesity, poor nutrition, and lack of physical activity. For

³¹⁹ Australian Institute of Health and Welfare, *Burden of Disease and Injury in Australia, 1999*; cited in National Public Health Partnership, *Preventing Chronic Disease: A Strategic Framework*, Melbourne, October, 2001, page 24.

³²⁰ Ockene, Ira, and Judith Ockene, *Prevention of Coronary Heart Disease*, Little, Brown, and Company, Boston, 1992, page 10.

³²¹ See evidence cited in Colman, Ronald, *The Cost of Tobacco in Nova Scotia* GPI Atlantic, Halifax, October, 2000; and *The Cost of Obesity in Nova Scotia*, GPI Atlantic, Halifax, March, 2000; Health Canada, *Toward a Healthy Future: Second Report on the Health of Canadians*, Ottawa, September, 1999; Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, September, 1999; Raphael, Dennis, *Inequality is Bad for our Hearts*, York University, 2001: “Inequality is bad for our hearts: why low income and social exclusion are major causes of heart disease in Canada” can be downloaded from <http://depts.washington.edu/eqhlth/paperA15.html>; Lyons, Renee, and Lynn Langille, *Healthy Lifestyle: Strengthening the Effectiveness of Lifestyle Approaches to Improve Health*, Atlantic Health Promotion Research Centre, Dalhousie University, prepared for Health Canada, Health Promotion and Programs Branch, April, 2000, page 17.

³²² Kabat-Zinn, Joh, “Psychosocial Factors: Their Importance and Management,” in Ockene, Ira, and Judith Ockene, *Prevention of Coronary Heart Disease*, Little, Brown, and Company, Boston, 1992, page 304.

example, those with less than a high school education are 64% more likely to be overweight than those with a university degree.³²³ In all these cases, there is a clear gradient by social class.³²⁴

The chain of causation can be long and involve many factors. For example, teenage pregnancy has been estimated to reduce high school completion rates by 50% and income by 80%.³²⁵ These socio-economic disadvantages in turn may increase risk behaviours, susceptibility to chronic diseases, and use of health care services. Healthy lifestyle and behavioural choices may also be limited by the overwork that afflicts many higher income groups. Statistics Canada has linked longer work hours with higher rates of smoking and alcohol consumption, unhealthy weight gain, and lack of physical activity.³²⁶

It is clear, therefore, that education, income, employment and social status, work conditions, social networks, environmental exposure, and other social and economic factors can enhance or severely limit personal health choices, and profoundly influence the lifestyle choices that are the proximate causes of much chronic disease. All these social determinants of health, in turn, must be analyzed from a gender perspective in assessing women's health circumstances and needs. Similarly, opportunities for healthy lifestyle choices are affected by gender roles and social inequities, including race and ethnicity, age, geographic location, and disabilities.

According to one recent analysis:

*"Many of the behaviours that contribute to health conditions, whether good health or ill health, are clearly related to the **interdependence** between people's lifestyle and their social environment.... In real life, lifestyle is a product of some combination of choice, chance, and resources.... One's socio-cultural environment is a very powerful determinant of health.*

"In fact, Shields (1992) and other sociologists have suggested that lifestyles are essentially artifacts or reflections of culture, individual choice being a less important factor than societal determinants.... A reconstructed definition of lifestyle must incorporate components beyond diet, exercise and alcohol use in order to account for social conditions and processes such as socio-economic status and social relations."³²⁷

³²³ Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999, page 267.

³²⁴ Health Canada, *Toward a Healthy Future: Second Report on the Health of Canadians*, Ottawa, 1999, page 119, and Exhibit 5.7; Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, September, 1999, page 267.

³²⁵ Foege, William, Robert Amler, and Craig White, "Closing the Gap," *Journal of the American Medical Association* 1985; 254: 1355-1358, reprinted in Amler, Robert, and Bruce Hull (eds.), *Closing the Gap: The Burden of Unnecessary Illness*, Oxford University Press, New York and Oxford, 1987, page 206.

³²⁶ Shields, Margot, "Long Working Hours and Health," Statistics Canada, *Health Reports*, 11 (2): 33-48, Autumn, 1999; Heart and Stroke Foundation, *Annual Report Card on Canadians' Health*, Toronto, 2000. For increased rates of time stress among Canadians, see Statistics Canada, *Overview of the Time Use of Canadians 1998, General Social Survey Cycle 12*, Housing, Family and Social Statistics Division, special tabulation; and *The Daily*, November 9, 1998, catalogue no. 11-001E, pages 2-4;

³²⁷ Lyons, Renee, and Lynn Langille, *Healthy Lifestyle: Strengthening the Effectiveness of Lifestyle Approaches to Improve Health*, Atlantic Health Promotion Research Centre, Dalhousie University, prepared for Health Canada, Health Promotion and Programs Branch, April, 2000, pages 7, 9 and 10. Reference for Shields (1992) is on page 38 of that report.

In 1998, the World Health Organization noted that lifestyle is determined by the interplay between an individual's personal characteristics, social interactions, and socio-economic and environmental living conditions. Because behaviour patterns are continually adjusted in response to changing social and environmental conditions, efforts to improve health must be directed not only at the individual, but also at the social and living conditions that contribute to these behaviours and lifestyles.³²⁸

Potential cost savings and compression of morbidity

Comprehensive efforts to prevent disease and improve population health have the potential not only to reduce the burden of premature death, disability, and suffering, but also to save money. A University of Michigan database on health risks and medical care costs for over two million individuals indicates that excess risk factors account for about 25% of medical care costs.³²⁹ Another analysis estimates that preventable illness constitutes 70% of the burden of illness and its associated costs, and predicts confidently that "we now have the knowledge that could improve population health and at the same time reduce medical claims costs by 20 percent or more."³³⁰

The capacity of healthier behaviours and lifestyle changes to reduce the lifetime burden of illness and its associated costs, depends in part on the "compression of morbidity" hypothesis, for which there is growing empirical evidence. It is argued that since the human life span is relatively fixed, a delay in the onset of chronic disease and the postponement of chronic infirmity can compress the lifetime illness burden into a shorter period nearer the age of death. According to this hypothesis, an aging population will not necessarily produce higher health care costs because a larger percentage of the population can expect to be healthy and independent for longer periods.³³¹

This hypothesis will clearly produce more optimistic estimates of potential health care savings through improved health behaviours than one which assumes that health promotion and avoidance of risk factors simply transfer chronic illness costs to older age groups. Here it is sufficient to acknowledge that a consensus exists that a substantial portion of chronic illness is related to preventable risk factors, risk behaviours, and risk conditions. The epidemiological evidence further confirms that a reduction of these risks can help avoid or delay the onset of these illnesses. A growing body of evidence further indicates that health promotion efforts can reduce medical costs and productivity losses, with studies typically demonstrating a \$4-\$5 saving for every dollar invested in health promotion.³³²

³²⁸ Cited in Lyons and Langille, op. cit., page 10.

³²⁹ Edington, Dee, "Emerging Research: A View from one Research Center," in Goetzel, Ron (ed.), "The Financial Impact of Health Promotion," *American Journal of Health Promotion* 15 (5), May/June 2001, pages 341-349.

³³⁰ Fries, James, Everett Koop, Jacque Sokoly, Carson Beadle, and Daniel Wright, "Beyond Health Promotion: Reducing the need and demand for medical care: Health care reforms to improve health while reducing costs," *Health Affairs* 17 (2), March/April, 1998, pages 71 and 73.

³³¹ Fries, James, "Aging, Natural Death, and the Compression of Morbidity," *The New England Journal of Medicine*, 303 (3): 130-135, July 17, 1980.

³³² Aldana, Steven, "Financial Impact of Health Promotion Programs: A Comprehensive Review of the Literature," in Goetzel, Ron (ed.), "The Financial Impact of Health Promotion," *American Journal of Health Promotion* 15 (5), May/June 2001, pages 296-320.

According to the U.S. Secretary of Health and Human Services:

*"We would be terribly remiss if we did not seize the opportunity presented by health promotion and disease prevention to dramatically cut health-care costs, to prevent the premature onset of disease and disability, and to help all Americans achieve healthier, more productive lives."*³³³

Health promotion in the socio-economic context

Unfortunately, conventional behavioural interventions aimed at healthier lifestyles, while effective for higher socio-economic groups, have proved remarkably ineffective in alleviating the deeper influences of poverty and social disadvantage. Even more broadly, analysts have noted that "health promotion strategies focused purely at individual health behaviours are yielding limited success."³³⁴ Across North America, improvements in lifestyle behaviours (eating, drinking, smoking, and exercise patterns), and consequent declines in heart disease incidence and mortality, have occurred at a much lower rate among the less educated, less affluent, strata than among higher socio-economic groups.³³⁵

Evidence indicates that those who are marginalized do not attend smoking cessation and nutrition classes, do aerobics, join gymnasiums, or shop for healthy foods. A comprehensive \$1.5 million 5-year cardiovascular disease prevention and lifestyle intervention program in St. Henri, a Montreal neighbourhood where 45% of families live below the poverty line, attracted only 2% participation. The only significant result, compared to a control group, was that more people had their blood cholesterol levels measured.³³⁶ The researchers concluded:

*"...unless or until basic living needs are ensured, persons living in low-income circumstances will be unlikely or unable to view CVD [cardio-vascular disease] prevention as a priority."*³³⁷

Similarly, admonitions to eat healthier foods will likely have less impact on low-income Canadians than on those with higher incomes. Low-income Canadians are more likely to be overweight and to have poorer diets than those with higher incomes, which may be due, in part, to cheaper pricing of poor-nutrient fast foods compared to higher quality healthy foods. For example, 40% of low-income Canadians believe that low-fat products are expensive, and 27%

³³³ Louis W. Sullivan, in U.S. Department of Health and Human Services, 1990, *Healthy People 2000: National Health Promotion and Disease Prevention Objectives*, Public Health Service, Washington, D.C., page vi.

³³⁴ Lyons, Renee, and Lynn Langille, *Healthy Lifestyle: Strengthening the Effectiveness of Lifestyle Approaches to Improve Health*, Atlantic Health Promotion Research Centre, Dalhousie University, prepared for Health Canada, Health Promotion and Programs Branch, April, 2000, page 7

³³⁵ Stamler, Jeremiah and Rose, preface to Ockene, Ira, and Judith Ockene, *Prevention of Coronary Heart Disease*, Little, Brown and Company, Boston, 1992, page xiv.

³³⁶ Raphael, Dennis, *Inequality is Bad for our Hearts*, York University, 2001: "Inequality is bad for our hearts: why low income and social exclusion are major causes of heart disease in Canada" can now be read and downloaded from <http://depts.washington.edu/eqhlth/paperA15.html>; and see "Having Healthy Heart is Often a Question of Income," *The Toronto Star*, 9 November, 2001, page F02.

³³⁷ Cited in Lyons, Renee, and Lynn Langille, *Healthy Lifestyle: Strengthening the Effectiveness of Lifestyle Approaches to Improve Health*, Atlantic Health Promotion Research Centre, Dalhousie University, prepared for Health Canada, Health Promotion and Programs Branch, April, 2000, page 22.

believe that grain products are expensive, compared to 32% and 8% respectively of those with high incomes.³³⁸

Because lifestyle interventions have been most successful in changing the behaviour of those with higher levels of education and income, and least effective for disadvantaged populations who have fewer options and less control over their lives, they have had the unintended effect of deepening health inequalities between socio-economic levels.³³⁹

Aboriginal women, visible minorities, immigrant women, and women with disabilities all have behavioural patterns that differ from the norm and thus affect health outcomes differentially. Data gaps do not currently allow a full diversity approach to health behaviours, and further work is required in this field.

In sum, it is critical to examine the evidence on health behaviours and lifestyle determinants below within this broader socio-economic context, and to target interventions that consider both social and lifestyle determinants. In that regard, the capacity to analyze health behaviours and lifestyle determinants using a gender analysis and a diversity approach to women's health, is very useful to identify existing inequalities and needs, and to target interventions accordingly.

The behavioural and lifestyle indicators presented here are:

- Dietary practices: percentage of women and men consuming five or more servings of fruits and vegetables a day
- Alcohol consumption: heavy drinking as measured by percentage of women and men consuming five or more drinks on one occasion at least 12 times in a year
- Smoking prevalence – daily and current smokers, female and male
- Age of smoking initiation, female and male
- Physical activity: percentage of women and men classified as physically active and inactive
- Healthy weights: percentage of women and men classified as overweight and obese, and percentage classified as underweight (Canadian and international standards).

9. Dietary Practices – Consumption of Fruits & Vegetables

Indicator description

Adequate fruit and vegetable consumption is assessed in the 2000/01 Canadian Community Health Survey for the “population aged 12 and over, by the average number of times per day that they consume fruits and vegetables.”³⁴⁰

³³⁸ Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, September, 1999, page 267.

³³⁹ Lyons, Renee, and Lynn Langille, *Healthy Lifestyle: Strengthening the Effectiveness of Lifestyle Approaches to Improve Health*, Atlantic Health Promotion Research Centre, Dalhousie University, prepared for Health Canada, Health Promotion and Programs Branch, April, 2000, pages 23-25.

³⁴⁰ Statistics Canada. <http://www.statcan.ca/english/freepub/82-221-XIE/00502/defin2.htm#39a>

Relevance

Poor nutrition is an important contributing factor to obesity, which in turn is a major risk factor in hypertension, type 2 diabetes, coronary artery disease, gallbladder disease, stroke, hyperlipidemia, pulmonary embolism, colorectal cancer, endometrial cancer, and postmenopausal breast cancer.³⁴¹ In addition, unhealthy eating is a risk factor in its own right for many chronic illnesses. Health Canada estimates that the Canadian economy loses \$6.3 billion a year to preventable diet-related disease.³⁴²

‘Rich’ diets, high in calories, cholesterol, saturated and total fats, and salt, and low in fibre, have been identified by analysts as “the *primary* and *essential* cause of epidemic CHD [coronary heart disease]”:

*“Rich diet is the pivotal mass exposure responsible for the coronary epidemic. Where rich diet does not prevail as a population wide trait, there is no CHD epidemic. This is the case even when high blood pressure and cigarette smoking are prevalent (witness Japan).”*³⁴³

Rich diets include an excessive proportion of foods with a high ratio of calories to essential nutrients, including high-fat animal products, dairy products, processed foods including processed meats, junk food, and foods with high proportion of refined sugars, including many baked goods. These foods are also frequently low in essential constituents like potassium, fibre, and anti-oxidant vitamins.

In addition to coronary heart disease, unhealthy eating contributes substantially to four other of the 10 leading causes of death – cancer, stroke, diabetes mellitus, and atherosclerosis:

*“Nutritional risk factors for chronic illness include obesity, elevated serum cholesterol, and overconsumption of fats, sugar, sodium, and highly refined foods. Reduction of such consumption can help in the prevention of chronic diseases.”*³⁴⁴

And an international review of evidence concurs that:

*“In industrialized countries, excess intake of fat, salt, and simple sugar leads to obesity and increased levels of blood lipids and sugar, which, in turn, are risk factors for many conditions, including coronary heart disease, adult-onset diabetes, and hypertension.”*³⁴⁵

³⁴¹ Birmingham, C. Laird, et al., “The Cost of Obesity in Canada,” *Canadian Medical Association Journal*, 23 February, 1999.

³⁴² Health Canada, “Nutrition Labelling: The Background,” (October, 2000); available at http://www.hc-sc.gc.ca/english/archives/releases/2000/2000_103e.htm and following link to “Nutrition Labelling: Support for Healthy Eating”; for U.S. estimates of costs of diet-related diseases, see “Benefits of Nutrition Services – A Cost and Marketing Approach,” *Ross Laboratories Report of the Seventh Ross Roundtable on Medical Issues*, August 18-19, 1986: 2-9, cited in Province of British Columbia (1996), *Cost Effectiveness/Value of Nutrition Services: An Annotated Bibliography*, Prevention and Health Promotion Branch, Ministry of Health, B.C., July, 1996, page 39.

³⁴³ Stamler, Jeremiah and Rose, preface to Ockene, Ira, and Judith Ockene, *Prevention of Coronary Heart Disease*, Little, Brown and Company, Boston, 1992, pages xi and xii.

³⁴⁴ Glanz, Karen, “Nutritional Intervention: A Behavioral and Educational Perspective,” in Ockene, Ira, and Judith Ockene, *Prevention of Coronary Heart Disease*, Little Brown, and Company, Boston, 1992, page 232.

³⁴⁵ Zavallos, Juan, et al., “An International Perspective on Coronary Heart Disease and Related Risk Factors,” in Ockene, Ira, and Judith Ockene, *Prevention of Coronary Heart Disease*, Little, Brown, and Company, Boston, 1992, page 165.

Recommended dietary shifts include:

- reducing saturated fat and total fat consumption, as well as dietary cholesterol intake from animal products like high fat meat, dairy, and egg yolks;
- eating more complex carbohydrates and high fibre foods like whole grains, cereals, fruits and vegetables; and
- reducing consumption of sodium, caffeine, alcohol, sugar, and highly-processed foods.

Public health campaigns have been successful in lowering per capita consumption of butter, dairy fat, lard, high-fat meats, and eggs across North America since the late 1960s, thereby reducing intake of cholesterol and saturated fats. Intake of fish, poultry, and fresh fruits and vegetables has increased, while consumption of low-fat milk has more than doubled.³⁴⁶ However average consumption levels still exceed the recommended goals of less than 300 mg/day of dietary cholesterol or less than 100 mg per 1,000 kilocalories of energy, and less than 10% of kilocalories for saturated fat intake, and less than 30% of kilocalories for total fat.³⁴⁷

As noted in the introductory remarks on health behaviours and lifestyle determinants, lack of access to quality, healthy food, and functional illiteracy that impedes understanding of educational materials, may constitute serious barriers to healthy eating for those with low socio-economic status.

It should be noted that dietary practices were not included in the health indicators confirmed by CIHI's National Consensus Conference on Population Health Indicators, but were included in an illustrative list of indicators recommended for potential future development.³⁴⁸

Only one indicator of dietary practices is included here – fruit and vegetable consumption – due to data availability in Statistics Canada's Canadian Community Health Survey. Preventive health literature and nutrition guides generally recommend that between five and ten servings of fruit and vegetables be consumed daily, and this recommendation is taken here as the standard of measurement for this indicator.³⁴⁹ While fruit and vegetable consumption is clearly only one aspect of good nutrition, as noted above, it will serve here as a temporary proxy for healthy eating, with the recognition that further development of nutrition indicators is essential.

Dietary practices are an important indicator for women's health, because women's social and economic circumstances affect the dietary habits of all Canadians. Statistics Canada's time use surveys show that women still do more than twice as much of the household cooking as men – spending an average of 7.6 hours per week cooking and washing up, compared to 3.2 hours a week for men.³⁵⁰ Improving the dietary practices of Canadian women can therefore have beneficial effects for all Canadians, including children and men.

³⁴⁶ Goldberg, Robert, "Temporal Trends and Declining Mortality Rates from Coronary Heart Disease in the United States," in Ockene, Ira, and Judith Ockene, *Prevention of Coronary Heart Disease*, Little, Brown, and Company, Boston, 1992, page 50.

³⁴⁷ Stamler (1992), op. cit., page xiii.

³⁴⁸ *National Consensus Conference on Population Health Indicators: Final Report*, Canadian Institute for Health Information, Ottawa, 1999, page 6.

³⁴⁹ Health Canada, http://www.hc-sc.gc.ca/hpfb-dgpsa/onpp-bppn/food_guide_rainbow_e.html

³⁵⁰ Statistics Canada, *Overview of the Time Use of Canadians in 1998*, catalogue no. 12F0080-XIE, Ottawa, November, 1999.

In addition, women's increased total paid and unpaid workload has had a major impact on dietary practices in Canada, with Canadians spending substantially less time cooking than 20 years ago, and spending an increasing proportion of their household budget eating out. In 1982, 22% of the household food budget was spent eating out, rising steadily to more than one-third of the food budget by the end of the 1990s.³⁵¹ Statistics Canada has also found that women moving to longer work hours were more likely to eat poorly and experience an unhealthy weight gain than women working standard hours.³⁵² Improving the diets of Canadians and increasing fruit and vegetable consumption may therefore depend in part on policy interventions designed to improve the balance between women's paid and unpaid work responsibilities. Finally, low-income women may have barriers accessing healthy food.

In sum, this behavioural indicator is itself an outcome and function of underlying social and economic circumstances. Clearly an increase in the proportion of women eating five or more servings of fruits and vegetables a day is a sign of progress with potentially positive impacts on women's health status.

Results

Most Canadians do not comply with the recommendation to consume between five and ten servings of fruits and vegetables daily. Across the country and in every province, women consume substantially more fruits and vegetables than men. But 57% of Canadian women still do not meet the recommended requirement of five or more servings a day, and more than two-thirds of Canadian men do not meet it.

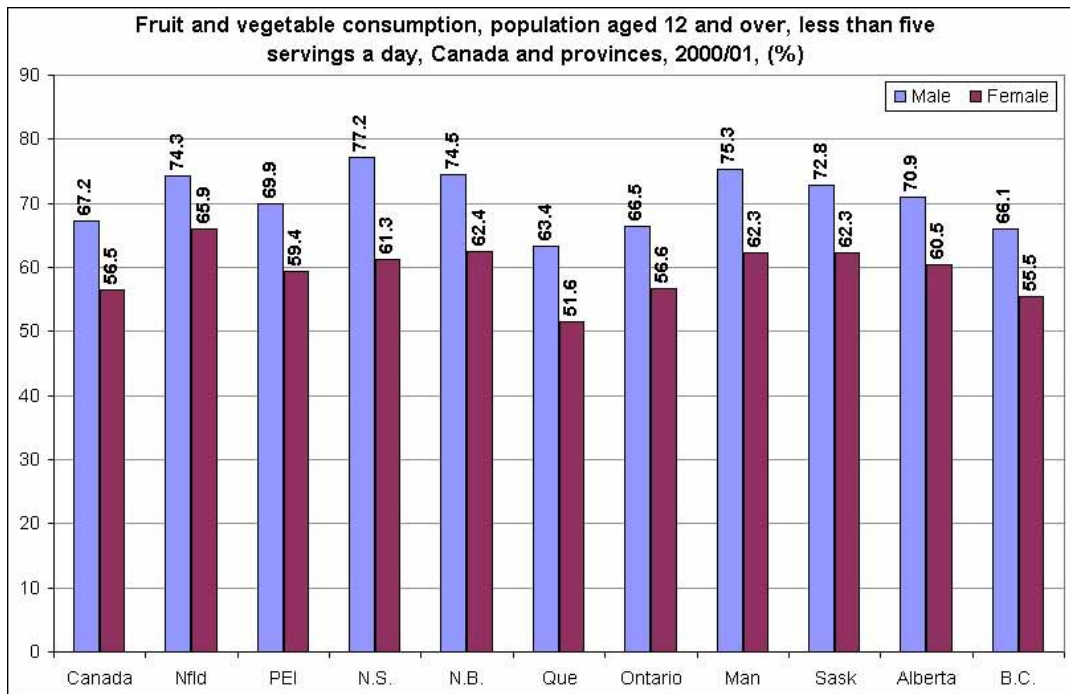
Residents of Quebec eat more fruits and vegetables than people in any other province, followed by British Columbians and Ontarians. Residents of the Atlantic and Prairie provinces eat less fruits and vegetables than other Canadians, with fewer than one-third of Canadians in those regions eating enough fruits and vegetables for good health.

Both men and women in all seven Atlantic and Prairie provinces rank below the national average for adequate fruit and vegetable consumption (Figure 56). Nearly three-quarters of Atlantic and Prairie region men and more than 60% of women in those provinces eat insufficient fruits and vegetables for good health. As noted above, even the national average is not an appropriate target or objective, since well over half of Canadian women and more than two-thirds of Canadian men do not consume sufficient fruits and vegetables for optimal health.

³⁵¹ Statistics Canada, *Family Food Expenditure in Canada*, catalogue no. 62-554, and *Family Expenditure in Canada*, catalogue no. 62-555, cited in Colman, Ronald, *The Economic Value of Unpaid Housework and Child-Care in Nova Scotia*, GPI Atlantic, Halifax, 1998, page 55.

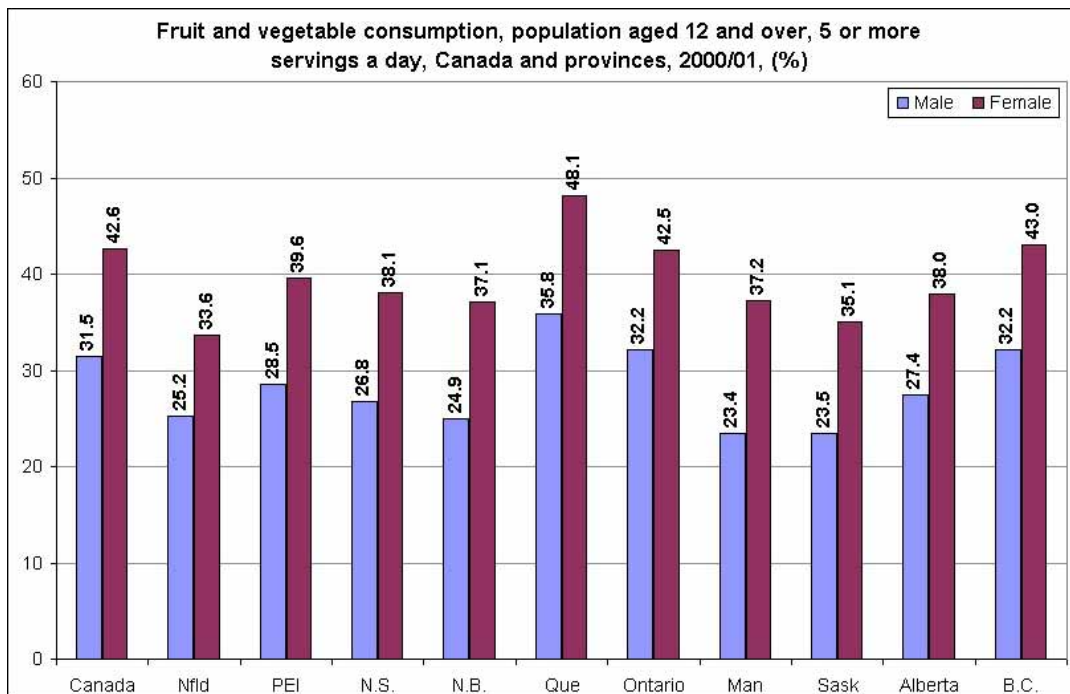
³⁵² Shields, Margot, "Long Working Hours and Health," Statistics Canada, *Health Reports*, volume 11, no. 2, Autumn, 1999, pages 33-48.

Figure 56. Fruit and vegetable consumption, population aged 12 and over, less than five servings a day, Canada and provinces, 2000/01, (%)



Source: Statistics Canada, Canadian Community Health Survey, 2000/01, health file.

Figure 57. Fruit and vegetable consumption, population aged 12 and over, 5 or more servings a day, Canada and provinces, 2000/01, (%)



Source: Statistics Canada, Canadian Community Health Survey, 2000/01, health file.

10. Alcohol Consumption – Frequency of Heavy Drinking

Indicator description

Heavy drinkers are defined as the proportion of the population, aged 12 and over, who are current drinkers and who report having had five or more drinks on one occasion, 12 or more times in the previous year.³⁵³ Data for this indicator come from Statistics Canada's 2000/01 Canadian Community Health Survey; and Statistics Canada's 1994/95, 1996/97 and 1998/99 National Population Health Surveys.

Relevance

Excessive use of alcohol can lead to a wide range of health and social problems. Impaired driving can result in death, injury, and property loss, with alcohol-related deaths accounting for an estimated 42% of fatal motor vehicle accidents.³⁵⁴ Among fatally injured drivers, 35% were legally impaired.³⁵⁵ An Ontario study found that medical treatment and other costs associated with drunk driving cost the province \$2.5 billion a year.³⁵⁶

The indicator has particular significance for women's reproductive health, as alcohol abuse during pregnancy can interfere with the normal development of the fetus, and lead to Fetal Alcohol Spectrum Disorders (FASD). This is the term used to describe a range of birth defects and life-long developmental disabilities, which are caused by prenatal alcohol exposure. The disabilities range from Fetal Alcohol Syndrome and Fetal alcohol effects to alcohol-related birth defects and alcohol-related neuro-developmental disorders. These disabilities can consist of characteristic physical features, notably facial features, growth and development restrictions, and brain and central nervous system dysfunction. The likelihood of serious physical and developmental disabilities for new-borns increases with the amount of alcohol consumed, the frequency of consumption, the pattern in which the alcohol is consumed, the timing in the pregnancy, and the state of health of the mother.³⁵⁷

³⁵³ *National Consensus Conference on Population Health Indicators: Final Report*, Canadian Institute for Health Information, Ottawa, 1999, page B-6. Statistics Canada health indicators web site defines the measurement tool as: "Population aged 12 and over who are current drinkers and who reported drinking 5 or more drinks on at least one occasion in the past 12 months" (<http://www.statcan.ca/english/freepub/82-221-XIE/00502/37>). Statistics Canada's Canadian Community Health Survey, referenced in this section, provides data on the proportion of the population that consumed "five or more drinks, 12 or more times in the previous year. That is used in this section as the definition and yardstick of regular heavy drinking.

³⁵⁴ As reported in *The Chronicle-Herald*, Halifax, 20 March, 1999, page A8.

³⁵⁵ Health Canada, *Toward a Healthy Future: Second Report on the Health of Canadians*, Ottawa, 1999, page 121.

³⁵⁶ As reported in *The Chronicle-Herald*, Halifax, 23 November, 1998, page B1

³⁵⁷ Buxton, Bonnie, "FASD: Fetal Alcohol Spectrum Disorder", available at: <http://come-over.to/FAS/FASD.htm>; O'Malley, Kieran, MD, "A New Diagnostic Classification: FASD," *FAS Times*, Fall, 2000, available at: <http://www.fasworld.com/media.ihtml>; and see *Prevention Source BC*, at <http://www.preventionsource.bc.ca/home/index.html>.

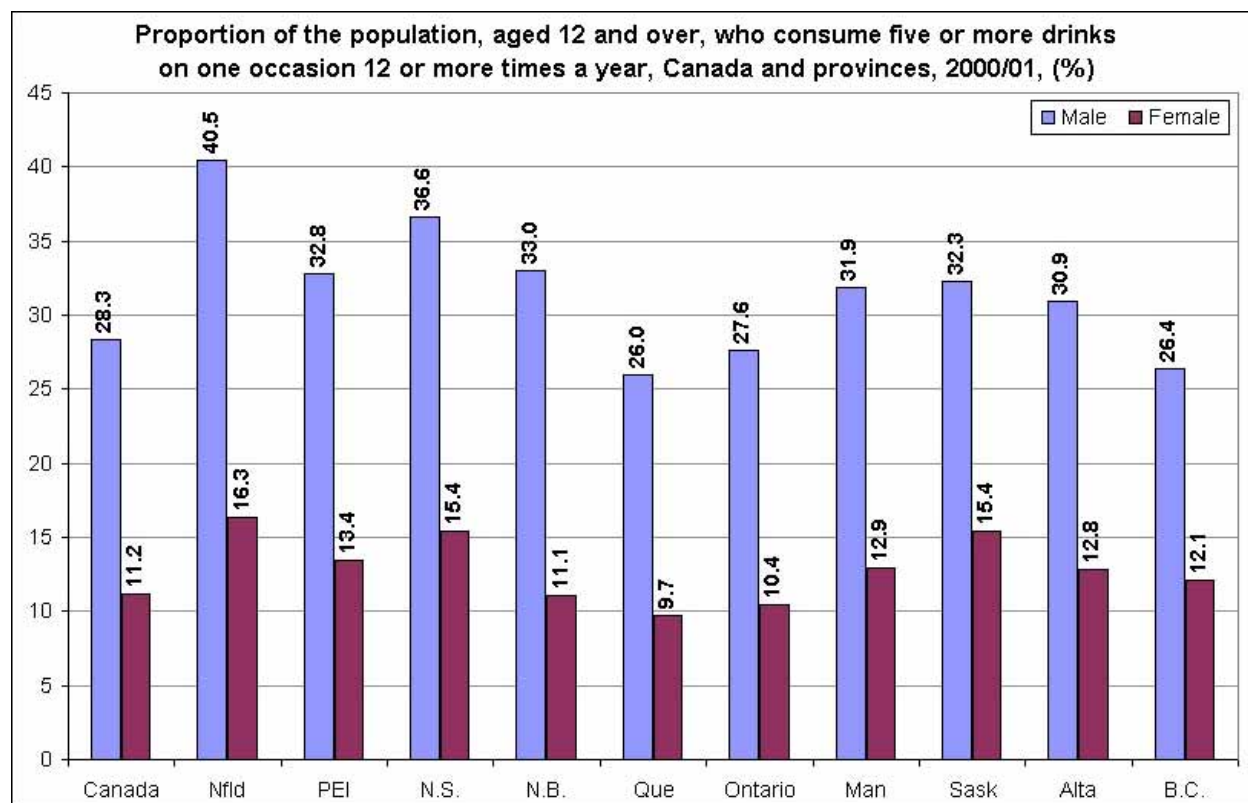
Results

Atlantic Canadians are the heaviest drinkers in Canada, and residents of the three Prairie provinces are also more likely to be heavy drinkers than other Canadians. Quebec has the lowest rate of heavy drinking in the country for both men and women, followed by Ontario and British Columbia. More than one-third of Atlantic region men have five or more drinks on one occasion, 12 or more times a year, compared to 28% of Canadian men.

Across the country, women are much less likely to be heavy drinkers than men, with men about 2.5 times as likely to be heavy drinkers as women. But one in nine Canadian women, and about one in seven Atlantic region women are heavy drinkers.

Newfoundlanders are the heaviest drinkers (41% of men and 16% of women) in Canada, followed by Nova Scotians (37% of men, and 15% of women), and residents of Saskatchewan (32.3% of men, and 15.4% of women). Only one-third of Newfoundland men never have five or more drinks on one occasion in a 12-month period, compared to 45% of Canadian men who never drink heavily (Figure 58).

Figure 58. Proportion of the population, aged 12 and over, who consume five or more drinks on one occasion 12 or more times a year, Canada and provinces, 2000/01, (%)



Source: Statistics Canada, Canadian Community Health Survey, 2000/01, health file.

However, these provincial averages can mask significant intra-provincial differences, and disparities among sub-groups of men and women. For example, more than one in five women in

Labrador and Cape Breton are heavy drinkers, as are nearly half of Labrador men and 42% of Cape Breton men – significantly higher rates than in St. John’s and Halifax.³⁵⁸

11. Tobacco Use

Three indicators of tobacco use are presented in this inventory of women’s health indicators – smoking prevalence; age of smoking initiation; and exposure to second-hand smoke. The first two are presented here as health behaviours, and second-hand smoke exposure is presented later as an environmental determinant of health.

11.1 Smoking prevalence

Indicator description

Smoking status is reported in the 2000/01 Canadian Community Health Survey (CCHS) and the 1994/95 and 1996/97 National Population Health Surveys (NPHS) as the proportion of the “population aged 12 and over who reported being either a smoker (daily or occasional) or a non-smoker (former or never smoked).”³⁵⁹ The NPHS longitudinal samples are also referenced.

This inventory of indicators also uses information from Statistics Canada’s Canadian Tobacco Use Monitoring Survey (CTUMS), 1999-2001, which assesses smoking prevalence for the Canadian population aged 15 and over. Historical trends are compiled from Statistics Canada’s 1985 and 1990 Health Promotion Surveys, and from Health Canada, *The National Strategy: Moving Forward: 2002 Progress Report on Tobacco Control*, which uses data from Labour Force Survey Supplements, 1965-1975, 1981-1986; Canada Health Survey, 1978; General Social Survey, 1991; and Survey on Smoking in Canada, 1994.³⁶⁰

It should be noted that 2000/01 CCHS and 2001 CTUMS data are not comparable primarily because the CCHS data refer to Canadians aged 12 and older, while the CTUMS data are for those 15 and older. In addition, the CCHS data distinguish between “daily” and “occasional” smokers at the provincial level (called “daily” and “non-daily” in the CTUMS tables), whereas provincial information in the CTUMS is presented for “current” smokers (a category that includes both daily and non-daily smokers). Because the following results use both the CCHS and the CTUMS data, the chart titles clearly distinguish whether reference is to “daily” or “current” smokers, and to population 12 and over or population 15 and over.

³⁵⁸ Statistics Canada, *Health Indicators*, <http://www.statcan.ca/english/freepub/82-221-XIE/01002/tables/html/2156.htm>.

³⁵⁹ Statistics Canada, <http://www.statcan.ca/english/freepub/82-221-XIE/00502/defin2.htm#35a>

³⁶⁰ For historical trends since 1965, see Health Canada, <http://www.hc-sc.gc.ca/hecs-sesc/tobacco/policy/prog02/prevalence>.

Relevance

Tobacco is the only product sold legally that causes sickness and death when used exactly as intended. Worldwide, tobacco kills one in ten adults, and by 2030 it will kill one in 6, or 10 million people year – more than any other single cause of death.³⁶¹ Health Canada reports that 21% of all deaths in Canada are attributable to smoking – 45,000 preventable deaths a year – and that smoking is the leading preventable cause of sickness and death.³⁶² Ninety per cent of lung cancers are attributable to smoking, and tobacco is also a significant risk factor for other cancers, coronary heart disease, and respiratory illnesses.³⁶³

Smoking has particular relevance as an indicator of women's health for several reasons:

- Female smokers are twice as susceptible to lung cancer as male smokers.³⁶⁴
- Lung cancer incidence and death rates among women are now almost five times as high as in 1970.³⁶⁵
- Smoking rates for women have dropped less rapidly than for men (see historical data below).
- More teenage girls smoke than boys. Among 15-19 year-old Canadians, 23.6% of girls smoked in 2001, compared to 21.4% of boys. Among 15-17 year-olds, 20.9% of girls and 16.2% of boys smoke.³⁶⁶
- Smoking rates dropped among 15-19 year-old boys, from 40% in 1966 to 21% in 2001. Among 15-19 year-old girls, smoking rates have not diminished since 1966. In fact, female teen smoking actually increased from 24% in 1966 to 29% in 1999, before dropping back to 24% in 2001.³⁶⁷
- Smoking has serious implications for women's reproductive health. Pregnant women who smoke, or who are regularly exposed to second-hand smoke, have higher rates of miscarriage and premature birth, and are more likely to deliver infants with low birth weights. Infants of smoking mothers are also more susceptible to Sudden Infant Death

³⁶¹ The World Bank, *Curbing the Epidemic: Governments and the Economics of Tobacco Control*, The World Bank, Washington, D.C., 1999, page 1.

³⁶² Health Canada, "Deaths in Canada due to Smoking," *Information Sheet*, Ottawa, 18 January, 1999; Health Canada, *Toward a Healthy Future: Second Report on the Health of Canadians*, Ottawa, 1999.

³⁶³ Health Canada, *Toward a Healthy Future*, page 25; Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999, page 308; National Cancer Institute of Canada, *Canadian Cancer Statistics 2000*, Toronto 2000.

³⁶⁴ Female susceptibility to lung cancer, from a Pennsylvania State University study published in the *Journal of the U.S. National Cancer Institute*, reported in *The Chronicle-Herald*, Halifax, 5 January, 2000, pages 1-2.

³⁶⁵ National Cancer Institute of Canada, *Canadian Cancer Statistics 1999*, March, 1999, pages 9 and 24.

³⁶⁶ Statistics Canada and Health Canada, *Canadian Tobacco Use Monitoring Survey 2001*, Table 1. Smoking status and average number of cigarettes smoked per day, by age group and sex, age 15+, Canada 2001, available at: http://www.hc-sc.gc.ca/hecs-sesc/tobacco/research/ctums/2001/table_01.html.

³⁶⁷ Stephens, Megan, and Jason Sironnian, "Smoking Prevalence: Quite attempts and successes," *Statistics Canada Health Reports*, volume 9, no. 4, Spring, 1998, page 33. 1999 teenage smoking prevalence rates are from: Statistics Canada and Health Canada, *Canadian Tobacco Use Monitoring Survey 2001*, Table 2. Smoking status and average number of cigarettes smoked per day, by age group and sex for Canadians age 15 and over, Canada 1999, available at: http://www.hc-sc.gc.ca/hecs-sesc/tobacco/pdf/1999wave2_supp_eng.pdf.

Syndrome (SIDS), and respiratory problems that are exacerbated because infant lungs are large relative to body size.³⁶⁸

- Infants both to smoking mothers more often require neonatal intensive care and suffer long-term impairments to physical and intellectual development due to intrauterine growth retardation. Smoking is responsible for about 25% of low birth-weight cases. Infants born to smoking mothers have a 20% greater risk of perinatal death.³⁶⁹
- More than one-third of Canadian women under 40 who smoke daily also smoked during their last pregnancy.³⁷⁰

Indeed, these issues demonstrate the importance of a gender analysis of health issues, since health promotion programs will only be optimally effective if they take gender distinctions into account. For example, the different patterns of teenage smoking noted above indicate that health promotion literature must be written in a language that targets the most affected groups, and that programs must be aimed where they will yield the greatest returns. Thus, surveys have found that stress relief and weight loss are primary reasons that teenage girls take up smoking, and that female students have significantly higher levels of time stress than male students.³⁷¹ Programs, brochures, materials, and counselling that acknowledge these motivations explicitly are more likely to be effective than blanket statements about the health effects of smoking.

Similarly, an overview of the literature on smoking cessation cost-effectiveness found that:

*"[A]pproaches which targeted reduction or cessation in specific sub-groups (e.g. targeting pregnant women who smoke, in order to reduce the frequency of stillbirth and low birthweight babies) showed larger gains than those which took a more general population approach."*³⁷²

The empirical evidence bears out these findings. One U.S. study found that an annual drop of one percentage point in smoking prevalence would prevent 57,200 low birth-weight babies and save \$850 million in direct medical costs in the U.S. The study concluded that "smoking

³⁶⁸ Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999, page 164; Nova Scotia Department of Health, *Smoke-Free Places: Towards Healthier Communities in Nova Scotia: A Discussion Paper*, page 3.

³⁶⁹ Adams, Kathleen, and Cathy Melvin, "Costs of Maternal Conditions Attributable to Smoking During Pregnancy," *American Journal of Preventive Medicine*, volume 15, no. 3, 1988, page 213; Grossman, Michael and Frank Chaloupa, "Cigarette Taxes: The Straw to Break the Camel's Back," *Public Health Reports*, volume 112, July-August, 1999, page 294; Chang Qing Li, Richard Windsor, and Mahmud Hassan, "Cost Differences between Low Birthweight Attributable to Smoking and Low Birthweight for All Causes," *Preventive Medicine*, volume 23, 1994, pages 28-34; Lightwood, James, Claran Pihbs, and Stanton Glantz, "Short-term Health and Economic Benefits of Smoking Cessation: Low Birth Weight," *Pediatrics*, volume 104, no. 6, December, 1999, pages 1312-1320; Marks, James, Jeffrey Koplan, Carol Hogue and Michael Dalmat, "A Cost-Benefit/Cost-Effectiveness Analysis of Smoking Cessation for Pregnant Women," *American Journal of Preventive Medicine*, volume 6, no. 5, 1990, pages 282-9.

³⁷⁰ Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999, pages 164-167.

³⁷¹ Respondents classified as "severely time stressed" by Statistics Canada are those that give affirmative answers to seven out of ten questions on a time stress questionnaire that includes questions like "Do you consider yourself a workaholic?", "Do you worry that you don't spend enough time with your family and friends?", and "Do you feel that you're constantly under stress trying to accomplish more than you can handle?" 1992 results from Statistics Canada, *As Time Goes By...Time Use of Canadians*, General Social Survey, by Judith Frederick, catalogue no. 89-544E, pages 15-16; 1998 results from Statistics Canada, *The Daily*, November 9, 1999, catalogue no. 11-001E, pages 2-4; and Statistics Canada, General Social Survey, Cycle 12, 1998, Housing, Family and Social Statistics Division, special tabulation.

³⁷² Phillips, David, et al., "The Economics of Smoking," *PharmacoEconomics*, volume 3, no. 6, 1993, page 466.

cessation before the end of the first trimester produces significant cost savings from the prevention of low birth weight.”³⁷³

Another study found that a simple smoking cessation program for pregnant mothers cost just \$41 per participant, including instructional materials, follow-up phone calls, overhead costs, and staff time for a nurse or health educator.³⁷⁴ The program achieved a 15% quit rate, and saved \$3.31 for every \$1 invested, through avoided neonatal intensive care costs for low birth-weight babies. When avoided long-term care costs for low-birth-weight infants with disabilities are added, the benefit-cost ratio doubled to \$6.60 for every dollar invested. If avoided life-time medical costs for the mothers were added, the benefit-cost ratio would increase to almost 10:1.³⁷⁵

In sum, a gender analysis of a lifestyle determinant of health, like smoking, can assist policy makers to target programs and materials where they will be most effective.

Results

The highest smoking rates in the country are in Newfoundland and Labrador and in Quebec, where one-quarter of the population, aged 12 and over, smoke daily. The next highest rates are in the Maritimes, Saskatchewan, and Alberta, where 23% or more smoke daily. British Columbia has by far the lowest smoking rate in Canada (16.3%), followed by Ontario and Manitoba, where one in five smoke (Figure 59).

Since 1985, smoking rates across the country have dropped by about one-third, with the sharpest decline in British Columbia, where the smoking rate has dropped by almost half (Figure 60).

Across Canada and in every province, men are more likely to smoke than women. Although smoking rates have declined sharply in the last 30 years, female smoking rates started dropping later than male rates, and less rapidly; so the gap between male and female smokers has gradually narrowed. In 1970, 71% more men smoked than women (65% of men; 38% of women). By 2001, male rates had fallen by 63% and female rates by 47%, and the gender gap had narrowed to 20% (Figure 61).

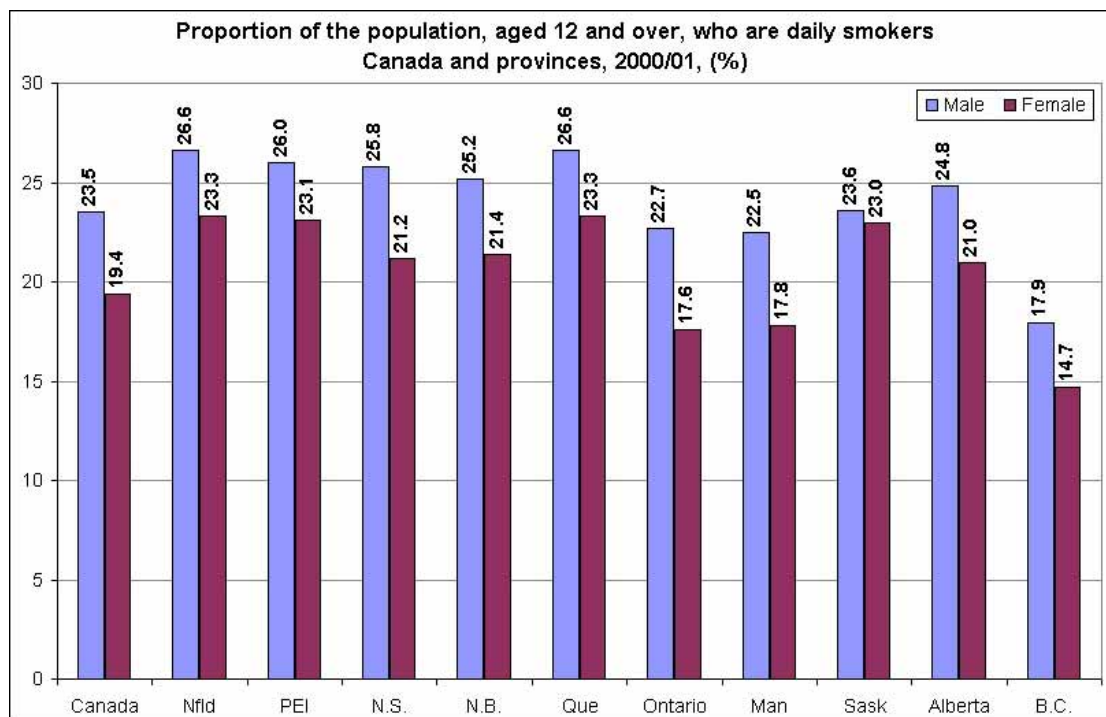
The Canadian Community Health Survey also provides data on former smokers and those who have never smoked. Not surprisingly, the provinces with historically high smoking rates have smaller proportions of the population who have never smoked, and correspondingly higher proportions of former smokers than the Canadian average. About one in three Canadian men have never smoked, and 42% of Canadian women have never smoked, compared to about 28% of Atlantic region men and 38% of Atlantic region women (Figure 62).

³⁷³ Lightwood, James, Claran Phibbs, and Stanton Glantz, “Short-term Health and Economic Benefits of Smoking Cessation: Low Birth Weight,” *Pediatrics*, volume 104, no. 6, December, 1999, pages 1312-1320.

³⁷⁴ Marks, James, Jeffrey Koplan, Carol Hogue, and Michael Dalmat, “A Cost-Benefit/Cost-Effectiveness Analysis of Smoking Cessation for Pregnant Women,” *American Journal of Preventive Medicine*, volume 6, no. 5, 1990, pages 282-289.

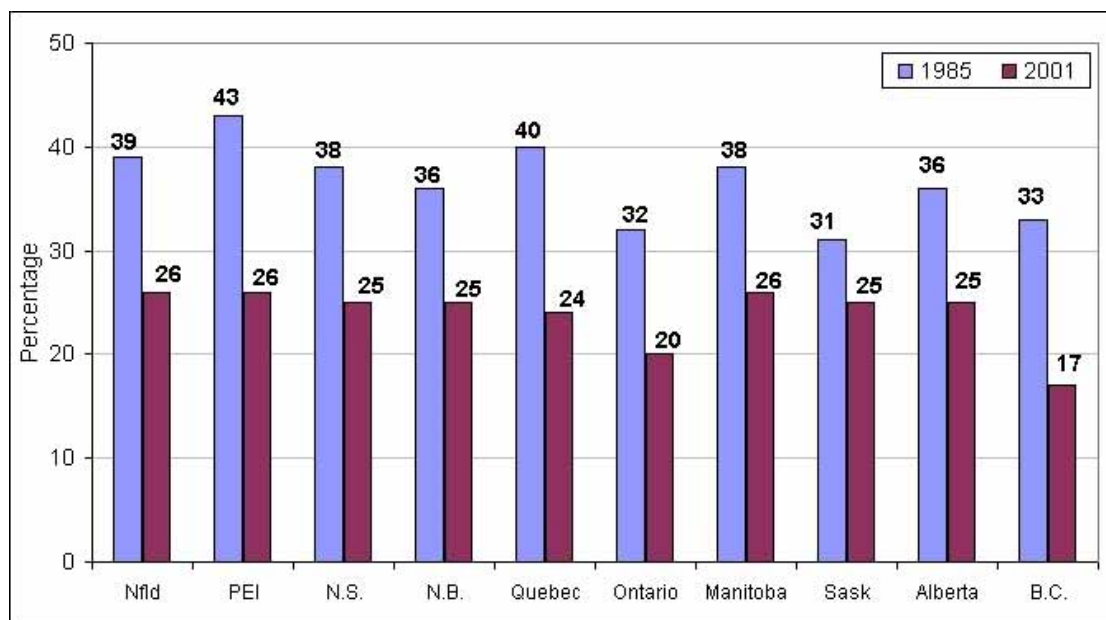
³⁷⁵ Colman, Ronald, *The Cost of Tobacco in Nova Scotia*, GPI Atlantic, Halifax, 2000, pages 63-64.

Figure 59. Proportion of the population, aged 12 and over, who are daily smokers, Canada and provinces, 2000/01, (%)



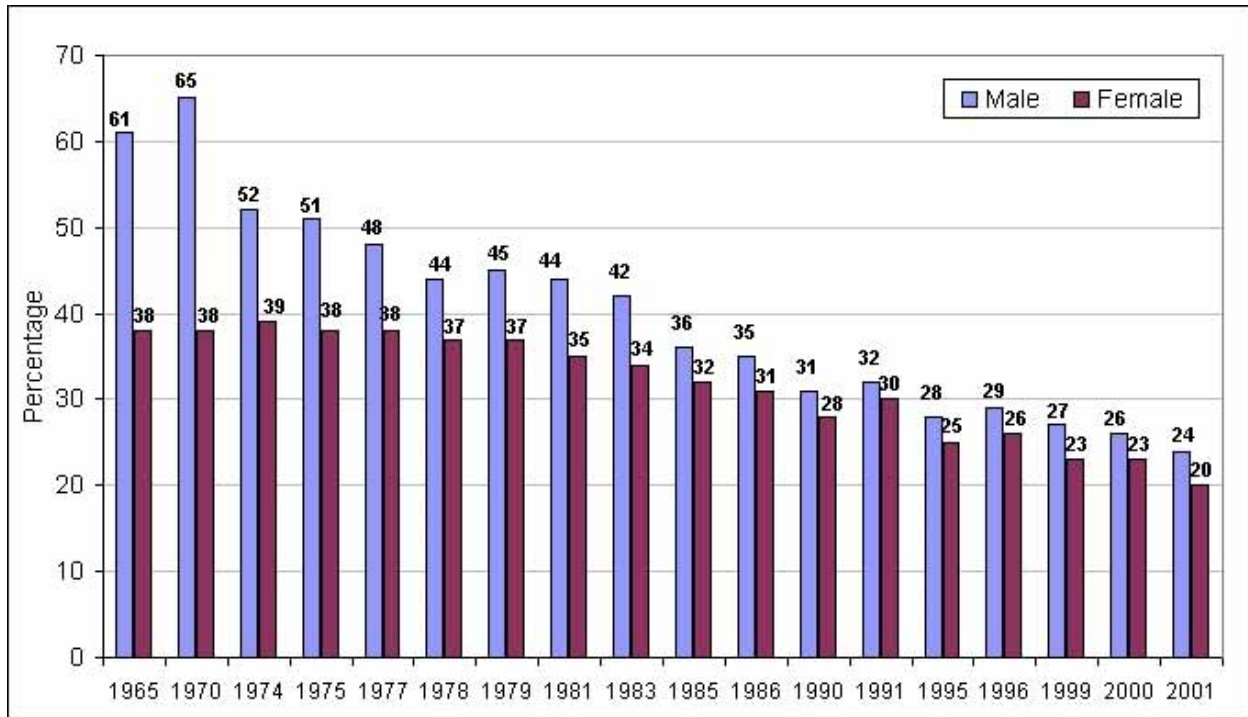
Source: Statistics Canada, Canadian Community Health Survey, 2000/01, health file.

Figure 60. Proportion of the population, aged 15 and over, who are current (daily + occasional) smokers, Canada and provinces, 1985 and 2001 (%)



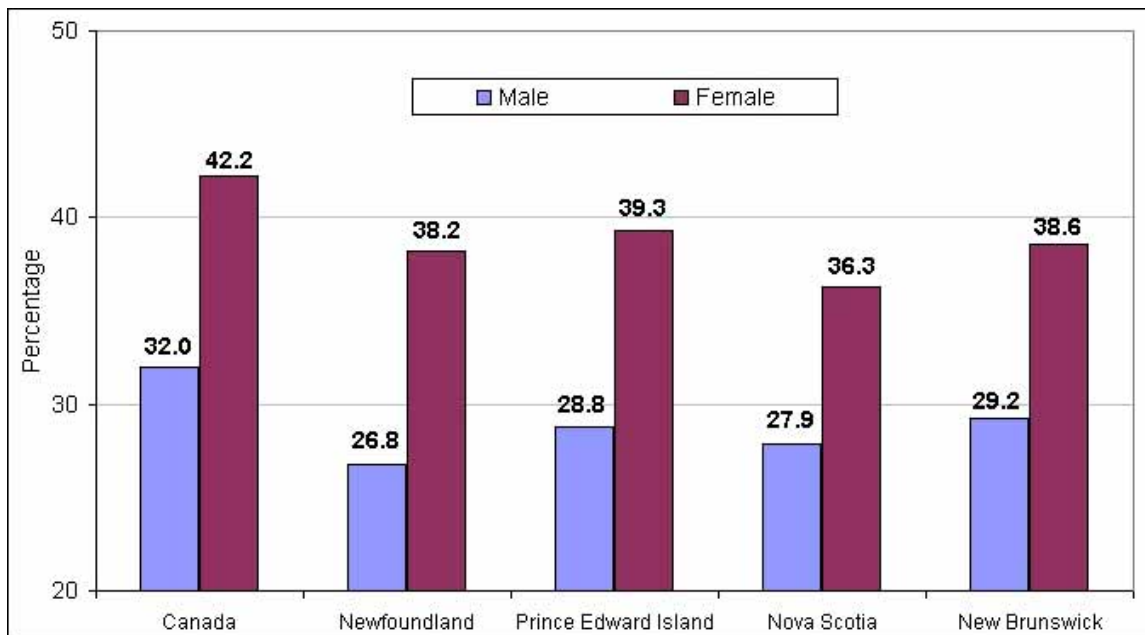
Source: 1985 General Social Survey; 2001 Canadian Tobacco Use Monitoring Survey, Health Canada web site <http://www.hc-sc.gc.ca/hecs-sesc/tobacco/research/ctums/2001/2001overview.html#fig1>.

Figure 61. Proportion of the population, aged 15 and over, who are current smokers, Canada, 1965- 2001, (%)



Source: Health Canada, http://www.hc-sc.gc.ca/hecs_sesc/tobacco/policy/prog02/indicators.html#prevalence

Figure 62. Proportion of the population, aged 12 and over, who never smoked, Canada and Atlantic provinces, 2000/01, (%)



Source: Statistics Canada, Canadian Community Health Survey, 2000/01, health file.

11.2 Age of smoking initiation

Indicator description

The 2000/01 Canadian Community Health Survey assesses the “age of initiation” of smoking for the “population aged 12 and over who reported being either a current or former smoker and who reported the age when they smoked their first cigarette.”³⁷⁶

Relevance

As the tobacco industry has long understood, teenage smoking predicts adult behaviour. Statistics Canada has found that among 21-39 year-old daily smokers in Canada, 86% began smoking as teenagers. This confirms U.S. evidence that 90% of smokers in that country began the habit as teenagers, and 82% of daily smokers began smoking before age 18.³⁷⁷

Numerous studies have also shown that the earlier people start to smoke the more cigarettes they will smoke and the less likely they are to quit. Those who start smoking between 14 and 17 are 2.3 times as likely to smoke more than 20 cigarettes a day as those who start smoking at age 20 or more. Within 10 years, 42% of those who started smoking at age 20 or more had quit, compared to only 22% of those who started between 14 and 17, and just 18% of those who started smoking at 13 or less.³⁷⁸

In short, teenage smoking portends serious and costly health consequences in the future. For this reason, CIHI’s National Consensus Conference on Population Health Indicators confirmed smoking initiation – the average age at which smokers begin smoking – as a key behavioural determinant of health.³⁷⁹

As noted earlier, this indicator is of particular importance for women’s health in light of the high rate of smoking among teenage girls. The 12-19 year-old age group is the only one where the female smoking rate exceeds the male smoking rate.³⁸⁰

New evidence, recently published in the British Medical Association Journal, *Tobacco Control*, shows that teenagers can become addicted to smoking much more quickly than previously thought, with some 12 and 13-year-olds showing evidence of addiction within days of their first cigarette. The researchers suggested that adolescents may be more sensitive to nicotine than those who start smoking at a later age.

³⁷⁶ Statistics Canada, <http://www.statcan.ca/english/freepub/82-221-XIE/00502/defin2.htm#35a>

³⁷⁷ Jiajian Chen and Wayne J. Millar, “Age of Smoking Initiation: Implications for Quitting,” Statistics Canada, *Health Reports*, volume 9, no. 4, Spring 1998, pages 38-46; U.S. Centers for Disease Control and Prevention, Office of Smoking and Health, *Preventing Tobacco Use among Young People: A report to the Surgeon-General*, Department of Health and Human Services, Atlanta. 1994

³⁷⁸ Jiajian Chen and Wayne J. Millar, “Age of Smoking Initiation: Implications for Quitting,” Statistics Canada, *Health Reports*, volume 9, no. 4, Spring 1998, pages 38-46.

³⁷⁹ Canadian Institute for Health Information, *National Consensus Conference on Population Health Indicators*, Ottawa, 1999, pages 5 and B6.

³⁸⁰ Statistics Canada, Canadian Community Health Survey 2000/01, data tables; “Smoking Status by Age Group and Sex, Household Population, aged 12 and over, Canada, 2000/01”, available at: <http://www.statcan.ca/english/freepub/82-221-XIE/01002/tables/html/2115.htm>.

The lead researcher in this study, Dr. Joseph Di Franzia of the University of Massachusetts, commented:

*The really important implication of this study is that we have to warn kids that you can't just fool around with cigarettes or experiment with cigarettes for a few days and then give it up. If you fool around with cigarettes for a few weeks, you may be addicted for life.*³⁸¹

Results

- The 2000/01 Canadian Community Health Survey found that 17.6% of Canadian boys and 19.8% of girls aged 12-19 smoke. Of these, 12.1% and 13.6% respectively smoke daily.
- Among 12-14 year-olds, 5% of boys and 7% of girls smoke. About half of these 12-14 year-old smokers smoke daily, and one in 26 Canadian girls aged 12-14 smokes daily.
- Among 15-19 year-olds, 24.7% of boys and 26.7% of girls smoke. Of those 17.7% and 18.9% smoke daily.³⁸²

Current teenage smoking rates are a reversal of historical patterns. When the *whole* population of current and former smokers is considered, men generally began to smoke at younger ages than women, and women were more likely than men to take up the habit later in life. Thus, among current or former smokers, 16.3% of Canadian women started smoking at age 20 or over, compared to only 11.8% of men. By contrast, 41% of male current or former smokers began smoking under the age of 15, compared to 35.2% of women. But these averages are deceptive.

An analysis by age reveals a major historical change, which illustrates how important a gender analysis can be in predicting future smoking patterns and health costs. The results show that boys *used* to start smoking at younger ages than girls, but that pattern is now reversed:

- When current 15-19 year-old smokers are examined, more than two-thirds of girls (67.5%) had started smoking at age 14 or under, compared to 60.2% of boys.
- Among 20-34 year-old current or former smokers as well, 43.8% of women began smoking at age 14 or under, compared to 38.4% of men.
- Among 35-44 year-old current or former smokers, 42% of women and 41% of men began smoking under the age of 15.
- After age 45, the pattern shifts dramatically: Among 45-64 year-old current or former smokers, 41% of men and 25.2% of women started smoking under the age of 15, and among those 65 and older, 35.2% of men and 12.4% of women began smoking under the age of 15.³⁸³

³⁸¹ The Halifax Daily News, 12, Sept., 2000, page 13, "Teens can get addicted to nicotine early – study."

³⁸² Statistics Canada, Canadian Community Health Survey 2000/01, data table: "Smoking Status by Age Group and Sex, Household Population, aged 12 and over, Canada, 2000/01", available at: <http://www.statcan.ca/english/freepub/82-221-XIE/01002/tables/html/2115.htm>.

³⁸³ Statistics Canada, Canadian Community Health Survey 2000/01, data table: "Smoking initiation (average age), by age group and sex, household population aged 12 and over, smokers and former smokers, Canada, 2000/01," available at: <http://www.statcan.ca/english/freepub/82-221-XIE/01002/tables/html/2125.htm>.

12. Leisure Time Physical Activity

Indicator description

Statistics Canada defines Canadians as “physically inactive” or sedentary if they report a usual daily leisure-time energy expenditure of less than 1.5 kilocalories per kilogram of body weight per day (kcal/kg/day). Individuals are defined as “moderately active” if they expend 1.5-2.9 kcal/kg/day, and as “physically active” if they expend 3.0 or more kcal/kg/day.

Calculations are made based on individuals’ reporting of the frequency, duration, and intensity of different types of physical activity, using independently established values for the energy demands of each activity. Based on these criteria, “regular” physical activity (at the levels indicated) is defined as at least 15 minutes of leisure time physical activity 12 or more times per month.³⁸⁴

Health Canada’s 1998 publication, *Canada’s Physical Activity Guide to Healthy Active Living*, calls for an hour of low-intensity activity every day, or 30-60 minutes of moderate-intensity activity, or 20-30 minutes of vigorous-intensity activity 4-7 days a week.³⁸⁵ Only 34% of Canadians aged 25-55 currently meet these recommendations.³⁸⁶

Data sources are Statistics Canada’s 2000/01 Canadian Community Health Survey, and the 1994/95, 1996/97 and 1998/99 National Population Health Surveys, and reporting is for the population 12 and over.³⁸⁷

Relevance

“Physical activity is the crux of healthy aging. Nowhere is the gap wider between what we know and what we do than in the area of physical activity, and nowhere is the potential pay-off greater.”

National Center for Chronic Disease Prevention and Health Promotion, USA.³⁸⁸

Physical activity has proven benefits in preventing disease, improving health, and promoting independence and quality of life in old age.³⁸⁹ The United Kingdom Minister for Public Health has called physical exercise the best buy in public health.³⁹⁰ And the most substantial body of

³⁸⁴ Health Canada, *Statistical Report on the Health of Canadians*, 1999, Ottawa, page 189; Heart and Stroke Foundation of Canada, *The Changing Face of Heart Disease and Stroke in Canada 2000*, Ottawa, 1999, page 107; Chen, Jiajian, and Wayne J. Millar, “Health Effects of Physical Activity,” Statistics Canada, *Health Reports* 11 (1), Summer, 1999, catalogue no. 82-003-XPB, pages 21-30, definitions on page 23.

³⁸⁵ Health Canada, *Canada’s Physical Activity Guide to Healthy Active Living*, Ottawa, 1998.

³⁸⁶ Canadian Fitness and Lifestyle Research Institute, *Meeting Guidelines. Progress in Prevention Bulletin 31*, Ottawa, 1998, available at: http://www.cflri.ca/cflri/resources/pub_pip.php.

³⁸⁷ Statistics Canada, <http://www.statcan.ca/english/freepub/82-221-XIE/00502/defin2.htm#38>.

³⁸⁸ National Center for Chronic Disease Prevention and Health Promotion, “Healthy Aging: Preventing Disease and Improving Quality of Life Among Older Americans,” Atlanta, July, 2001, available at <http://www.cdc.gov/nccddphp/aag-aging.htm>.

³⁸⁹ Canadian Fitness and Lifestyle Research Institute, *The Research File*, 2000, Reference No. 00-01.

³⁹⁰ Cooper, Y. Royal College of Physicians, London, June, 2000, cited in Simey, Piers and Dawn Skelton, “Older people need to be encouraged to exercise,” *British Medical Journal* 322 (7289), 31 March, 2001, page 796.

evidence for achieving healthy active aging relates to the beneficial effects of *regular* exercise.³⁹¹ Physical activity has been called “the most obvious of variables which might reduce overall lifetime morbidity” and the “cornerstone” of any strategy aimed at prolonging disability-free life expectancy.³⁹²

In 1992, the American Heart Association officially recognized physical inactivity as one of the four major modifiable risk factors for cardiovascular disease, along with smoking, high blood pressure, and elevated blood cholesterol.³⁹³ However, because rates of physical inactivity in Canada (49%) are much higher than rates of smoking (22%), high blood pressure (11%), and elevated blood cholesterol (18%), an increase in physical activity may have great potential to reduce the incidence of heart disease in Canada.³⁹⁴

A Harvard Medical School meta-analysis estimated that 22% of coronary heart disease in the U.S. could be attributed to physical inactivity.³⁹⁵ This means that more than one-fifth of heart disease incidence could be avoided if everyone were physically active. Given that cardiovascular diseases are the most costly category of illness, promotion of physical activity could potentially save substantial sums of money.³⁹⁶

A 1999 Statistics Canada analysis of results from the National Population Health Survey, controlling for age, education, income, smoking, blood pressure, weight, and other factors, found that sedentary Canadians have *five times* the risk of developing heart disease as those who exercise moderately in their free time. The same analysis found that those with a low level of regular physical activity had 3.7 times the odds of developing heart disease compared to those who exercised moderately.³⁹⁷

The Harvard meta-analysis also found that 22% of colon cancer and osteoporotic fractures, 12% of diabetes and hypertension, and about 5% of breast cancer are attributable to lack of physical

³⁹¹ Andrews, Gary, “Promoting Health and Function in an Ageing Population,” *British Medical Journal* 322 (7288), 24 March, 2001, pages 728-729.

³⁹² Fries, James, “Physical Activity, the Compression of Morbidity, and the Health of the Elderly,” *Journal of the Royal Society of Medicine* 89, 1996, pages 64 and 67.

³⁹³ American Heart Association, “Statement on Exercise: Benefits and recommendations for physical activity programs for all Americans, a statement for health professionals by the Committee on Exercise and Cardiac Rehabilitation of the Council on Clinical Cardiology, American Heart Association, *Circulation* 86, 1992, pages 340-344.

³⁹⁴ Statistics Canada and Health Canada, *Canadian Tobacco Use Monitoring Survey* 2001; Blood pressure from Statistics Canada, *Health Statistics* 1999, CD-Rom, Table 0060121.IVT; Cholesterol prevalence from Logan, Alexander, *Lowering the Blood Total Cholesterol Level to Prevent Coronary Heart Disease*, Canadian Task Force on Preventive Health Care, June, 1994, available at: http://www.ctfphc.org/Full_Text/Ch54full.htm; Inactivity prevalence from Statistics Canada, Canadian Community Health survey. Alternative measures of physical inactivity are available from Canadian Fitness and Lifestyle Research Institute, *2000 Physical Activity Monitor*, available at: <http://www.cflri.ca/cflri/pa/surveys/2000survey/2000survey.html>.

³⁹⁵ Colditz, G.A. (1999), cited in Canadian Fitness and Lifestyle Research Institute (CFLRI), “Physical Activity Pays Big Dividends,” in *The Research File*, reference no. 00-01. A “meta-analysis” examines results from a large number of epidemiological studies. Statistical techniques are then used to estimate relative risks for particular behaviour patterns and the proportion of disease burden attributable to these risk behaviours, taking into account the findings of all studies examined as well as the sample sizes and methodologies of each study.

³⁹⁶ Health Canada, *Economic Burden of Illness* 1998, Ottawa, 2002.

³⁹⁷ Chen, Jiajian, and Wayne J. Millar, “Health Effects of Physical Activity,” Statistics Canada, *Health Reports* 11 (1), Summer, 1999, catalogue no. 82-003-XPB, pages 21-30, especially, page 24.

activity.³⁹⁸ Physical inactivity is also linked to obesity, which is itself a risk factor for a wide range of chronic diseases. It is estimated that 19% of premature deaths in Canada are attributable to physical inactivity.³⁹⁹

In addition, physical activity provides protection against anxiety and depression. Statistics Canada found that sedentary Canadians are 60% more likely to suffer from depression than those who are active, and concluded that “physical activity has protective effects on heart health and mental health that are independent of many other risk factors.” Regular physical activity has also been shown to foster development of healthy muscles, bones and joints; to improve strength, endurance, and weight control; to improve behavioural development in children and adolescents; and to help maintain function and preserve independence in older adults.⁴⁰⁰

In sum, a very wide range of chronic diseases could be avoided through increased levels of physical activity in the population. Studies have demonstrated that regular exercisers have much less *overall lifetime morbidity* than those who are sedentary, indicating that avoided medical costs due to physical activity can be saved absolutely rather than simply deferred to older ages.⁴⁰¹

United States health authorities have identified increasing physical activity as a key factor in controlling health care costs in that country, through the prevention of unnecessary illness, disability and premature death, and the maintenance of an improved quality of life into old age.⁴⁰² The U.S. Surgeon-General has issued a “national call to action” to put increased physical activity on the same level as the use of seat belts and the discouragement of tobacco use, because of the strong evidence that it will produce comparable “clear and substantial health gains.”⁴⁰³

Regular exercise in childhood can protect against osteoporosis in old age by promoting the development of bone mass, and at older ages it can help maintain bone mineral density. Physical activity can also safeguard mental health through reducing muscle tension (and thereby stress and anxiety) and through biochemical brain alterations and release of endorphins, thereby protecting against depression.⁴⁰⁴

³⁹⁸ Colditz (1999), in CFLRI, op. cit.

³⁹⁹ Canadian Fitness and Lifestyle Research Institute, “The Burden of Inactivity,” *The Research File*, reference no. 98-01.

⁴⁰⁰ Chen and Millar, op. cit., pages 21-30; U.S. Department of Health and Human Services, *Physical Activity and Health: A Report of the Surgeon-General*, Atlanta, Georgia, 1996, pages 7-8; Prof. Robert Malina (University of Texas), “Physical Activity and Behavioural Development,” in Norgan, op. cit., pages 101-120; Prof. Andrew Steptoe (St. George’s Hospital Medical Centre, London, “Physical Activity and Psychological Well-being,” in Norgan, op. cit., pages 207-229; William P. Morgan (ed.), *Physical Activity and Mental Health*, Taylor and Francis, Washington D.C., 1997.

⁴⁰¹ Fries, James, C. Everett Koop, Jacque Sokolov, Carson Beadle, and Daniel Wright, “Beyond Health Promotion: Reducing the Need and Demand for Medical Care,” *Health Affairs* 17 (2), page 71; Fries, James, “Physical Activity, the Compression of Morbidity, and the Health of the Elderly,” *Journal of the Royal Society of Medicine*, 89, 1996, page 67.

⁴⁰² David Satcher, M.D., Ph.D, Director, U.S. Centers for Disease Control and Prevention, and Philip R. Lee, M.D., Assistant Secretary for Health, in Forward to *Physical Activity and Health: A Report of the U.S. Surgeon-General*, op. cit.

⁴⁰³ Audrey F. Manley, M.D., Preface to *Physical Activity and Health: A Report of the U.S. Surgeon-General*, op. cit.

⁴⁰⁴ Idem.

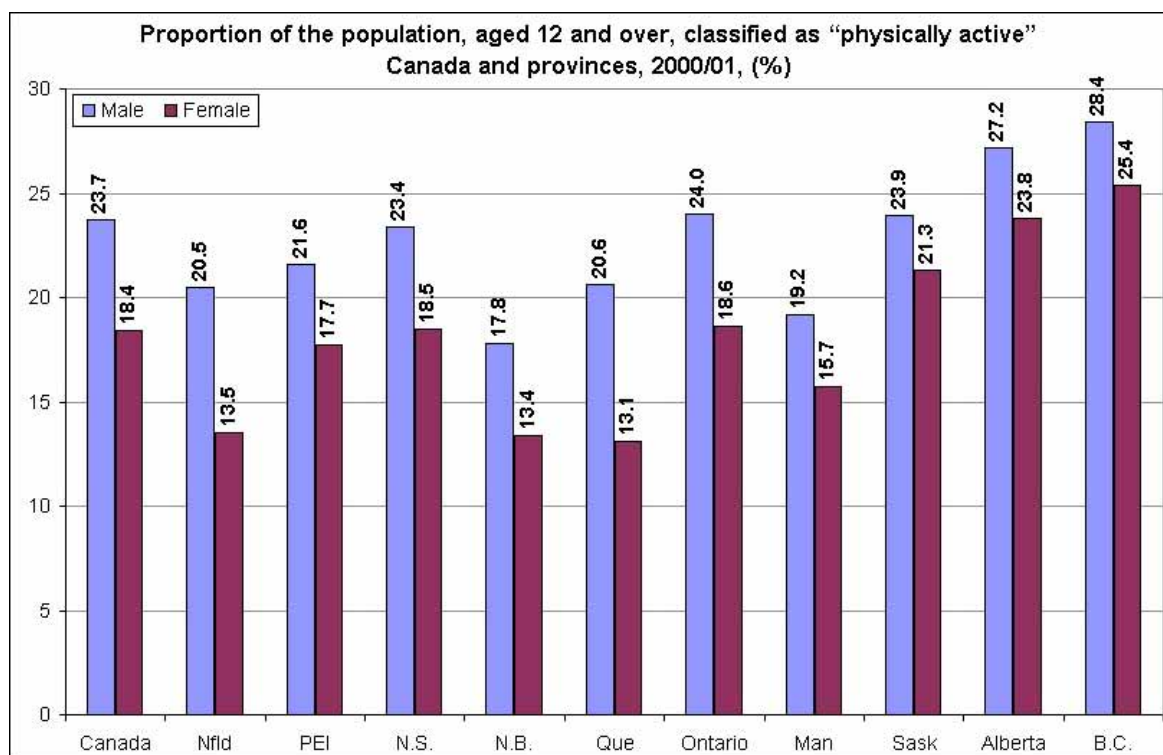
Physical activity is an important indicator of women's health, both because women have markedly lower rates of physical activity than men, and because physical inactivity is linked to breast cancer and to illnesses, like osteoporosis and depression, where women have a higher prevalence than men. Increasing physical activity rates among women therefore has the potential to prevent a number of chronic illnesses to which women are particularly subject.

Results

Canadian men are more likely to be physically active than women, with 23.7% of men and 18.4% of women classified as physically active. Nearly half of all Canadians are classified as physically inactive, including 44.2% of men and 53.8% of women. The remaining respondents were classified as moderately active or did not state their level of activity.

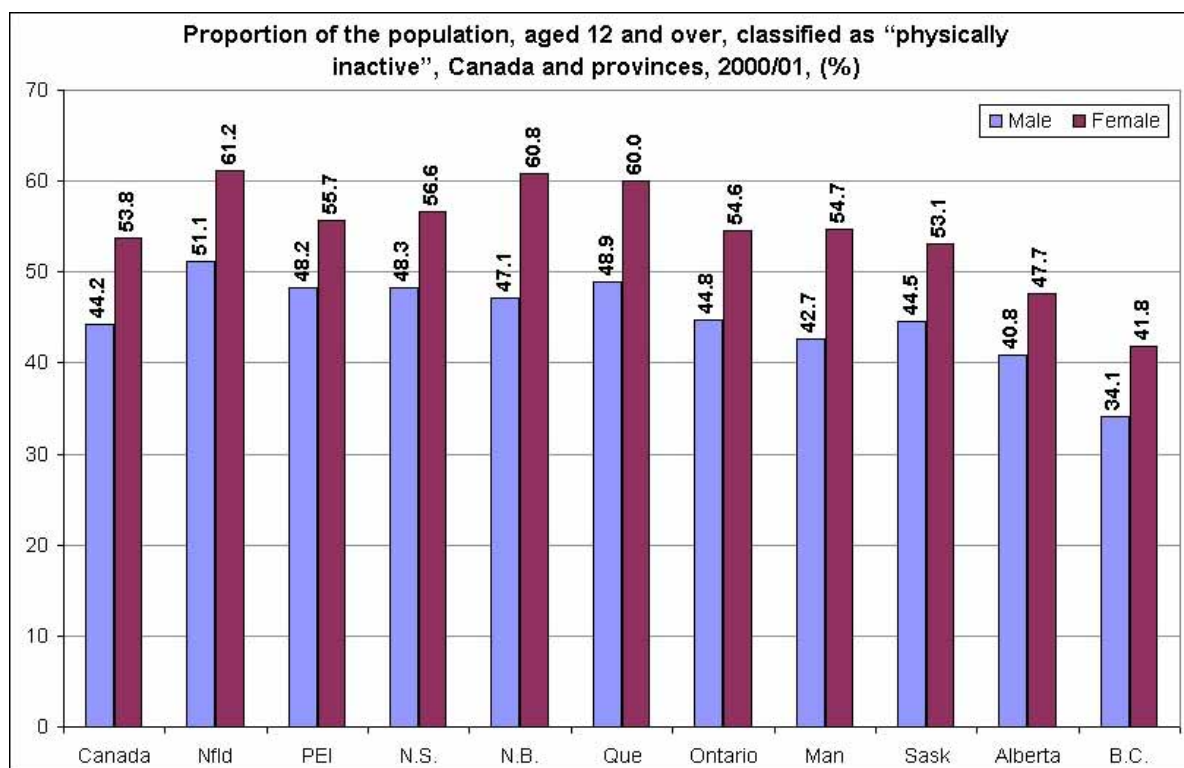
There is a clear east-west gradient of physical inactivity. The most active provinces are British Columbia (26.9%) and Alberta (25.5%), and these two provinces have fewer physically inactive residents (38% and 44.3% respectively) than any other province. By contrast, well over half of Atlantic Canadians and Quebecois are physically inactive, with more than six in ten Newfoundland, New Brunswick, and Quebec women classified as inactive. New Brunswick has the lowest proportion of active people (15.5%) in the country, more than 25% below Canadian rates, and Newfoundland and Labrador has the highest rate of physical inactivity (56.2%) – 15% above the national average (Figures 63 and 64).

Figure 63. Proportion of the population, aged 12 and over, classified as “physically active”, Canada and provinces, 2000/01, (%)



Source: Statistics Canada, Canadian Community Health Survey, 2000/01, health file.

Figure 64. Proportion of the population, aged 12 and over, classified as “physically inactive”, Canada and provinces, 2000/01, (%)



Source: Statistics Canada, Canadian Community Health Survey, 2000/01, health file.

13. Healthy Weights

Indicator description

The Canadian Institute for Health Information’s National Consensus Conference on Population Health Indicators recognized that alternative definitions of overweight and obesity have created difficulties in comparing Canadian results with those in other countries, and the conference therefore recommended a review of these definitions.⁴⁰⁵

Overweight and obesity are best measured with special equipment; and obesity in particular requires the measurement of fat as well as relative weight. For that reason Health Canada’s *Statistical Report on the Health of Canadians* does not use the term “obesity” at all.⁴⁰⁶ Nevertheless, as a reasonable approximation, “Body Mass Index” (BMI) has become an internationally accepted indicator of relative weight, and is calculated by dividing weight in kilograms by height in metres squared.

⁴⁰⁵ CIHI, National Consensus Conference on Population Health Indicators: Final Report, Ottawa, 1999, page 5.

⁴⁰⁶ Federal, Provincial and Territorial Advisory Committee on Population Health (hereafter: ACPH), *Statistical Report on the Health of Canadians*, Health Canada, September, 1999, pages 264-265.

There are both Canadian and international standards for BMI, and Statistics Canada currently reports results for both, to estimate whether the weight of individuals is within a healthy range for their height.

Canadian Standard: According to Statistics Canada “[b]ody mass index (BMI) -Canadian standard, which relates weight to height, is a common method of determining if an individual’s weight is in a healthy range based on their height. BMI is calculated as follows: weight in kilograms divided by height in metres squared. The index is: under 20 (underweight), 20-24.9 (acceptable weight), 25-27.0 (some excess weight) and greater than 27 (overweight). The index is calculated for those aged 20 to 64 excluding pregnant women and persons less than 3 feet (0.914 metres) tall or greater than 6 feet 11 inches (2.108 metres).”⁴⁰⁷

According to this measure, a BMI of 20 to 24.9 means that this weight to height ratio confers no known health risk or likelihood of premature death. A BMI in this range translates into about 140 to 170 pounds for a 5-foot-10-inch man; and about 105 to 135 pounds for a 5-foot-2-inch woman. Beginning with a BMI of 25 (which is about 150 pounds for a 5-foot-5 woman and 174 pounds for a 5-foot-10 man), researchers have found a gradually increasing risk of premature death and disease.⁴⁰⁸

Health Canada’s *Statistical Report on the Health of Canadians* defines a BMI of between 25.0 and 26.9 as conferring a “possible health risk,” and a BMI of 27.0 or greater as conferring a “probable health risk.”⁴⁰⁹

International Standard: This is the standard used by the World Health Organization, the National Institutes of Health in the United States, and other agencies.⁴¹⁰ Statistics Canada’s official definition of the international standard is identical to that for the Canadian standard, except that the index classifications are significantly different:

According to Statistics Canada: “Body mass index (BMI-International standard), which relates weight to height, is a common method of determining if an individual’s weight is in a healthy range based on their height. BMI is calculated as follows: weight in kilograms divided by height in metres squared. The index is: under 18.5 (underweight), 18.5-24.9 (acceptable weight), 25-29.9 (overweight) and 30 or higher (obese). The index is calculated for those aged 20 to 64 excluding pregnant women and persons less than 3 feet (0.914 metres) tall or greater than 6 feet 11 inches (2.108 metres).”⁴¹¹

⁴⁰⁷ Statistics Canada, <http://www.statcan.ca/english/freepub/82-221-XIE/00502/defin1.htm#3>

⁴⁰⁸ American Cancer Society report published in *New England Journal of Medicine*, October, 1999, and cited in the *Halifax Chronicle-Herald*, October 9, 1999, page C1, based on longitudinal research on participants in the U.S. national Cancer Prevention Study from 1982 to 1996.

⁴⁰⁹ Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999, pages 264-265.

⁴¹⁰ World Health Organization, *Physical Status: The Use and Interpretation of Anthropometry, Report of the WHO Expert Committee*, WHO Technical Report Series, No. 854, Geneva, 1995; Expert Panel of the National Institutes of Health, “Clinical Guidelines on the Identification, Evaluation and Treatment of Overweight and Obesity in Adults: Executive Summary,” *American Journal of Clinical Nutrition*, 1998; 68 (4), pages 899-917; both sources cited in Jason Gilmore, “Body Mass Index and Health,” *Health Reports*, Statistics Canada, catalogue no. 82-003, volume 11, no. 1, Summer, 1999, pages 33 and 42.

⁴¹¹ Statistics Canada, <http://www.statcan.ca/english/freepub/82-221-XIE/00502/defin1.htm#3>

To make matters of definition even more complicated, the *Canadian Medical Association Journal* and several international studies use the term obesity for measures of BMI of 27 or greater, and use that term even in the absence of separate measurements for body fat.⁴¹²

The index classifications are even more tenuous in light of the fact that BMI measurements are derived from self-reported data, which tend to under-estimate actual values by a factor of about 10%. In other words, a reported BMI of 27.0 may actually be closer to the WHO obesity standard of 30.0, and the prevalence of overweight and obesity in a given population is likely 10% higher than reported levels.⁴¹³

Data sources for this indicator are Statistics Canada's 2000/01 Canadian Community Health Survey, 2000/01, and the 1994/95, 1996/97 and 1998/99 National Population Health Surveys. Statistics Canada's National Longitudinal Survey of Children and Youth is also referenced for rates of overweight and obesity among Canadian children aged 2-11.

Relevance

Numerous studies have linked overweight and obesity to a wide range of health problems, especially cardiovascular disease, diabetes, hypertension, and some forms of cancer.⁴¹⁴ Body weights below the healthy weight range, with a body mass index (BMI) under 20, may also signal health problems, including eating disorders such as anorexia and bulimia.⁴¹⁵

The American Cancer Society conducted the most comprehensive study ever done on obesity and mortality. Examining one million people, the study found that overweight people have a higher rate of premature death even if they don't smoke and are otherwise healthy. The results were adjusted for age, education, physical activity, alcohol use, marital status, use of aspirin and estrogen supplements, and consumption of fats and vegetables. Harvard University endocrinologist, Dr. JoAnn Manson, concludes:

*The evidence is now compelling and irrefutable. Obesity is probably the second-leading preventable cause of death in the United States after cigarette smoking, so it is a very serious problem.*⁴¹⁶

Another U.S. study found that obese individuals (BMI = >30) have a 50-100% increased risk of death from all causes compared with healthy-weight individuals (BMI = 20-24.9), with most of the increased risk due to cardiovascular disease.⁴¹⁷

⁴¹² See for example, Birmingham, C. Laird, et al., "The Cost of Obesity in Canada," *Canadian Medical Association Journal*, 23 February, 1999: 160 (4), page 484.

⁴¹³ Jason Gilmore, "Body Mass Index and Health," *Health Reports*, Statistics Canada, catalogue no. 82-003, volume 11, no. 1, Summer, 1999, page 35; J. Cairney, et al., "Correlates of Body Weight in the 1994 National Population Health Survey," *International Journal of Obesity*, 1998; 22, pages 584-591; R.J. Roberts, "Can Self-Reported Data Accurately Describe the Prevalence of Overweight?," *Public Health*, 1995, 109 (4), pages 275-284; A. Hill and J. Roberts, "Body Mass Index: A Comparison Between Self-Reported and Measured Height and Weight," *Journal of Public Health Medicine*, 1998, 20 (2), pages 206-210.

⁴¹⁴ Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999, page 264.

⁴¹⁵ Health Canada, *Toward a Healthy Future: Second Report on the Health of Canadians*, Health Canada, September, 1999, page 117.

⁴¹⁶ Cited in the *Halifax Chronicle-Herald*, October 9, 1999, page C1

A Statistics Canada analysis of the 1996-97 National Population Health Survey data found that Canadians with a BMI of greater than 30 were four times as likely to have diabetes, 3.3 times as likely to have high blood pressure, 2.6 times as likely to report urinary incontinence, 56% more likely to have heart disease, and 50% *less* likely to rate their health positively than Canadians with an acceptable weight. Even at a lower BMI, between 25 and 30, Canadians had a significantly higher risk of asthma, arthritis, back problems, high blood pressure, stroke, diabetes, thyroid problems, activity limitations, and repetitive strain injuries.⁴¹⁸

British Columbia medical researchers examined dozens of studies that assessed the relative risks for particular diseases in obese individuals (defined as those with a BMI of 27 or greater). From this they calculated the “population attributable fraction” (PAF) to estimate the extent to which the prevalence of each disease is specifically attributable to obesity. They found the strongest association with type 2 diabetes, more than half of which could be prevented by healthy weights. Similarly, 32% of all cases of hypertension, 30% of pulmonary embolisms, 21% of all cases of gallbladder disease, and 18% of all cases of coronary artery disease are attributable to obesity.⁴¹⁹

The B.C. researchers also found that 27% of endometrial cancers (cancer of the lining of the uterus) were attributable to obesity, and that there are significant associations of overweight with postmenopausal breast cancer, colorectal cancer, stroke, and hyperlipidemia. A U.S. study found that women gaining more than 20 pounds from age 18 to mid-life doubled their risk of breast cancer, compared to women whose weight remained stable.⁴²⁰ Links have also been found between obesity and other cancers, including gallbladder and renal cell (kidney) cancer.⁴²¹

Other studies have linked obesity to hormonal disorders and menstrual irregularities, sleep apnea and other breathing problems, infertility and pregnancy complications, impaired immune function, stress incontinence, increased surgical risk, and psychological disorders such as depression.⁴²² A recent study of 41 children with severe obesity revealed that one-third had sleep apnea and another third had clinically abnormal sleep patterns. Another study reported that “obese children with obstructive sleep apnea demonstrate clinically significant decrements in learning and memory function.” Among obese girls, puberty can begin before the age of 10, leading to a lifetime of endocrine disorders that can be emotionally devastating and costly to treat.⁴²³

A longitudinal study by researchers from the New England Medical Centre and U.S. Department of Agriculture Human Nutrition Research Centre in Boston followed 508 participants in the

⁴¹⁷ National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), *Statistics Related to Overweight and Obesity*, available at: <http://www.niddk.nih.gov/health/nutrit/pubs/statobes.htm>

⁴¹⁸ Gilmore, Jason, “Body Mass Index and Health,” *Health Reports*, Statistics Canada, catalogue no. 82-003, 11 (1), Summer, 1999, pages 31-43

⁴¹⁹ Birmingham, C. Laird, et al., “The Cost of Obesity in Canada,” *Canadian Medical Association Journal*, February 23, 1999, pages 485-486.

⁴²⁰ Huang, Z, S.E. Hankinson, Graham Colditz, et al., “Dual Effects of Weight and Weight Gain on Breast Cancer Risk,” *Journal of the American Medical Association*, 1997; 278, pages 1407-1411.

⁴²¹ National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), *Statistics Related to Overweight and Obesity*, available at: <http://www.niddk.nih.gov/health/nutrit/pubs/statobes.htm>, page 9.

⁴²² Ibid., page 1; other studies cited in Gary Gardner and Brian Halweil, “Nourishing the Underfed and Overfed,” chapter 4 in Worldwatch Institute, *State of the World 2000*, page 72.

⁴²³ Critser, Greg, “Let Them Eat Fat: The Heavy Truths About American Obesity,” *Harper's Magazine*, March 2000, pages 43-44.

Harvard Growth Study conducted among Boston school children between 1922 and 1933. The researchers found that overweight teenagers were more likely to suffer from heart disease, colon cancer, arthritis or gout by age 70 than teenagers with healthy weights.

Regardless of whether they became overweight adults, these overweight teens were significantly more likely to have poorer health in later life. Indeed, by age 45, men who had been overweight as adolescents began to die at higher rates than those who had acceptable weights as teenagers. By age 70, their risk of death was twice as high.⁴²⁴

Other research suggests that weight gain can lead to the development of pseudo tumour cerebri, a brain tumour most common in women. A study of 57 patients with this tumour revealed that 90% were obese. A range of musculoskeletal disorders is also linked to obesity, including Blount's disease, a deformity of the tibia, and slipped capital femoral epiphysis, an orthopedic abnormality brought about by weight-induced dislocation of the femur bone. Both conditions are progressive and often require surgery.⁴²⁵

In short, there is a very wide range of chronic illnesses linked to obesity, many of which require ongoing treatment, produce significant suffering, and are costly to the health care system.

In 1997 the World Health Organization for the first time referred to obesity as a “global epidemic.”⁴²⁶ According to one estimate, obesity has increased by 400% in the western world in the last 50 years.⁴²⁷ Given the close association between obesity and adult-onset diabetes, it is not surprising that the global population with this illness has jumped nearly five-fold from 30 million in 1985 to 143 million in 1998. The average age of diabetics is getting younger, and the global incidence of the disease is expected to double to 300 million by the year 2025.⁴²⁸

Although overweight is discussed here as a behavioural and lifestyle determinant of health, it is clearly associated with other health behaviours, including diet and physical activity. Indeed, obesity is classified as a disease in its own right in the official International Classification of Diseases (ICD-9: 278).⁴²⁹ For that reason, CIHI's National Consensus Conference on Population Health Indicators confirmed overweight as a key indicator of “health conditions” rather than “health behaviours.”⁴³⁰

Obesity is an important indicator of women's health because of its association with female-specific cancers, including endometrial cancer and postmenopausal breast cancer, with

⁴²⁴ Study by Dr. Aviva Must and Dr. William Dietz published in the *New England Journal of Medicine*, 5 November, 1992, cited in the *Halifax Chronicle-Herald*, 5 November, 1992, page D8.

⁴²⁵ Critser, Greg, “Let Them Eat Fat: The Heavy Truths About American Obesity,” *Harper's Magazine*, March 2000, pages 43-44.

⁴²⁶ World Health Organization, *Obesity: Preventing and Managing the Global Epidemic*, Report of a WHO Consultation on Obesity, Geneva, 1997.

⁴²⁷ Montignac, Michel, in The *Halifax Chronicle-Herald*, March 28, 2000, page A10.

⁴²⁸ Gardner, Gary, and Brian Halweil, “Nourishing the Underfed and Overfed,” chapter 4 in Worldwatch Institute, *State of the World 2000*, W.W. Norton and Co., New York, 2000 page 72.

⁴²⁹ International Classification of Diseases; for obesity categories, see the e-MDs web site at: <http://www.e-mds.com/services/icd9/index.html>.

⁴³⁰ CIHI, National Consensus Conference on Population Health Indicators: Final Report, Ottawa, 1999, pages 5 and B-3.

conditions like arthritis and high blood pressure in which women have substantially higher rates than men, and with heart disease, diabetes and other illnesses that afflict large numbers of Canadian women.

In addition substantially more women are underweight than men, and about 3% of Canadian women are afflicted by eating disorders like anorexia and bulimia during their lifetime. Women account for 936% of all hospital admissions for eating disorders, which in turn carry a high risk of other mental and physical illnesses that can lead to premature death. Since 1987, hospitalizations for eating disorders have increased by 20% for all women, by 34% among young women under the age of 15, and by 39% among 15-24 year old women.⁴³¹

Clearly, an increase in the proportion of women with healthy weights is a sign of progress that can positively affect women's health status.

Results

Canadian Standard

Across the country, women are more likely to have an "acceptable weight" (BMI = 20-24.9) than men, with 46% of women and 40% of men in that range. The Atlantic provinces and Saskatchewan all have substantially higher rates of overweight than the Canadian average, with Newfoundland and Labrador registering the highest rates of overweight for both men and women. The lowest rates of overweight are in British Columbia and Quebec. (Figures 65 and 66).

Across the country rates of overweight have more than doubled since 1985. Figure 67 indicates Canadian and Nova Scotian overweight rates at five-year intervals since 1985.

International Standard

Based on the international definitions, Statistics Canada's National Longitudinal Survey of Children and Youth (NLSCY) found an alarming increase in overweight and obesity among Canadian children aged 2 to 11. The survey found that over one-third of Canadian children aged 2 to 11 were overweight in 1998/99, and of these, about half were obese. In 1994/95, 34% of children aged 2 to 11 were overweight, with an estimated 16% classified as obese. By 1998/99, 37% of children aged 2 to 11 were overweight, including 18% who were classified as obese.

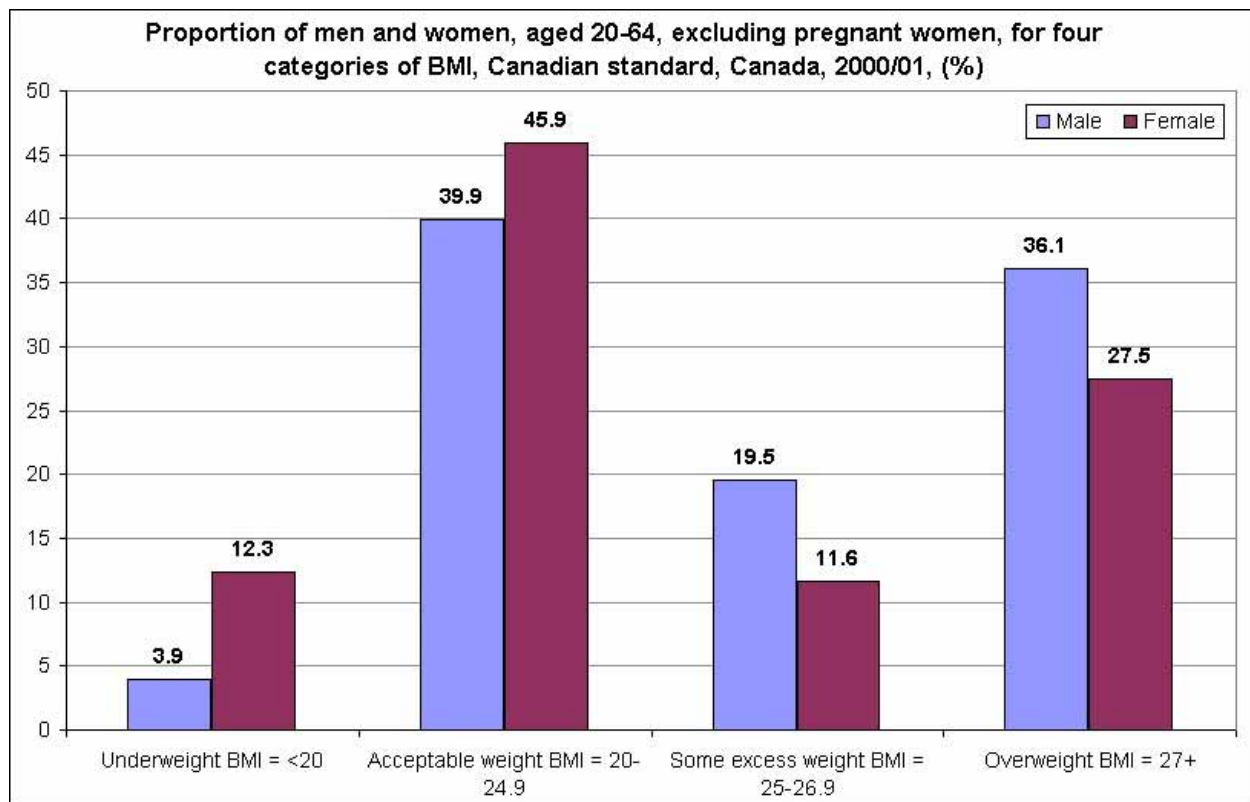
In all three cycles of the NLSCY, more boys than girls were overweight. In 1998/99, an estimated 35% of girls and 38% of boys were overweight, including 17% of girls and 19% of boys who were classified as obese. Higher proportions of children living in low-income families were overweight and obese. In 1998/99, one-quarter of children aged 2 to 11 living in families with incomes below the low-income cut-off (LICO) were obese; only 16% of children in families

⁴³¹ Health Canada, *A Report on Mental Illnesses in Canada*, Ottawa, 2002, page 79-88.

above the LICO were in this weight category. The proportion of overweight and obese children decreased as the family income increased.⁴³²

As noted, the international standard has a broader definition of acceptable weights (BMI =18.5-24.9) than the Canadian standard (BMI = 20-24.9). This definition includes some people listed as underweight in the Canadian standard. In Canada as a whole, 42.7% of men and 54.1% of women have an acceptable weight by this standard; just 1.1% of men⁴³³ and 4.2 % of women are underweight, and 55.6% of men and 39.2% of women are either overweight or obese. In Canada, 16% of men and 13.9% of women are classified as obese by the international standard (BMI = >30) (Figure 68).

Figure 65. Proportion of men and women, aged 20-64, excluding pregnant women, for four categories of BMI, Canadian standard, Canada, 2000/01, (%)

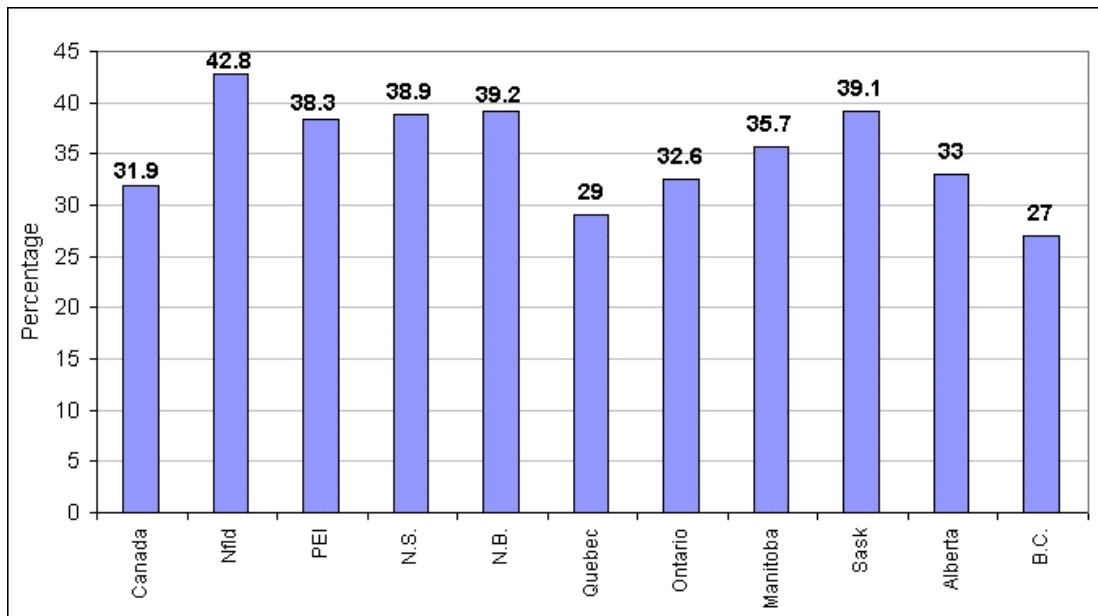


Source: Statistics Canada, Canadian Community Health Survey, 2000/01, health file.

⁴³² Statistics Canada, *The Daily*, 18 October, 2002, available at: <http://www.statcan.ca/Daily/English/021018/d021018b.htm>.

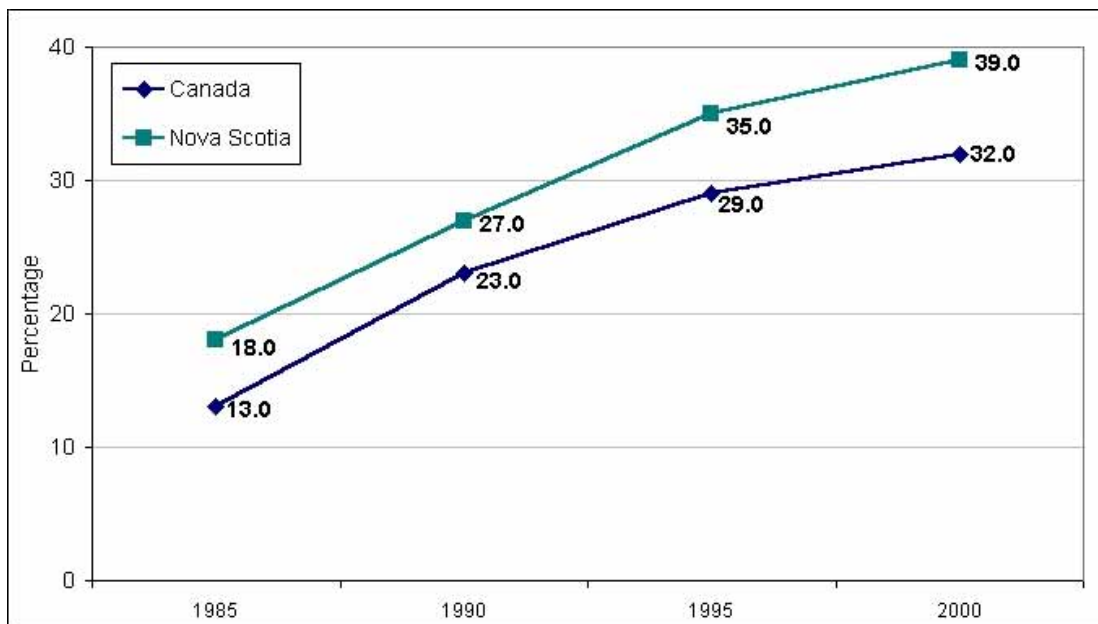
⁴³³ Data for underweight men have a coefficient of variation (CV) from 16.6% to 33.3% and should be interpreted with caution.

Figure 66. Overweight Canadians (BMI = >27), aged 20-64, Canada and provinces, 2000/01, (%)



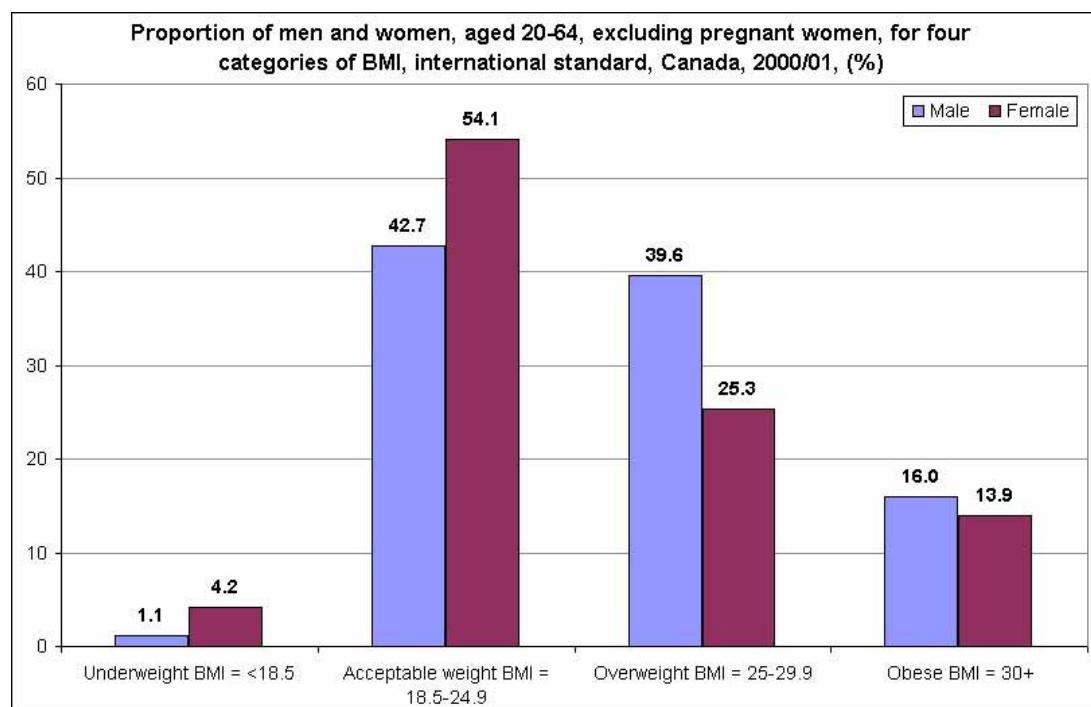
Source: Statistics Canada, Canadian Community Health Survey, 2000/01.

Figure 67. Overweight Canadians and Nova Scotians, (BMI = >27), aged 20-64, 1985-2000/01, (%)



Sources: Statistics Canada, Health Indicators CD-ROM, 1999; Statistics Canada, National Population Health Survey, 1994/95; Statistics Canada, Canadian Community Health Survey, 2000/01

Figure 68. Proportion of men and women, aged 20-64, excluding pregnant women, for four categories of BMI, international standard, Canada, 2000/01, (%)



*Note: Male data for underweight have a coefficient of variation (CV) from 16.6% to 33.3% and should be interpreted with caution.

Source: Statistics Canada, Canadian Community Health Survey, 2000/01.

According to the international standard, both men and women in all four Atlantic provinces have higher rates of overweight and obesity than the Canadian average. By this standard, more than one in five men in all four Atlantic provinces are classified as obese, as are more than one in five women in Newfoundland and Labrador and New Brunswick. In Nova Scotia, 19.3% of women are obese, and in Prince Edward Island, 16% of women are obese.

Rates of obesity have increased across the country. The highest rates of obesity are in Nunavut, the Northwest Territories, the Atlantic provinces, and Saskatchewan. The lowest rates are in British Columbia and Quebec (Table 15).⁴³⁴

Men in the Northwest Territories and Nova Scotia now have the highest rates of obesity in the country (23% and 22.7% respectively) – more than 40% higher than the Canadian average (16%). The highest rates of female obesity in Canada are in Nunavut (25.1%), Northwest Territories (21.9%), New Brunswick and Newfoundland (both 20.8%).⁴³⁵

⁴³⁴ Statistics Canada, “Canadian Community Health Survey: A First Look,” *The Daily*, May 8, 2002, available at: <http://www.statcan.ca/Daily/English/020508/d020508a.htm>.

⁴³⁵ Statistics Canada, “Body mass index (BMI), International standard, by sex, household population aged 20 to 64 excluding pregnant women, Canada, provinces, territories, health regions and peer groups, 2000/01,” available at: <http://www.statcan.ca/english/freepub/82-221-XIE/01002/tables/html/1226.htm>.

Table 15. Obesity rates by body mass index (international standard), BMI = 30+, (%)

	1994/95 ^a	2000/01 ^b	1994/95 to 2000/01
	%	%	Percentage point change
Newfoundland and Labrador	18 ^e	21 ^e	3.4
Prince Edward Island	16	19 ^e	2.6
Nova Scotia	16	21 ^e	5.3 ^d
New Brunswick	19 ^e	21 ^e	2.0
Quebec	11	13 ^e	1.2
Ontario	14	15	1.0
Manitoba	16	18 ^e	2.0
Saskatchewan	16	20 ^e	4.0
Alberta	12	16	3.9 ^d
British Columbia	10 ^e	12 ^e	1.7
Yukon	13	17	3.9
Northwest Territories	17	22 ^e	5.7
Nunavut ^c	13	23 ^e	10.5 ^d

Notes: (a) Sample of 17,626, obesity rate for Canada accurate to +/- 0.8%, 19 times out of 20.

(b) Total sample 131,535, obesity rate for Canada accurate to +/- 0.3%, 19 times out of 20.

(c) Coefficients of variation for 1994/95 figures in Nunavut are higher than 16.5%; interpret results with caution.

(d) Denotes a statistically significant change from 1994/95 to 2000/01 (95% confidence).

(e) Denotes an obesity rate significantly different from Canada in reference year (95% confidence).

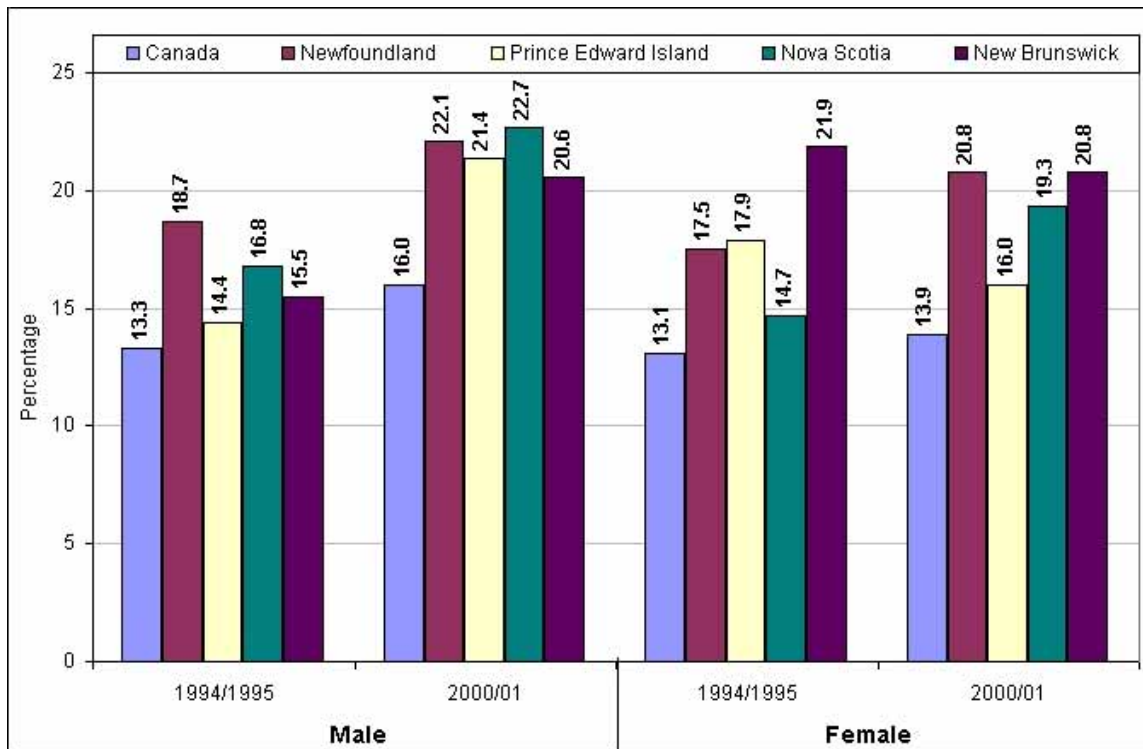
Sources: National Population Health Survey, 1994/95; Canadian Community Health Survey 2000/01

Male obesity rates have soared in the Atlantic provinces – increasing from:

- 16.8% in 1994/95 to 22.7% in 2000/01 in Nova Scotia
- 14.4% to 21.7% in PEI
- 15.5% to 20.6% in New Brunswick
- 18.7% to 22.1% in Newfoundland.

Among women, obesity rates also climbed sharply in Nova Scotia, from 14.7% of women in 1994/95 to 19.3% of women in 2000/01, and in Newfoundland from 17.5% to 20.8%. In all of the last four national population health surveys (1994/95, 1996/97, 1998/99, and 2000/01), New Brunswick women have had the highest female obesity rate among all the provinces (Figure 69). In fact, New Brunswick is the only province in Canada with a higher rate of obesity for women than for men.

Figure 69. Proportion of the population, aged 20-64, classified as obese (BMI = >30), international standard, Canada and Atlantic provinces, 1994/95 and 2000/01, (%)



Sources: Statistics Canada, Canadian Community Health Survey, 2000/01, health file; Statistics Canada, National Population Health Survey, 1994/95, cross sectional sample, health file, and North component.

ENVIRONMENTAL DETERMINANTS OF HEALTH

CIHI's National Consensus Conference on Population Health Indicators proposed several environmental indicators for potential future development – exposure to second-hand smoke, air quality, water quality, toxic waste, and ecological footprint. However, none of these were confirmed at the May, 1999 conference as possible to compile from existing, comparable data sources.⁴³⁶

Since that time, Statistics Canada's Canadian Community Health Survey has gathered data on one of those recommended indicators – exposure to second-hand smoke – and this is therefore the only environmental determinant of health reported here. GPI Atlantic has independently compiled reports on water quality and ecological footprint, and will soon release new reports on air quality and solid waste resources, thereby hopefully contributing to CIHI's effort to develop these particular indicators.⁴³⁷

Health Canada has recognized environmental factors as key determinants of health:

"The physical environment is an important determinant of health in its own right. At certain levels of exposure, contaminants in our air, water, food and soil can cause a variety of adverse health effects, including cancer, birth defects, respiratory illness and gastrointestinal ailments. In the built environment, factors relating to housing, indoor air quality, and the design of communities and transportation systems can significantly influence our physical and psychological well-being.

*"The physical environment is also linked to other determinants of health. Active living requires green spaces, clean water and protection from exposure to excessive ultraviolet rays. Healthy eating depends on the availability of safe, nutritious foods. Healthy working conditions require safe workplaces that maximize comfort, productivity and well-being. Healthy child development can be dramatically affected by the physical environment because children are particularly vulnerable to environmental contaminants."*⁴³⁸

Health Canada has also recognized the links between poverty and likelihood of exposure to environmental hazards. It notes that the prevalence of childhood asthma, which is highly sensitive to airborne contaminants, has increased sharply in the last two decades. And it cites the World Health Organization's acknowledgement that unsustainable development pose serious threats to health – including climate change, stratospheric ozone depletion, and natural resource depletion.⁴³⁹ Health Canada states:

"[T]here is a growing realization that Canada also has a global responsibility to protect and strengthen the world's environmental resource base. Air pollution and other environmental problems aren't restricted by national boundaries.

⁴³⁶ Canadian Institute for Health Information, *National Consensus Conference on Population Health Indicators: Final Report*, Ottawa, 1999, page 6.

⁴³⁷ For these reports, please visit the GPI Atlantic web site at: www.gpiatlantic.org.

⁴³⁸ Health Canada, *Toward a Healthy Future: Second Report on the Health of Canadians*, Ottawa, 1999, page 96.

⁴³⁹ Health Canada, *Toward a Healthy Future*, pages 96-97, citing World Health Organization, *Health and Environment in Sustainable Development: Five years after the Earth Summit*, Geneva, 1997.

*Sustaining the health of the planet for future generations is our ultimate challenge.*⁴⁴⁰

Environmental determinants of health may be particularly important indicators for women's health, because women constitute the majority of those afflicted with the category of illnesses commonly known as "environmental illness." These includes Multiple Chemical Sensitivity (MCS), Chronic Fatigue Syndrome (CFS) and Fibromyalgia (FM). It is estimated that there are about 4.5 million Canadians (15%) currently suffering from some degree of MCS, with young women most likely to be affected.⁴⁴¹

In sum, the following discussion on exposure to second-hand smoke represents only a tiny fraction of the work that still remains to be done on environmental determinants of health. Yet it is, to date, the only environmental factor developed and reported by Statistics Canada in its current health indicator series, and thus represents an important first step in the development of the environmental determinants of health proposed at the CIHI National Consensus Conference on Population Health Indicators.

14. Exposure to Second-Hand Smoke

Indicator description

The new Statistics Canada standard for measuring exposure to second-hand smoke, in the 2000/01 Canadian Community Health Survey, assesses the proportion of the "non-smoking population aged 12 and over who were exposed to second-hand smoke on most days in the month preceding the survey."⁴⁴²

This is the first time that strong, comparable evidence on levels of exposure to second-hand smoke are available. Prior to the 2000/01 Canadian Community Health Survey, most evidence was on exposure to second-hand smoke in the home, and on the potential exposure of children to second-hand smoke. This has been variously assessed in Statistics Canada's *General Social Survey, Cycle 10* (1995), on "The Family", the *Survey of Smoking in Canada, Cycle 2* (1994), the 1996/97 *National Population Health Survey*, and the *Canadian Tobacco Use Monitoring Surveys*.⁴⁴³ Some of these surveys have assessed the percentage of households that had a total or partial ban on smoking within the home, and thus derived estimates on the number of Canadian children potentially exposed to second-hand smoke.

⁴⁴⁰ Health Canada, *Toward a Healthy Future*, page 95.

⁴⁴¹ Environmental Illness Society of Canada, http://www.eisc.ca/news_release_Oct1.htm; U.S. Department of Labour, Occupational Health and Safety Administration, "Multiple Chemical Sensitivities," available at: <http://www.osha.gov/SLTC/multiplechemicalsensitivities/>.

⁴⁴² Statistics Canada, <http://www.statcan.ca/english/freepub/82-221-XIE/00502/defin2.htm#55>.

⁴⁴³ Statistics Canada, Housing, Family and Social Statistics Division, *General Social Survey, Cycle 10: The Family* (1995); Health Canada, *Survey of Smoking in Canada, Cycle 2*, Ottawa, 1994; and Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999, pages 65-68; Statistics Canada, *National Population Health Survey, 1996/97*; and Statistics Canada, *Canadian Tobacco Use Monitoring Surveys 1999-2002*, available at Health Canada, <http://www.hc-sc.gc.ca/hecs-sesc/tobacco/research/ctums/#200>.

However, the questions on these surveys have not always been identical, and the evidence therefore not completely comparable. Nor did they provide standardized and comprehensive estimates of regular exposure to second-hand smoke, including exposure in the workplace. Because of the high proportion of female employees in the food service industry, the absence of strong, comparable evidence on workplace exposure to second-hand smoke has been a major gap from a women's health perspective. Because of these data gaps, CIHI's 1999 National Consensus Conference on Population Health Indicators did not confirm second-hand smoke exposure as a key health indicator at that time, but proposed it for future development.

The 2000/01 Canadian Community Health Survey has now filled a major data gap by providing the first systematic, comprehensive data on second-hand smoke exposure at the health district level. It is anticipated that comparable national, provincial, and health district data will now be available on a regular basis to assess trends in this crucial health indicator.

Relevance

Second-hand smoke contains over 4,000 different chemicals, of which 1,200 are known to be harmful to humans, including more than 50 known carcinogens and 103 chemicals identified as poisonous to humans. The chemical compounds in tobacco smoke include toxic heavy metals, pesticides, and dangerous chemicals like carbon monoxide, vinyl chloride, formaldehyde, hydrogen cyanide, radionuclides, benzene and arsenic.⁴⁴⁴

Many jurisdictions in Canada – both provincial and municipal – are currently adopting and considering legislation to ban second-hand smoke in public places. Because of the current policy relevance of this indicator, this section on the health impacts of second-hand smoke exposure is presented in somewhat more detail here than other indicators.

This indicator is also of particular importance to women's health because pregnant women who are regularly exposed to second-hand smoke have higher rates of miscarriage and premature birth, and are more likely to deliver infants with low birth weights.⁴⁴⁵ Second-hand smoke has also been linked to breast cancer, and to lung cancer and heart disease in the spouses of smokers, and in food service workers, most of whom are women.

Those most at risk of illness and death due to exposure to second-hand smoke have been identified as:

- a) Infants and children of smokers, who incur significant risks of respiratory infections, ear problems, asthma, and sudden infant death syndrome. For example, second-hand smoke increases the risk of chronic middle-ear infection in children of smokers by 3.5 times, and the risk of asthma and asthma wheeze by more than 50%.⁴⁴⁶

⁴⁴⁴ Ontario Tobacco Research Unit, University of Toronto, (2001), *Protection from Second-Hand Tobacco Smoke in Ontario: A review of the evidence regarding best practices*, Toronto, May, 2001, page 37; Hasbach, Ann, (1998), "Is Your Workplace a Threat to Your Health?", *Consulting-Specifying Engineer*, Denver, supplement on workplace protection, pages 28-33; Smoke-Free Kings (2000), *Smoke-Free By-laws: Questions and Answers*, October, 2000.

⁴⁴⁵ Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999, page 164; Nova Scotia Department of Health, *Smoke-Free Places: Towards Healthier Communities in Nova Scotia: A Discussion Paper*, page 3.

⁴⁴⁶ US Environmental Protection Agency, (1993), op. cit., California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, (1997), *Health Effects of Exposure to Environmental Tobacco Smoke*,

- b) Spouses of smokers, who have a higher risk of lung cancer and heart disease.⁴⁴⁷
- c) Employees exposed to second-hand smoke in the workplace – particularly restaurant and bar workers.⁴⁴⁸ Women make up nearly 60% of workers in the accommodation and food service industries, where exposure to second-hand smoke is particularly intense.⁴⁴⁹

For all these reasons, exposure to second-hand smoke is an important indicator of women's health.

Second-hand smoke causes more mortality than all other known environmental toxins combined,⁴⁵⁰ and increases the risk of death from heart disease by 20%-30% for non-smokers married to smokers.⁴⁵¹

Sacramento; Report to the Minister of Health from Expert Panel on the Renewal of the Ontario Tobacco Strategy. (1999), op. cit., Mitchell, E.A. et al., (1993), "Smoking and sudden infant death syndrome," *Pediatrics* 91: 1893-1896; Cohen-Klonoff, H.S., et al., "The effect of passive smoking and tobacco exposure through breast milk on sudden infant death syndrome," (1995), *Journal of the American Medical Association* 273: 795-798; Lister, Susan and Jorm, Louisa, (1998), "Parental smoking and respiratory illnesses in Australian children aged 0-4 years: ABS 1989-90 National Health Survey results, *Australian and New Zealand Journal of Public Health*, 22: 781-786, Canberra, December, 1998.

⁴⁴⁷ Stockwell, H.G. et al., (1992), "Environmental tobacco smoke and lung cancer risk in nonsmoking women," *Journal of the National Cancer Institute* 84: 1417-1422; Fontham, E.T., et al., (1994), "Environmental tobacco smoke and lung cancer in nonsmoking women: A multicenter study," *Journal of the American Medical Association* 271: 1752-1759; Hackshaw et al., op. cit., Kawachi, I., et al., (1997), "A prospective study of passive smoking and coronary heart disease," *Circulation* 95: 2374-2379; Law, M.R., et al., (1997), "Environmental tobacco smoke exposure and ischaemic heart disease: an evaluation of the evidence," *British Medical Journal* 315: 973-980.

⁴⁴⁸ American College of Occupational and Environmental Medicine (ACOEM), (2000), *Epidemiological Basis for an Occupational and Environmental Policy on Environmental Tobacco Smoke*, July 30, 2000, available at <http://www.acoem.org/paprguid/papers/etspaper.htm>; Boffetta et al. (1998), op. cit., Wells, A.J., (1998), "Heart disease from passive smoking in the workplace," *Journal of the American College of Cardiology* 31: 1-9; Hammond, S.K., et al., (1995), "Occupational exposure to environmental tobacco smoke," *Journal of the American Medical Association* 274: 956-960; Thompson B. et al., (1995), "ETS exposure in the workplace," *Journal of Occupational and Environmental Medicine* 37: 1086-1092; Mannino, D.M., (1997), "Environmental tobacco smoke exposure in the home and worksite and health effects in adults: Results from the 1991 National Health Survey," *Tobacco Control* 6: 296-305; Repace, J.L., et al., (1980), "Indoor air pollution, tobacco smoke and public health," *Science*, 208: 464-472; Eisner, Mark, et al., (1998), "Bartenders' Respiratory Health After Establishment of Smoke-Free Bars and Taverns," *Journal of the American Medical Association*, 280 (22): 1909-1914, December 9, 1998; Siegel, Michael (1993), "Involuntary Smoking in the Restaurant Workplace: A Review of Employee Exposure and Health Effects," *Journal of the American Medical Association*, 270 (4), July 28, 1993; Dimich-Ward H., et al., (1997), "Analysis of nicotine and cotinine in the hair of hospitality workers exposed to environmental tobacco smoke," *Journal of Occupational and Environmental Medicine* 39: 946-948.

⁴⁴⁹ Statistics Canada, *Labour Force Historical Review 2001*, Ottawa, 2002, Table T7=CD1T05AN.IVT, "Labour force estimates by detailed industry, sex, Canada, province, annual average."

⁴⁵⁰ Hyland, Andrew, and Cummings, Michael, (1999), "Consumer Response to the New York City Smoke-Free Air Act," *Journal of Public Health Management and Practice* 5(1): 28-36, January, 1999, page 28, citing US Environmental Protection Agency, (1992), *Respiratory Health Effects of Passive Smoking: Lung Cancer and Other Disorders*, Publication no. EPA 600/6-90/006F, Washington DC.

⁴⁵¹ Heart and Stroke Foundation of Canada, (1994), *Environmental Tobacco Smoke: Behind the Smokescreen*, Ottawa. For summaries of health risks due to second-hand smoke, see Health Canada, *Statistical Report on the Health of Canadians*, page 65; United States Environmental Protection Agency (1993 and 1994), *Respiratory Health Effects of Passive Smoking: Lung Cancer and Other Disorders*, National Institutes of Health, National Cancer Institute, Smoking and Tobacco Control Monograph 4 (NIH publication 93-3605), Bethesda, Maryland, August, 1993, and "Setting the Record Straight: Secondhand Smoke is a Preventable Health Risk," EPA publication no. 402-F-94-005, June, 1994; Nova Scotia Department of Health, *Smoke-Free Places: Towards Healthier Communities in Nova Scotia: A Discussion Paper*, 1997; National Research Council, Committee on Passive Smoking, Board on Environmental Studies and Toxicology, *Environmental Tobacco Smoke: Measuring Exposures*

Six major scientific reviews by national scientific and government agencies in the 1990s identified fifteen diseases or conditions as known or suspected to be caused by exposure to second-hand smoke. These include four developmental diseases or conditions, seven respiratory diseases or conditions, three cancers, and coronary heart disease. Recent research has also implicated second-hand smoke as a possible cause of breast cancer and stroke.⁴⁵²

Restaurant, bar and casino workers are exposed to the highest levels of environmental tobacco smoke of any occupational or demographic group, and they have less protection from second-hand smoke than any other group of employees. Levels of environmental tobacco smoke in restaurants are about 1.6-2.0 times higher than in office workplaces that do not have total smoking bans, and 1.5 times higher than in residences with at least one smoker. Second-hand smoke levels in bars and casinos are 3.9-6.1 times higher than in offices and 4.5 times higher than in residences with a smoker.^{453 454} Summarizing evidence based on ambient air survey data on second-hand smoke levels in more than 1,000 offices, more than 400 restaurants, and more than 600 homes, Dr. Michael Siegel of the University of California concludes:

*“Environmental tobacco smoke is a significant occupational health hazard for food-service workers. To protect these workers, smoking in bars and restaurants should be prohibited.”*⁴⁵⁵

For this reason, Health Canada recommends that 100% smoke-free bans in workplaces include *all* workplaces, including the hospitality sector.⁴⁵⁶

Second-hand smoke and lung cancer

The causal link between second-hand smoke and lung cancer has been confirmed by the following agencies:

- The World Health Organization (1986 and 1999),
- The U.S. National Academy of Sciences of the National Research Council (1986),
- The Australian National Health and Medical Research Council (1987),

and Assessing Health Effects, National Academy Press, Washington D.C., 1986. Health Canada, “Passive Smoking: Nowhere to Hide,” available at <http://www.hc-sc.gc.ca/hppb/tobaccoreduction/factsheets/passive.htm>. For a comprehensive set of references, see footnotes 106-124 in Report to the Minister of Health from Expert Panel on the Renewal of the Ontario Tobacco Strategy, *Actions Will Speak Louder than Words*, February, 1999.

⁴⁵² Ontario Tobacco Research Unit, University of Toronto, (2001), *Protection from Second-Hand Tobacco Smoke in Ontario: A review of the evidence regarding best practices*, Toronto, May, 2001, pages v and vi.

⁴⁵³ Siegel, Michael, (1993), “Involuntary Smoking in the Restaurant Workplace: A Review of Employee Exposure and Health Effects,” *Journal of the American Medical Association* 270 (4), July 28, 1993; Trout, D., op. cit.; Eisner (1998), op. cit.

⁴⁵⁴ Trout D., et al., (1998), “Exposure of casino employees to environmental tobacco smoke,” *Journal of Occupational and Environmental Medicine* 40: 270-276; study conducted for the Division of Surveillance, Hazard Evaluation and Field Studies, U.S. National Institute for Occupational Safety and Health. On excess ETS exposure of food service employees, see Gerlach, K., et al., (1997), “Workplace smoking policies in the United States: results from a national survey of over 100,000 workers,” cited in Glantz, Stanton and Smith, Lisa, (1997) “The Effect of Ordinances Requiring Smoke-Free Restaurants and Bars on revenues: A Follow-Up,” *American journal of Public Health* 87 (10): 1687-1693), footnote 19, pages 1692-1693.

⁴⁵⁵ Siegel, op. cit., page 490.

⁴⁵⁶ Health Canada, *The Economics of Workplace Smoking Restrictions*, available at: <http://www.hc-sc.gc.ca/hppb/tobacc...tions/workplace/work/wplcsmk05.htm>.

- The U.K. Department of Health and Social Security (1988),
- The U.S. Environmental Protection Agency (EPA) (1992),
- The U.S. Public Health Service (1986),
- The U.S. National Institute for Occupational Safety and Health (1991),
- The American College of Occupational and Environmental Medicine (1993 and 2000),
- The California Environmental Protection Agency (1997),
- The Australian National Health and Medical Research Council (1997),
- The United Kingdom Scientific Committee on Tobacco and Health (1998), and
- The U.S. National Toxicology Program (*Ninth Annual Report on Carcinogens*, 2000).⁴⁵⁷

A 1997 *British Medical Journal* (BMJ) review of “the accumulated evidence on lung cancer and environmental tobacco smoke” concluded that non-smokers living with a smoker have an excess lung cancer risk of 24%. Positive and negative adjustments for bias, misclassification, and diet produced an adjusted excess risk of 26%.⁴⁵⁸ The 1998 report of the United Kingdom Scientific Committee on Tobacco and Health similarly concluded that second-hand smoke exposure is a cause of lung cancer, and that those with long-term exposure have an increased risk of 20-30%.⁴⁵⁹

Epidemiological evidence in both the U.S. and Europe demonstrates that the increase of lung cancer risk from workplace exposure is generally the same as that for household exposure.⁴⁶⁰ However, six separate epidemiological studies that controlled for active smoking found an average excess lung cancer risk of 50% for food-service workers compared with the general population. This is double the excess risk facing workers in other workplaces that do not prohibit smoking.⁴⁶¹

Twenty separate studies have now found a dose-response relation between intensity and duration of exposure to second-hand smoke on the one hand and lung cancer risk on the other. On average, the risk for a non-smoker increases by 23% for every 10 cigarettes smoked per day by a spouse, and by 88% if the spouse smokes 30 a day. Lung cancer risk increases by an average of

⁴⁵⁷ Hackshaw, A. K., Law, M.R., and Wald, N.J., (1997) “The accumulated evidence on lung cancer and environmental tobacco smoke,” *British Medical Journal*, 315: 980-988, October 18, 1997, footnotes 1-4; and Burns, op. cit., footnotes 1-5, American College of Occupational and Environmental Medicine, Position Statement, July 30, 2000, available at <http://www.acoem.org/paprguid/papers/etspaper.htm>; National Toxicology Program, *Ninth Annual Report on Carcinogens*, available at <http://ehis.niehs.nih.gov/roc/ninth/known/ets.pdf>; the conclusions of six of these major scientific reviews are summarized in Ontario Tobacco Research Unit, University of Toronto (2001), *Protection from Second-Hand Smoke in Ontario: A review of evidence regarding best practices*, May, 2001, pages 1-20.

⁴⁵⁸ Hackshaw, et al., op. cit.

⁴⁵⁹ Ontario Tobacco Research Unit, University of Toronto (2001), *Protection from Second-Hand Smoke in Ontario: A review of the evidence regarding best practices*, Toronto, May, 2001, page 7.

⁴⁶⁰ Wells, A.J., “Lung cancer from passive smoking at work,” (1998), *American Journal of Public Health* 88: 1025-1029; ACOEM, (2000), op. cit., page 3. The 12-centre case-control study of lung cancer and ETS in seven European countries found an excess risk of 16% for exposure to spousal ETS, and 17% for exposure to workplace ETS (Boffetta, et al., 1998, op. cit.)

⁴⁶¹ Siegel, op. cit., page 490; Dimich-Ward, H., et al., (1988), “Occupational Mortality among Bartenders and Waiters,” *Canadian Journal of Public Health* 79: 194-197; Hyland, Andrew, and Cummings, Michael, (1999), “Consumer Response to the New York City Smoke-Free Air Act,” *Journal of Public Health Management and Practice* 5 (1): 28-36, January, 1999, footnotes 4-11, page 35.

11% for every 10 years of exposure to second-hand smoke in the home, and by 35% for 30 years exposure.⁴⁶² Up to one-quarter of lung cancer deaths in non-smokers are related to second-hand smoke.⁴⁶³

Although the vast majority of studies to date have been on spousal exposure to second-hand smoke, this dose-response relationship is now being confirmed in the workplace as well. A recent case-control study in German workplaces found a statistically significant dose-related excess lung cancer risk among exposed workers (odds ratio: 1.93; confidence interval 1.04-3.58).⁴⁶⁴

As well, biochemical evidence has now confirmed earlier epidemiological evidence. Four studies have found urinary cotinine concentration in non-smokers living with smokers to be, on average, three times the levels found in non-smokers living with non-smokers. Nicotine from tobacco smoke is the only source of cotinine.⁴⁶⁵

Second-hand smoke and other cancers

Second-hand smoke has also been linked to nasal sinus cancer and cervical cancer.⁴⁶⁶ A large Canadian study by the Canadian Cancer Registries Epidemiology Research Group (2000) also found that both active *and* passive smoking about doubled the risk of breast cancer in pre-menopausal women. Among post-menopausal women, active smoking increased the risk of breast cancer by 50%, and exposure to second-hand smoke increased the risk by 20%. Dose-response relationships were observed for both active smoking and exposure to second-hand smoke. These results are confirmed by nine published studies that have controlled properly for second-hand smoke exposure. Taken together, the results also show almost a doubling of breast cancer risk with *both* long-term active smoking *and* regular exposure to second-hand smoke.⁴⁶⁷

The U.S. Environmental Protection Agency has classified environmental tobacco smoke as a “Group A carcinogen,” a classification reserved only for those compounds shown to cause cancer in humans based on studies of human populations.⁴⁶⁸ The finding was confirmed in the Ninth Report on Carcinogens of the U.S. National Toxicology Program, which in 2000 added

⁴⁶² Hackshaw et al., op. cit.

⁴⁶³ Heart and Stroke Foundation of Canada, (1994), *Environmental Tobacco Smoke: Behind the Smokescreen*, Ottawa.

⁴⁶⁴ Kreuzer, M., et al. (2000), “Environmental tobacco smoke and lung cancer: a case-control study in Germany,” *American Journal of Epidemiology* 151: 241-250; ACOEM, op. cit., page 3.

⁴⁶⁵ Hackshaw, et al., op. cit.

⁴⁶⁶ National Cancer Institute Monograph #10, *Health Effects of Exposure to Environmental Tobacco Smoke: the report of the California Environmental Protection Agency*, cited in ACOEM (2000), op. cit., and available at http://rex.nci.nih.gov/nic_monographs/index.htm.

⁴⁶⁷ Ontario Tobacco Control Unit, University of Toronto, *Protection from Second-Hand Tobacco Smoke in Ontario: A review of the evidence regarding best practices*, Toronto, May, 2001, pages 12-13.

⁴⁶⁸ United States Environmental Protection Agency (1992), *Respiratory Health Effects of Passive Smoking: Lung Cancer and Other Disorders*, Office of Research and Development, EPA/600/6-90/006F, December, 1992, cited in Ontario Tobacco Control Unit, University of Toronto, *Protection from Second-Hand Tobacco Smoke in Ontario: A review of the evidence regarding best practices*, Toronto, May, 2001.

second-hand smoke to its official list of 41 known human carcinogens, which includes substances such as asbestos, coke oven emissions, radon, and mustard gas.⁴⁶⁹

Not only has second-hand smoke been classified as a known human carcinogen in its own right, but at least eight other substances on the National Toxicology Program's list of 41 known human carcinogens are also components of tobacco smoke. These include 4-aminobiphenyl, arsenic, benzene, 1,3-butadiene, cadmium, chromium VI, 2-naphthylamine, and vinyl chloride.⁴⁷⁰ In addition, the International Agency for Research on Cancer has determined that there is sufficient evidence of carcinogenicity in animals for 43 chemicals in tobacco smoke.⁴⁷¹

It has been estimated that second-hand smoke may actually cause more than three times as many deaths due to other cancers than due to lung cancer.⁴⁷² One compound present in second-hand smoke – 4-aminobiphenyl (4-ABP) – is a potent bladder carcinogen.⁴⁷³

Second-hand smoke and heart disease

Researchers have definitively concluded that “passive smoking causes heart disease,” and that about ten times as many passive smokers die of heart disease as die of lung cancer. A review of ten studies found that both male and female non-smokers exposed to second-hand smoke in the home have an overall 30% higher risk of death from heart disease than those married to non-smokers.⁴⁷⁴

⁴⁶⁹ U.S. Department of Health and Human Services, Public Health Service, National Toxicology Program (2000), *Ninth Report on Carcinogens*, Washington, DC, available at: <http://ehis.niehs.nih.gov/roc/ninth/known/ets.pdf>.

⁴⁷⁰ Ibid., page 8.

⁴⁷¹ Ontario Tobacco Research Unit, University of Toronto, (2001), *Protection from Second-Hand Tobacco Smoke in Ontario: A review of the evidence regarding best practices*, Toronto, May, 2001, page 37.

⁴⁷² Glantz, Stanton, and William Parmley, (1995) “Passive Smoking and Heart Disease: Mechanism and Risk,” *Journal of the American Medical Association*, 273 (13), April 5, 1995; Glantz, Stanton, and William Parmley, (1991), “Passive Smoking and Heart Disease: Epidemiology, Physiology, and Biochemistry,” *Circulation* 83 (1), January, 1991, Clinical Progress Series, pages 1-12.

⁴⁷³ Hammond, S.K., et al., (1993), “Relationship between environmental tobacco smoke exposure and carcinogen-hemoglobin adduct levels in nonsmokers,” *Journal of the National Cancer Institute* 85: 474-478.

⁴⁷⁴ Steenland, Kyle, (1992), “Passive Smoking and the Risk of Heart Disease,” *Journal of the American Medical Association*, 267 (1): 94-99, January 1, 1992; Glantz, Stanton and Parmley, William, (1995), “Passive Smoking and Heart Disease: Mechanisms and Risk,” *Journal of the American Medical Association*, 273 (13), April 5, 1995; Glantz, Stanton, and Parmley, William, (1991), “Passive Smoking and Heart Disease: Epidemiology, Physiology, and Biochemistry,” *Circulation* 83 (1), January, 1991, Clinical Progress Series, pages 1-12; Kawachi, I. et al., (1997), “A Prospective Study Of Passive Smoking And Coronary Heart Disease,” *Circulation* 95: 2374-2379; Law, M.R. et al., (1997), “Environmental tobacco smoke exposure and ischaemic heart disease: an evaluation of the evidence,” *British Medical Journal* 315: 973-980; Humble, C. et al., (1990), “Passive Smoking and 20-year cardiovascular mortality among non-smoking wives, Evans County, Georgia, *American Journal of Public Health*, 80: 599-601; Howard, G., et al., (1998), “Cigarette Smoking and Progression of Atherosclerosis: The Artherosclerosis in Communities (ARIC) Study,” *Journal of the American Medical Association* 279: 119-124; Wells, A. J., (1994), “Passive Smoking as a Cause of Heart Disease,” *Journal of the American College of Cardiology* 24: 546-554; Wells, A. J., (1998), “Heart Disease from Passive Smoking in the Workplace,” *Journal of the American College of Cardiology* 31: 1-9; National Clearinghouse on Tobacco and Health (1995), *The Health Effects of Tobacco Use*, cited in Nova Scotia Department of Health, *Towards Healthier Communities in Nova Scotia: A Discussion Paper*, available at http://www.gov.ns.ca/health/smoke_free/default.htm.

These mortality estimates are confirmed in studies on heart disease incidence attributable to second-hand smoke. Statistically significant dose-response relationships have been found between increasing amounts of smoking by the spouse and the risk of heart disease in the non-smoking spouse.⁴⁷⁵ Dr. Malcolm Law of the Wolfson Institute of Preventive Medicine in London analyzed 19 published studies involving 6,600 people, and found that people who have never smoked also have a 30% greater chance of developing heart disease if they live with a smoker:

*“Our result confirms the high risk of heart attack arising from breathing other people’s smoke and shows that it is likely to be due to the blood clotting system being very sensitive to small amounts of tobacco smoke.”*⁴⁷⁶

Specific workplace studies have also found that workers exposed to second-hand smoke at work experience excess heart disease, with a statistically significant linear trend with measures of increasing exposures.⁴⁷⁷

The American Heart Association has determined that passive smoking is an important risk factor for heart disease, and the U.S. Occupational Safety and Health Administration (OSHA) has included the effects of second-hand smoke on the heart in its risk assessments of passive smoking.⁴⁷⁸ The California Environmental Protection Agency has concluded that both heart disease mortality, and acute and chronic heart disease morbidity are causally associated with second-hand smoke exposure.⁴⁷⁹

Pooling the available statistical evidence from 12 different epidemiological studies, and accounting for confidence levels, researchers have concluded that one can be “more than 97.5% confident that passive smoking increases the risk of death from heart disease.”⁴⁸⁰ Observation of eleven more studies of non-fatal cardiac events, including three demonstrating dose-response relationships, with higher exposures of second-hand smoke associated with larger increases in risk, led the researchers to conclude “that passive smoking causes heart disease.”⁴⁸¹

Recent evidence has confirmed direct biological links between second-hand smoke and artery damage, and demonstrates that second-hand smoke leads to an accumulation of fat in the arteries. That damage is extremely difficult to reverse. Clogging and hardening of the arteries, in turn, leads to heart attacks and strokes and is the single leading cause of death in North America. According to Richard Daynard at Northeastern University:

⁴⁷⁵ Glantz and Parmley (1991), op. cit., pages 2-3; Steenland, op. cit., page 95; Humble C., (1990), op. cit., Hole, D., et al., (1989), “passive smoking and cardiorespiratory health in a general population in the west of Scotland,” *British Medical Journal* 299: 423-427; Helsing, K., et al., (1988), “Heart disease mortality in nonsmokers living with smokers,” *American Journal of Epidemiology*, 127: 915-922.

⁴⁷⁶ Law, et al., (1997), op. cit., and study report in *Times of London*, 17 October, 1997.

⁴⁷⁷ ACOEM, op. cit., page 3; He Y., et al., (1994), “Passive smoking at work as a risk factor for coronary heart disease in Chinese women how have never smoked,” *British Medical Journal* 308: 380-384; Wells, A.J., (1998), “Heart disease from passive smoking in the workplace,” *Journal of the American College of Cardiology* 31: 1-9.

⁴⁷⁸ Taylor, A.E., et al., (1992), “Environmental tobacco smoke and cardiovascular disease: a position paper from the Council on Cardiopulmonary and Critical Care, American Heart Association, *Circulation* 86: 1-4; Glantz and Parmley (1995), op. cit., page 1047.

⁴⁷⁹ Ontario Tobacco Research Unit, University of Toronto (2001), *Protection from Second-Hand Smoke in Ontario: A review of evidence regarding best practices*, May, 2001, page 4.

⁴⁸⁰ Glantz and Parmley, (1995), op. cit., pages 1050, 1051.

⁴⁸¹ Idem.

“Now you have hard biological evidence that [exposure to second-hand smoke] irreversibly damages arteries. The study likely spells the end of smoking in shared public places in the United States.”⁴⁸²

As early as 1988, it was first estimated that 32,000 heart disease deaths among non-smokers in the U.S. were attributable to second-hand smoke. Later estimates (using completely different data and assumptions) indicate 35,000 to 62,000 annual excess heart disease deaths due to passive smoking.⁴⁸³

Thousands of Canadian restaurant, bar and casino workers are still involuntarily exposed to high doses of a toxic, dangerous and potentially fatal substance for prolonged periods on a daily basis. Researchers have pointed to a double standard in Canadian regulatory processes:

“Individual lifetime excess risks of heart disease death due to ETS [environmental tobacco smoke] of one to three per 100 can be compared with much lower excess risks of one death per 100,000, which are often used in determining environmental limits for other toxins.”⁴⁸⁴

“In fact, there is no other consumer product to which large numbers of Ontarians are exposed on a daily basis with few or no restrictions that generates by-products as carcinogenic or toxic as second-hand smoke.”⁴⁸⁵

Second-hand smoke and stroke

The mechanisms that underlie the development of both heart disease and cerebrovascular disease (stroke) have much in common. Atherosclerosis, platelet aggregation, and the formation of thrombi and thromboses can lead to both heart disease and strokes. Recent studies have found that the risk of stroke is twice as high for those living with smokers than for those living with non-smokers, after adjustment for active smoking, education, heart disease, hypertension and diabetes.⁴⁸⁶

Second-hand smoke and respiratory illness

The link between second-hand smoke and childhood respiratory ailments, including bronchitis, pneumonia and asthma, has been well established. Recent studies found that second-hand smoke

⁴⁸² Robert Langreth (1998), “New Smoking Study Likely to Have Broad Impact,” *Wall Street Journal*, New York, January 15, 1998; Gold, op. cit., page 69.

⁴⁸³ Steenland, op. cit., page 99; Glantz and Parmley (1995), op. cit., pages 1050, 1051.

⁴⁸⁴ Steenland, op. cit., page 94.

⁴⁸⁵ A Report to the Minister of Health from her Expert Panel on the Renewal of the Ontario Tobacco Strategy (February 1999), op. cit., page 22.

⁴⁸⁶ Ontario Tobacco Research Unit, University of Toronto (2001), *Protection from Second-Hand Smoke in Ontario: A review of evidence regarding best practices*, May, 2001, page 12, citing You, R. Z., et al., (1999), “Ischaemic stroke risk and passive exposure to spouse’ cigarette smoking,” *American Journal of Public Health* 89: 572-575; Bonita, R., et al., (1999), “Passive smoking as well as active smoking increases the risk of acute stroke,” *Tobacco Control* 8: 156-160.

elevates the risk of pneumococcal pneumonia, adult asthma, chronic bronchitis and emphysema, and increases the incidence of cough, phlegm, and days lost from work in workers exposed to second-hand smoke.⁴⁸⁷ The California Environmental Protection Agency has also reported that sensory eye and nasal irritation can result from second-hand smoke-related noxious stimulation of upper respiratory tract and corneal mucous membranes. And the study found suggestive evidence of a causal association between second-hand smoke exposure and both cystic fibrosis and decreased pulmonary function.⁴⁸⁸

Similarly, the United States Environmental Protection Agency found that:

*“Environmental tobacco smoke has subtle but significant effects on the respiratory health of non-smokers, including reduced lung function, increased coughing, phlegm production, and chest discomfort.”*⁴⁸⁹

One California study found that the respiratory health of bartenders improved dramatically after the implementation of California’s smoke ban, based both on self-reported respiratory symptoms and on spirometry tests.⁴⁹⁰ The researchers concluded:

*“Establishment of smoke-free bars and taverns was associated with a rapid improvement of respiratory health.... In addition to potentially reducing the long-term risk of lung cancer and cardiovascular disease, workplace smoking prohibition appears to have immediate beneficial effects on adult respiratory health.”*⁴⁹¹

Active smoking causes a decline in lung function that is irreversible, with an average annual decline in lung volume two to three times as great as the normal decline in volume that occurs with age in non-smokers.⁴⁹² Self-reported obstructive lung disease has also been associated with second-hand smoke exposure in several studies.⁴⁹³

⁴⁸⁷ Nuorti, J.P. et al., (2000), “Cigarette smoking and invasive pneumococcal disease,” *New England Journal of Medicine* 342: 681-689; Sheffield, J.V. and Root, R.K., (2000), “Smoking and pneumococcal infection,” 342: 732-734; ACOEM (2000), op. cit., page 2, and also page 3 and page 7 (footnotes 23 and 24), citing Jindal, S.K., et al., (1994), “Indices of morbidity in adult patients exposed to environmental tobacco smoke,” *Chest*. 106: 746-749 and White, J.R., et al., (1991), “Respiratory illness in non-smokers chronically exposed to tobacco smoke in the workplace,” *Chest*. 100: 39-43; Eisner, M. et al., (1998), “Environmental tobacco smoke and adult asthma: The impact of changing exposure status on health outcomes,” *American Journal of Respiratory and Critical Care Medicine* 158: 127-133, cited in *A Report to the Minister of Health from her Expert Panel on the renewal of the Ontario Tobacco Strategy* (February 1999), op. cit., pages 22 and 44; Greer, J., et al., (1993), “Asthma related to occupational and ambient air pollutants in nonsmokers,” *Journal of Occupational and Environmental Medicine* 35: 909-915; Shephard, R.J., (1992), “Respiratory irritation from environmental tobacco smoke,” *Archives of Environmental Health* 47 (2): 123-130; Tyler, Michele, (1998), “Blowing smoke: Do smokers have a right? Limiting the privacy rights of cigarette smokers,” *Georgetown Law Journal* 86 (3): 783-811, citing references on respiratory effects of ETS (page 784).

⁴⁸⁸ California Environmental Protection Agency, (1997), *Health Effects of Exposure to Environmental Tobacco Smoke*, Office of Environmental Health Hazard Assessment, CEPA, Sacramento.

⁴⁸⁹ Ontario Tobacco Research Unit, University of Toronto (2001), *Protection from Second-Hand Smoke in Ontario: A review of evidence regarding best practices*, May, 2001, page 2.

⁴⁹⁰ Eisner, Mark, et al. (1998), “Bartenders’ Respiratory Health After Establishment of Smoke-Free Bars and taverns,” *Journal of the American Medical Association* 280 (22): 1909-1914, December 9, 1998.

⁴⁹¹ Idem., pages 1909 and 1914.

⁴⁹² Oster, Gerry, Colditz, Graham, and Kelly, Nancy, (1984), *The Economic Costs of Smoking and Benefits of Quitting*, Lexington Books, D.C. Heath and Company, Lexington, Massachusetts and Toronto, pages 100-103

⁴⁹³ As cited in Eisner, op. cit., page 1913, and footnotes 15, 16 and 47, page 1914.

Based on the accumulated medical evidence, health authorities have unambiguously called for rigorous smoking restrictions that will eliminate involuntary exposure to environmental tobacco smoke. Dr. David Satcher, U.S. Surgeon-General and U.S. Assistant Secretary for Health called for “*clean indoor ordinances requiring 100 percent smoke-free environments in all public areas and workplaces, including all restaurants and bars.*”⁴⁹⁴ The United Kingdom Scientific Committee on Tobacco and Health stated that “*smoking in public places should be restricted on the grounds of public health.... Wherever possible, smoking should not be allowed in the workplace.*”⁴⁹⁵

The World Health Organization’s International Program on Chemical Safety has recommended: “*In order to avoid interaction with occupational exposures, and to eliminate the risks of exposure to environmental tobacco smoke, smoking in the workplace should be prohibited.*”⁴⁹⁶ And the Ontario Tobacco Research Unit at the University of Toronto stated unequivocally that: “*All involuntary exposure to tobacco smoke is harmful and should be eliminated.*”⁴⁹⁷ In sum, current legislative efforts throughout Canada to reduce exposure to second-hand smoke will likely have a positive effect on women’s health, particularly for those women employed as food service workers.

Results

In Canada, more men than women are exposed to second-hand smoke on a regular basis, with 30.2% of Canadian men and 25.3% of Canadian women reporting exposure on most days in the month preceding the survey. The highest rates of exposure to second-hand smoke are in Quebec (34.4%), Nova Scotia (32.2%), and Newfoundland (32%), and the lowest rates are in British Columbia (19.8%) and Ontario (24.9%).

Overall, residents of Quebec, Atlantic Canada, and the Prairie provinces are more likely to be exposed to second-hand smoke than most other Canadians. The highest rates of exposure for women are in Quebec (32.7%), Newfoundland (29.5%), New Brunswick (29.1%), and Nova Scotia (28.5%), and the highest rates for men are in Nova Scotia (36.4%) and Quebec (36.1%) (Figure 70).

In the next Canadian Community Health Survey cycle, it will be most interesting to assess the provincial and local impacts of smoke-free legislation that has come into effect since the 2000/01 CCHS, including total or partial smoke bans in several jurisdictions. In fact, the 2000/01 data will provide an important benchmark to assess the effectiveness of that legislation at both the provincial and health districts levels, and to examine its utility in reducing second-hand smoke exposure by comparison with jurisdictions that have not adopted such legislation.

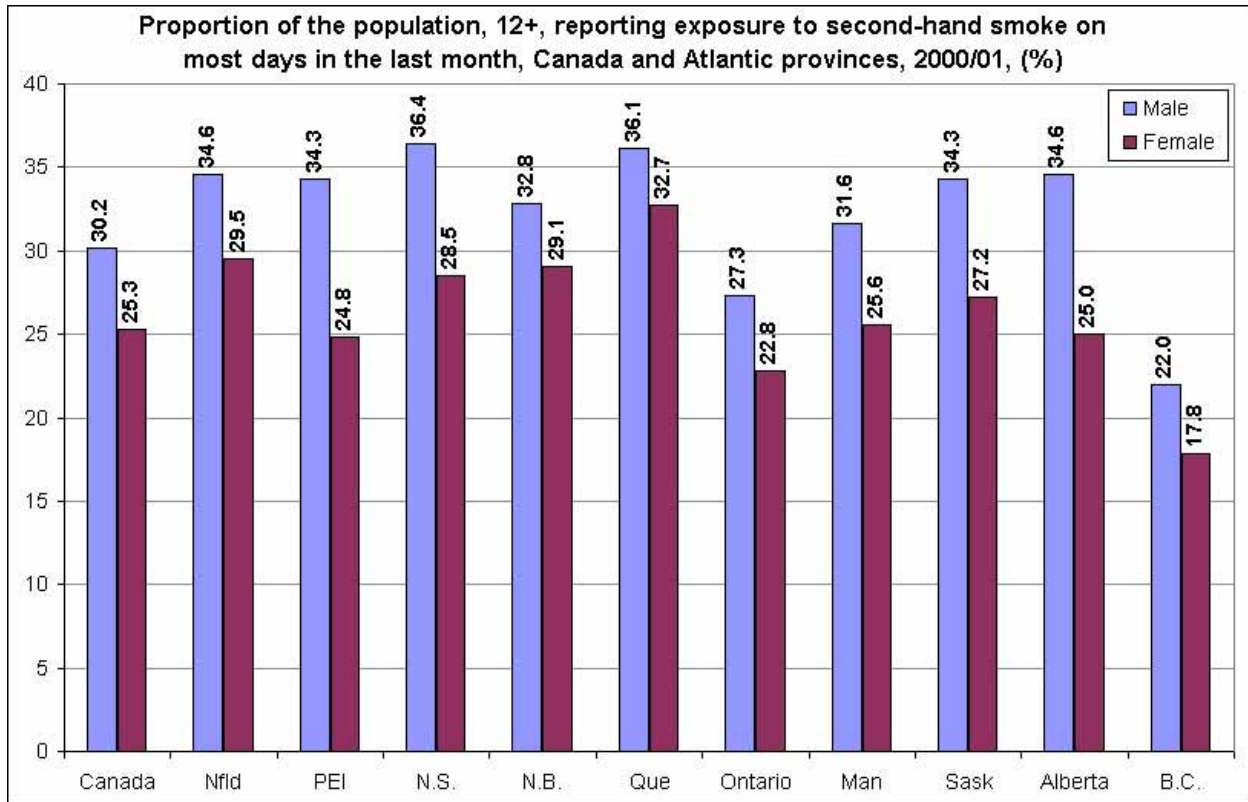
⁴⁹⁴ Ontario Tobacco Research Unit, University of Toronto (2001), *Protection from Second-Hand Smoke in Ontario: A review of evidence regarding best practices*, May, 2001, page 18.

⁴⁹⁵ Ibid., page 17.

⁴⁹⁶ World Health Organization, International Program on Chemical Safety, *Environmental Health Criteria 211: Health Effects of Interactions between Tobacco Use and Exposure to other Agents*, Geneva, 1999, page 97.

⁴⁹⁷ Ontario Tobacco Research Unit, University of Toronto (2001), *Protection from Second-Hand Smoke in Ontario: A Review of evidence regarding best practices*, May 2001, pages vi and 47.

Figure 70. Proportion of the population, aged 12 and over, reporting exposure to second-hand smoke on most days in the last month, Canada and Atlantic provinces, 2000/01, (%)



Source: Statistics Canada, Canadian Community Health Survey, 2000/01, health file.

HEALTHY CHILD DEVELOPMENT & REPRODUCTIVE HEALTH

Three indicators of healthy child development and reproductive health are provided here as key indicators of women's health:

1. Breastfeeding rate
2. Prevalence of low birth weight
3. Teen pregnancy rate

15. Breastfeeding

Indicator description

Statistics Canada provides data on recently born children of mothers aged 15 to 49, who are currently being breastfed, who were breastfed for at least 3 months, who were breastfed for less than 3 months, and who were not breastfed at all. A recently-born child is defined as one who was born within three years prior to the National Population Health Surveys conducted in 1994/95 and in 1996/97 for which data are available.

Relevance

Breastfeeding is recognized as providing optimal nutritional, immunological, and emotional supports for growing infants.⁴⁹⁸ The nutrients, enzymes, hormones, immunoglobulins, and immunological properties in human milk have been shown to protect infants from respiratory ailments, otitis media, gastroenteritis, infectious diseases, and Sudden Infant Death Syndrome. Studies have also found that the benefits of breastfeeding continue for 2-10 years beyond infancy in protecting against childhood cancers, insulin-dependent diabetes, allergies, Crohn's disease, and learning disabilities, and in fostering healthy cognitive development and healthy development of the brain and nervous system.⁴⁹⁹

There is strong evidence that breastfed infants have decreased incidence and severity of pneumonia, diarrhea, ear infections, bacterial meningitis, bacteremia, urinary infections and serious bacterial infections of the intestines.⁵⁰⁰ And there is evidence that breastfeeding protects against asthma and obesity.⁵⁰¹

Many studies also indicate that breast-feeding benefits the health of mothers. These benefits include less post-partum bleeding, earlier return to prepregnancy weight, improved bone

⁴⁹⁸ World Health Organization and UNICEF, *Protecting and Supporting Breast-feeding: The special role of maternity services*, Geneva, 1989.

⁴⁹⁹ Davis M.K., Savitz D.A., Graubard B.I., "Infant feeding and childhood cancer", *Lancet* 1998; 2:365-368; Health Canada, *Toward a Healthy Future; Second Report on the Health of Canadians*, Ottawa, 1999, page 78.

⁵⁰⁰ American Academy of Pediatrics. "Breastfeeding and the Use of Human Milk," *Pediatrics* Vol. 100,(6):1035-39, 1997.

⁵⁰¹ Oddy W.H., Holt P.G., Sly P.D. et al., "Association between breast feeding and asthma in 6 year old children: findings of a prospective birth cohort study," *British Medical Journal*, Sept 25 1999; 319 (7213): 815-9; Von Kries R, Koletzko B, Sauerwald T, et al., *British Medical Journal*, 1999; 319 (7203): 147-50.

remineralization and reduced risk of osteoporosis, fewer consequent hip fractures in later life, and reduced risk of ovarian and premenopausal breast cancers.⁵⁰²

The Nutrition Committee of the Canadian Paediatric Society has recommended that breast milk be the only source of nutrients for most infants in the first 3-6 months of life, and federal and provincial health departments now officially encourage breastfeeding by new mothers.⁵⁰³ For all these reasons, breastfeeding rates are a key indicator of women's health, with higher rates indicating improved health outcomes for both mothers and their infants.

Results

Breastfeeding practices were assessed in the 1994/95 and 1996/97 National Population Health Surveys. In that short period, the rate of breastfeeding increased in Canada (Table 16), and it is now estimated that four out of five recent Canadian mothers breastfeed their babies. In 1994/95, 24% of children of recent Canadian mothers, aged 15-49, were not breastfed, and in 1996/97, 22% of recently-born Canadian children were not breastfed.

Breastfeeding rates in Canada follow a west-east gradient. The highest rates of breastfeeding in Canada are in the west, followed by the Prairies and Ontario. Recent mothers in the Atlantic region and in Quebec are still less considerably less likely to breastfeed their babies than mothers in the rest of Canada, but the east is converging with the rest of Canada, and registering significant increases in rates of breastfeeding. The lowest rates of breastfeeding are in Quebec and in Newfoundland and Labrador.

In 1994/95, 44.6% of children of recent mothers in Newfoundland and Labrador, 37.1% in PEI, 34.4% in Nova Scotia, 37.9% in New Brunswick, and 42.7% in Quebec had not been breastfed. These proportions declined in 1996/97 to 38.8% in Newfoundland, 26.7% in PEI, 28.4% in Nova Scotia, 33.3% in New Brunswick, and 39.5% in Quebec.⁵⁰⁴

Table 16. Breastfeeding practices, by age group of recent mothers, mothers aged 15 to 49, Canada, 1994/95-1996/97, (%)

Recently-born children who:	Are currently being breastfed	Were breastfed for at least 3 months	Were breastfed for less than 3 months	Were not breastfed
1994/95	18.9%	31.0%	22.3%	24%
1996/97	20.9%	35.2%	21.6%	22%

Source: Statistics Canada, National Population Health Surveys, 1994/95 and 1996/97.

⁵⁰² Newcomb P.A., Storer B.E., Longnecker M.P., et al., "Lactation and a reduced risk of premenopausal breast cancer," *New England Journal of Medicine* 1994; 330:81-87, and other sources, all cited in Greater Boston Physicians for Social Responsibility, "What about breastfeeding?" at <http://psr.igc.org/breastfeeding.htm>.

⁵⁰³ Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999, page 196.

⁵⁰⁴ Statistics Canada, National Population Health Surveys, 1994/95 and 1996/97, "Breastfeeding practices, by age group of recent mothers, mothers aged 15 to 49, Canada and provinces, 1994/95-1996/97," available at: <http://www.statcan.ca/english/freepub/82-221-XIE/00502/tables/html/2171.htm>. 1996/97 data for PEI have a coefficient of variation (CV) from 16.6% to 33.3%, and should therefore be interpreted with caution.

16. Prevalence of Low Birth Weight

Indicator description

Low birth weight is defined as live births less than 2,500 grams, and is expressed as a percentage of all live births for which birth weight is known. Low birth weight can be a consequence of either premature birth (usually at less than 37 weeks gestation) or of intra-uterine growth restriction. The average full-term infant weighs 3,400 grams.⁵⁰⁵

Relevance

According to Statistics Canada, “low birth weight is a key determinant of infant survival, health, and development. Low birth weight infants are at a greater risk of having a disability and for diseases such as cerebral palsy, visual problems, learning disabilities and respiratory problems.”⁵⁰⁶ Neo-natal mortality is inversely proportional to birth weight, and low birth weight babies frequently develop neuro-developmental handicaps.⁵⁰⁷ Because birth weight is an important indicator of maternal health and nutrition prior to and during pregnancy, it is a key indicator of women’s health.

Results

In 1999, 5.6% of all babies born to Canadian mothers were considered to be at a low birth weight, down slightly from 5.8% in 1997. This ratio is virtually unchanged in 20 years (Table 17). The highest rate of low birth weight in the country in 1999 was in Nunavut (7.5%).⁵⁰⁸

There are considerable intra-provincial differences in rates of low birth weight. Thus northern Quebec in 1997 had a low birth weight rate of 7.9% compared to 6% for the province as a whole.⁵⁰⁹

Incidence of low birth weight also varies by age of mother, forming a U-shaped curve with highest risks for very young and older mothers. In 1996, mothers under the age of 15 had a low birth weight rate of 9.3%; declining to 7% for mothers aged 15-19; 5.9% for mothers aged 20-24; and 5.3% for mothers aged 25-29. The rate then rises again with increasing age of mother to 5.6% for mothers aged 30-34, 6.4% for those aged 35-39, 8.1% for those aged 40-44, and 8.1% for mothers 45 and older.⁵¹⁰

⁵⁰⁵ Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999, Table 64, page 256.

⁵⁰⁶ Statistics Canada, *Health Indicators*, available at: <http://www.statcan.ca/english/freepub/82-221-XIE/01002/defin1.htm#d>.

⁵⁰⁷ McCormick, M.C., “The contribution of low birth weight to infant mortality and childhood morbidity,” *new England Journal of Medicine* 312: 82-90, 1985.

⁵⁰⁸ Statistics Canada, Canadian Vital Statistics, Birth Database, in Statistics Canada, *CANSIM Database*, Table 102-4005.

⁵⁰⁹ Statistics Canada, “Low birth weight,” *Health Indicators*, volume 2002, no. 2, catalogue no. 82-221-XIE, available at: <http://www.statcan.ca/english/freepub/82-221-XIE/01002/high/region/hlowbirth.htm>, and at: <http://www.statcan.ca/english/freepub/82-221-XIE/01002/tables/html/12102.htm>.

⁵¹⁰ Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999, Table 64, page 257.

Internationally, Canada places in the middle of other industrialized countries. The lowest rates of low birth weight babies are in the Scandinavian countries, with Finland and Sweden registering rates of 4.1% and 4.4% respectively, while the U.S. registers a much higher rate of 7.3%.⁵¹¹

Table 17. Low birth weight (less than 2,500 grams), by sex, Canada, annual, 1979-1999, as percentage of all live births (%)

1979	1981	1983	1985	1987	1989	1991	1993	1995	1997	1999
5.9	5.9	5.6	5.6	5.5	5.5	5.5	5.7	5.8	5.8	5.6

Source: Statistics Canada, Canadian Vital Statistics, Birth Database.

17. Teen Pregnancy

Indicator description

Teenage pregnancy is reported as the number of pregnancies per 1,000 for women aged 15-19. Pregnancies are calculated as the sum of live births, therapeutic abortions, miscarriages, and stillbirths.

Relevance

Pregnancy before age 20 entails a number of medical risks both for children and mothers. Teenage mothers have a greater risk of having a pre-term or low birth-weight baby or a baby with congenital abnormalities, and they themselves are less likely to complete their education and are more likely to live in poverty. In addition to unplanned pregnancies, unsafe sex can lead to serious sexually transmitted diseases, infertility and HIV infection.⁵¹² Pregnant teens are also at greater risk of health problems, including anemia, hypertension, renal disease, eclampsia, and depressive disorders.⁵¹³

Because teenage pregnancy can have adverse impacts on the health and wellbeing of both mothers and children, it is a key indicator of women's health, with reduced rates a clear sign of progress.

Results

The 1996-97 National Population Health Survey found that 51% of sexually active 15-19 year-old women had sex without a condom in the past year. A four-province Atlantic region student

⁵¹¹ Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999, Table 64, page 256.

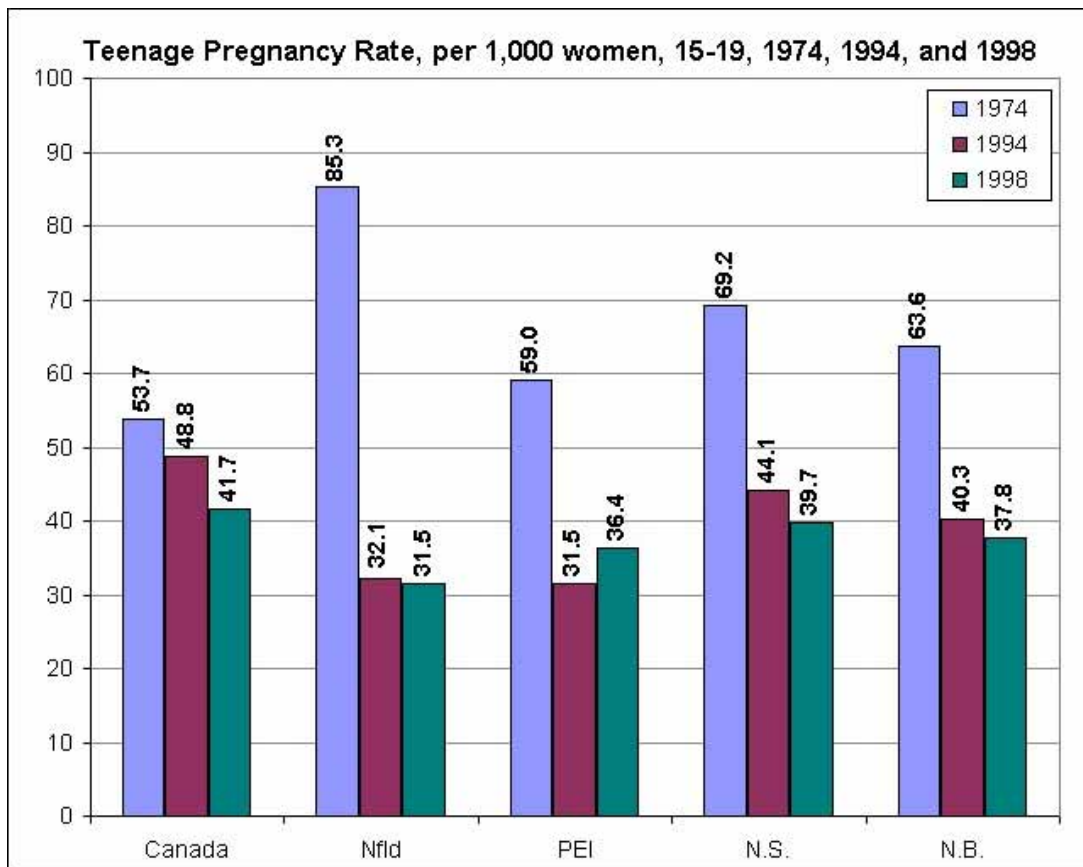
⁵¹² Surinder Wadhera and Wayne J. Millar, "Teenage Pregnancies, 1974 to 1994," Statistics Canada, *Health Reports*, volume 9, no. 3, Winter 1997; Health Canada, *Toward a Healthy Future*, pages 78 and 126.

⁵¹³ Combes-Orme, T, "Health effects of adolescent pregnancy: Implications for social workers," in *Families in Society: The Journal of Contemporary Human Services*, 1993; 74 (6): 344-54; Turner, R.J., Grindstaff, C.F., and Phillips, N., "Social support and outcome in teenage pregnancy," *Journal of Health and Social Behavior*, 190; 31 (1): 43-57.

drug survey found that 50% of sexually active high school students had unplanned intercourse at least once under the influence of alcohol or drugs.⁵¹⁴

Despite these major concerns, the rate of teenage pregnancies has fallen sharply in Canada since 1974, with rates down from 53.7 per 1,000 in 1974 to 41.7 per 1,000 in 1998-99. Teenage pregnancy rates have fallen most sharply in Atlantic Canada. In the 1970s all four Atlantic provinces recorded teen pregnancy rates well above the national average. Twenty years later, the Atlantic region had the lowest rates in the country, with a particularly dramatic decline in Newfoundland and Labrador from the highest to the lowest rates in Canada (Figure 71).⁵¹⁵

Figure 71. Teenage Pregnancy Rate, per 1,000 women, 15-19, 1974, 1994, and 1998



Source: Statistics Canada, *Health Reports* 9 (3), "Teenage Pregnancies, 1974 to 1994"; Statistics Canada, *National Population Health Survey 1998/99*.

Interpretation

Prevention, education, health promotion, and reduction of inequities are far less expensive strategies in reducing teen pregnancy rates than the significant social costs that are paid at a later

⁵¹⁴ Health Canada, *Toward a Healthy Future*, pages 126-127; Nova Scotia Department of Health and Dalhousie University, *Nova Scotia Student Drug Use, 1998: Technical Report*.

⁵¹⁵ Wadhera and Millar, *Health Reports* 9:3, op. cit., pages 13 and 17.

stage. One Statistics Canada study noted that the Netherlands has one of the lowest teenage pregnancy and abortion rates in the world. The Dutch teen pregnancy rate is less than one-quarter of the Canadian rate. And while teenage abortions in this country have increased by 60% in the last 20 years, the Dutch abortion rate is less than one-eighth the Canadian rate. Based on the Dutch experience, the study concluded that teenage pregnancies have been reduced through effective sex education, open discussion of human sexuality in the media, easier access to contraceptives, education programs, and active participation of parents and teenagers in such programs.⁵¹⁶

⁵¹⁶ Wadhera and Millar, *Health Reports* 9:3, op. cit., citing E. Ketting and A. Visser, "Contraception in the Netherlands: The Low Abortion Rate Explained," *Patient Education and Counseling*, 1994, 23 (3), pages 161-171.

HEALTH OUTCOMES

Health outcomes include a range of indicators encompassing physical and mental health status, disease, life expectancy, and mortality. Indicators of women's health included here are:

Wellbeing and physical conditions

1. Self-rated health: Proportion of the population rating their own health as excellent or very good.
2. Self-rated health: Proportion of the population rating their own health as fair or poor.
3. Self-esteem
4. Functional health
5. Activity limitation or handicap
6. Disability days
7. Pain or discomfort

Disease

1. Arthritis and Rheumatism
2. Asthma
3. Diabetes
4. High blood pressure
5. Cardiovascular diseases
6. Cancer
7. Lung cancer
8. Breast cancer
9. HIV/AIDS
10. Depression

Life expectancy and mortality

1. Life expectancy
2. Disability-free life expectancy
3. Infant mortality
4. Perinatal mortality
5. Age-standardized mortality by cause
6. Potential years of life lost by cause

Due to limitations of time, space, and resources, these indicators of health outcomes will be dealt with in summary form here, and much more briefly than earlier discussions on the determinants of health.

18. Wellbeing & Physical Conditions

18.1 Self-rated health

Indicator description

Statistics Canada assesses self-rated health according to the percentage of the population, aged 12 and over, who rate their own health status as excellent, very good, good, fair, or poor. Data are from the 2000/01 Canadian Community Health Survey.

Relevance

Self-rated health has been found to be a reliable predictor of health problems, health care utilization, and longevity.⁵¹⁷ This is also an important indicator of women's health, as Canadian women are less likely than men to rate their own health as excellent or very good.

Results

Women are less likely than men to rate their health as excellent or very good. In 2000/01, 63% of Canadian men and 60% of Canadian women rated their own health as excellent or very good. This is down from 1998-99 when 71% of men and 67% of women rated their own health as excellent or very good, from 1996-97 when 68.5% of men and 65.5% of women rated their health as excellent or very good, and from 1994-95 when 68.9% of men and 65.2% of women rated their own health as excellent or very good (Table 18).

Table 18. Self-rated health, Canadian men and women, 1996/97, 1998/99, and 2000/01, (%)

	1994/95		1996/97		1998/99		2000/01	
	Male	Female	Male	Female	Male	Female	Male	Female
Excellent	32.0	30.3	30.8	28.5	34.4	29.5	27.3	24.0
Very good	36.9	34.9	37.7	37.0	36.6	37.8	35.7	35.9
Good	23.1	24.5	23.7	25.4	21.8	24.2	25.8	27.4
Fair or poor	7.8	10.1	7.7	7.7	7.2	8.6	11.2	12.7

Sources: Statistics Canada, Canadian Community Health Survey 2000/01 and National Population Health Surveys 1996/97 and 1998/99.

The male-female differences are not attributable to the fact that there are more elderly women than men, as men are more likely to rate their health as excellent or very good in every age category. In fact, the largest female-male differences in self-rated excellent or very good health are among younger Canadians, and the smallest female-male differences are in middle age (35-54) and in old age (65+) (Table 19).

⁵¹⁷ Health Canada, *Toward a Healthy Future: Second Report on the Health of Canadians*, Ottawa, 1999, page 14.

Table 19. Proportion of Canadian men and women rating their health as excellent or very good, by age, 2000/01 (%)

	12-19	20-34	35-44	45-54	55-64	65+
Male	73.4	75.0	66.8	59.3	51.5	36.7
Female	68.0	70.9	66.6	59.1	49.5	36.2

Source: Statistics Canada, Canadian Community Health Survey 2000/01.

There are also significant regional differences in self-rated health status. In 2000/01, 61.4% of Canadians, aged 12 and over, ranked their health as excellent or very good. The highest rates of self-rated excellent and very good health were in Newfoundland and Labrador (66.2%) and in Prince Edward Island (64.4%), and the lowest rates were in New Brunswick (55.5%) and Saskatchewan (56.8%).

In 2000/01, 12% of Canadians, aged 12 and over, ranked their health as fair or poor, with the lowest rate in Alberta (10.5%) and the highest rate in New Brunswick (16%) (Table 20).

Table 20. Self-rated health, Canada and provinces, 2000/01, (%)

	Can	Nfld	PEI	NS	NB	Que	Ont	Man	Sask	Alta	BC
Exc./VG	61.4	66.2	64.4	59.4	55.5	61.2	63.1	60.4	56.8	61.6	59.0
Good	26.6	21.3	23.2	26.1	28.4	27.7	24.7	27.1	30.3	28	28.5
Fair/poor	12.0	12.5	12.4	14.4	16.0	11.1	12.2	12.5	12.8	10.5	12.4

Source: Statistics Canada, Canadian Community Health Survey 2000/01.

There is also a definite gradient in self-rated health that is strongly related to income. Among those in the lowest income bracket in the 1996/97 National Population Health Survey, only 47% rated their health as excellent or very good, compared to 73% in the highest income bracket. Conversely, 21% of low-income Canadians described their health as fair or poor compared to only 5% of high-income Canadians. In other words, Canadians in the lowest income households were four times more likely to report fair or poor health as those in the highest income households.⁵¹⁸

18.2 Self-esteem

Indicator description

Self-esteem, an indicator of mental health and wellbeing, is the level of perceived self-worth reported by persons aged 12 and over, as assessed by their responses to six questions in Statistics Canada's population health surveys. Canadian data are available from the 1994-95 National Population Health Survey, while data for selected provinces (but not the country as a whole) are available from the 2000/01 Canadian Community Health Survey. Here only the national data for 1994-95 are referenced.

⁵¹⁸ Health Canada, *Toward a Healthy Future: Second Report on the Health of Canadians*, Ottawa, 1999, pages 14-15.

Relevance

The National Association for Self-Esteem defines self-esteem as “the experience of being capable of meeting life’s challenges and being worthy of happiness.”⁵¹⁹ The concept therefore consists of a psychological component – worthiness, – and a behavioural component – competence. As women experience higher rates of mental illness and are more likely than men to report low self-esteem, this is an important indicator of women’s health, with higher rates of self-esteem signifying improvements in women’s wellbeing.

Results

While similar proportions of women and men reported high self-esteem in 1994-95 (48.6% and 48.7% respectively), women were considerably more likely than men to report low self-esteem (14.1% compared to 9.9%). The male-female gap was widest among young Canadians, with 22% of 15-19 year-old women reporting low self-esteem, compared to 13% of men in that age group.⁵²⁰

Self-esteem was also linked to income, education, and region. In 1994-95, 18% of those with the lowest income levels reported low self-esteem, compared to 13% of middle-income earners, and 10% of high-income earners. The highest rates of self-esteem in the country were in Quebec, where 62% were assessed as having high self-esteem, based on their answers to six survey questions. The lowest rates were in Manitoba and Saskatchewan, where only 34% reported high self-esteem, and in the Atlantic provinces (Newfoundland – 35%, Nova Scotia – 37%, PEI – 40%, and New Brunswick – 41%).⁵²¹

18.3 Functional health

Indicator description

Functional health is composite measurement assessing eight attributes – vision, hearing, speech, mobility (ability to get around), dexterity (use of hands and fingers), cognition (memory and thinking), emotion (feelings), and pain and discomfort.⁵²² A score of 0.8 to 1.0 is considered to be very good or perfect functional health, and scores below 0.8 indicate moderate or severe functional health problems. The data sources used here are the 2000-01 Canadian Community Health Survey and the 1994-5, 1996-97, and 1998-99 National Population Health Surveys. and functional health rates are assessed here for the population aged 12 and over.

⁵¹⁹ Reasoner, Robert, “The true meaning of self-esteem,” National Association for Self-Esteem, available at: <http://www.self-esteem-nase.org/whatissselfesteem.shtml>.

⁵²⁰ Statistics Canada, National Population Health Survey 1994-95, “Self-esteem, by age group and sex, household population aged 12 and over, Canada excluding territories, 1994/95,” available at: <http://www.statcan.ca/english/freepub/82-221-XIE/01002/tables/html/1131.htm>.

⁵²¹ Health Canada, *Toward a Healthy Future: Second Report on the Health of Canadians*, Ottawa, 1999, page 16, and Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999, pages 200-222.

⁵²² Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999, page 230.

Relevance

Because women are more likely to suffer moderate or severe functional health problems, this is an important indicator of women's health.

Results

In 2000-01, 82% of Canadian men and 79% of Canadian women, aged 12 and over, were rated as having very good or perfect functional health. Conversely, 20.2% of Canadian women and 17% of Canadian men were assessed as having moderate or severe functional health problems. The 2000-01 scores represent a decline in functional health status among Canadians, (Table 21). The highest rates of moderate or severe functional health problems are in Nova Scotia (21.3%), and Saskatchewan (20.6%), and the lowest rates of functional health problems are in Quebec (14.5%) and in Newfoundland and Labrador (16.7%). There are also significant intra-provincial differences in each province. For example, more than one-quarter of Cape Bretoners report moderate or severe functional health problems, compared to 19.5% in Halifax.⁵²³

Table 21. Functional health of Canadian men and women, 1994/95 – 2000/01, (%)

	1994/95		1996/97		1998/99		2000/01	
	Male	Female	Male	Female	Male	Female	Male	Female
Moderate-severe problems	11.8	17.2	8.8	11.9	13.8	16.6	17.0	20.2
Very good or perfect	87.6	82.3	90.8	87.7	85.6	82.9	82.0	79.0

Source: Statistics Canada, Canadian Community Health Survey 2000-01, National Population Health Surveys, 1994-95, 1996-97, and 1998-99.

18.4 Activity limitation

Indicator description

Activity limitations are assessed for the population aged 12 and over who report having a disability or being limited in certain activities on a continuing basis (at least 6 months) because of a physical condition, mental condition, or health problem. The data sources used here are the 2000-01 Canadian Community Health Survey and the 1994-5, 1996-97, and 1998-99 National Population Health Surveys.

Relevance

Health Canada's Gender-based Analysis Policy and Women's Health Strategy both affirm the importance of a diversity approach to women's health issues, including consideration of the

⁵²³ Statistics Canada, Canadian Community Health Survey 2000-01, "Functional health status, by sex, household population aged 12 years and over, Canada, provinces, territories, health regions and peer groups, 2000/01," available at: <http://www.statcan.ca/english/freepub/82-221-XIE/01002/tables/html/1316.htm>.

special health issues facing women with disabilities.⁵²⁴ In addition, women suffer from higher rates of activity limitation than men. For these reasons, the prevalence of activity limitations is an important indicator of women's health.

Statistics Canada's Health and Activity Limitation Survey found that 16% of all Canadian women are disabled. According to the Disabled Women's Network Ontario (DAWN), women with disabilities suffer from a wide range of disadvantages. Disabled girls are twice as likely to be sexually assaulted, and suffer high rates of physical and emotional abuse and violence. Women with disabilities also have high rates of unemployment (74%) and poverty. According to Statistics Canada's Health and Activity Limitation Survey, the median employment income for a disabled woman is \$8,360 compared to \$19,250 for a disabled man.⁵²⁵

Results

Nationally, 20.7% of males and more than one-quarter of females, aged 12 and over, reported an activity limitation or handicap in 2000-01, a sharp increase from rates of activity limitation below 20% in the 1994-95, 1996-97, and 1998-99 National Population Health Surveys (Table 22).

Table 22. Canadian men and women reporting activity limitations, 1994/95 – 2000/01, aged 12 and over (%)

	1994/95		1996/97		1998/99		2000/01	
	Male	Female	Male	Female	Male	Female	Male	Female
Activity limitation	14.9	17.9	11.8	14.0	12.6	15.1	20.7	25.1
No activity limitation	85.1	82.1	88.0	85.9	87.2	84.6	79.3	74.9

Sources: Statistics Canada, Canadian Community Health Survey 2000-01, National Population Health Surveys, 1994-95, 1996-97, and 1998-99.

The highest rate of activity limitation is in Nova Scotia (29.2%) followed by Alberta (26.1%), Saskatchewan and British Columbia (25.3%), and Ontario (23.3%). The lowest rates of activity limitation are in Quebec (19.2%), Newfoundland (19.7%), Manitoba (21%), PEI and New Brunswick (21.3%). Women have higher levels of activity limitation than men in every province, but the pattern is sharply reversed in a few jurisdictions. In Cape Breton, for example, 36.5% of men and 31.7% of women reported an activity limitation – one of the highest rates of activity limitation in the country.⁵²⁶

⁵²⁴ Health Canada, *Health Canada's Gender-based Analysis Policy*, Ottawa, 2000, and Health Canada, *Health Canada's Women's Health Strategy*, Ottawa, March, 1999.

⁵²⁵ Disabled Women's Network Ontario, Fact sheet, available at: <http://www.thot.net/~dawn/fact.html>.

⁵²⁶ Statistics Canada, Canadian Community Health Survey 2000-01, "Activity limitation, by sex, household population aged 12 and over, Canada, provinces, territories, health regions and peer groups, 2000/01," available at: <http://www.statcan.ca/english/freepub/82-221-XIE/01002/tables/html/1336.htm>, and Statistics Canada, National Population Health Surveys 1994-95, 1996-97, and 1998-99, "Activity limitation, by sex, household population aged

18.5 Disability days

Indicator description

Disability days are assessed for the population aged 12 and over who stayed in bed or cut down on normal activities because of illness or injury, on one or more days in the past two weeks. Data are from Statistics Canada's 2000/01 Canadian Community Health Survey, and Statistics Canada's National Population Health Surveys, 1994/95, 1996/97 and 1998/99.

Relevance

As noted above, Health Canada's Gender-based Analysis Policy and Women's Health Strategy both affirm the importance of a diversity approach to women's health issues, including consideration of the special health issues facing women with disabilities.⁵²⁷ In addition, women are more likely to report disability days in the past two weeks than men. For these reasons, the percentage of women reporting disability days is an important indicator of women's health.

Results

In 2001-01, 18.6% of Canadian women and 13.6% of men reported one or more disability days in the two weeks prior to the survey, (henceforth called "two-week disability days"). The rate of two-week disability days is highest in Nova Scotia (19.7%), Alberta (19%), British Columbia (18.2%), New Brunswick and Saskatchewan (17.8%) and lowest in Quebec (13%), Newfoundland (15.4%), PEI (15.5%), Manitoba (15.6%), and Ontario (16.4%).⁵²⁸ In 2000-01, the rate of two-week disability days climbed sharply from rates reported in the National Population Health Surveys in the 1990s (Table 23).⁵²⁹

Table 23. Canadian men and women reporting one or more two-week disability days, 1994/95 – 2000/01, population 12 and over(%)

	1994/95		1996/97		1998/99		2000/01	
	Male	Female	Male	Female	Male	Female	Male	Female
One or more two-week disability days	11.6	16.9	10.4	14.1	10.9	15.8	13.6	18.6

Sources: Statistics Canada, Canadian Community Health Survey 2000-01, National Population Health Surveys, 1994-95, 1996-97, and 1998-99.

Community Health Survey 2000-01, National Population Health Surveys, 1994-95, 1996-97, and 1998-99.

4 and over, Canada and provinces, 1994/95-1998/99," available at: <http://www.statcan.ca/english/freepub/82-221-XIE/01002/tables/html/1332n.htm>.

⁵²⁷ Health Canada, *Health Canada's Gender-based Analysis Policy*, Ottawa, 2000, and Health Canada, *Health Canada's Women's Health Strategy*, Ottawa, March, 1999.

⁵²⁸ Statistics Canada, Canadian Community Health Survey 2000-01, "Two-week disability days, by sex, household population aged 12 and over, Canada, provinces, territories, health regions and peer groups, 2000/01," available at: <http://www.statcan.ca/english/freepub/82-221-XIE/01002/tables/html/1326.htm>.

⁵²⁹ Idem., and Statistics Canada, National Population Health Surveys 1994-95, 1996-97, and 1998-99, "Two-week disability days, by age group and sex, household population, Canada excluding territories, 1994/95-1998/99," available at: <http://www.statcan.ca/english/freepub/82-221-XIE/01002/tables/html/1332n.htm>.

18.6 Pain or discomfort

Indicator description

Pain or discomfort is assessed for the population aged 12 and over for data who report having pain or discomfort which prevents or limits certain activities on a continuing basis. Data sources are Statistics Canada's 2000-01 Canadian Community Health Survey and Statistics Canada's 1994-95, 1996-97, and 1998-99 National Population Health Surveys.

Relevance

More women than men suffer from pain or discomfort that prevents or limits their activities. A reduction in the proportion of women suffering such pain or discomfort is an indicator of progress in assessing women's health status.

Results

In the 2000/01 Canadian Community Health Survey, 11% of Canadian women and 7% of men reported suffering from pain or discomfort that prevented a few or some activities. Another 3.1% of women and 2.7% of men reported suffering from pain or discomfort that prevented most activities.

19. Disease

19.1 Arthritis and rheumatism

Indicator description

This indicator is assessed for the population aged 12 and over who report that they have been diagnosed by a health professional as having arthritis or rheumatism. Arthritis/rheumatism includes both rheumatoid arthritis and osteoarthritis, but excludes fibromyalgia. Data sources are Statistics Canada's 2000-01 Canadian Community Health Survey, and Statistics Canada's 1994-95, 1996-97 and 1998-99 National Population Health Surveys.

Relevance

Musculoskeletal disorders account for higher disability costs than any other category of illness in Canada.⁵³⁰ Arthritis refers to inflammatory conditions affecting the joints.⁵³¹ More women than men have arthritis or rheumatism, making this an important indicator of women's health.

⁵³⁰ Health Canada, *Economic Burden of Illness in Canada 1998*, Ottawa, December, 2002.

⁵³¹ For details on arthritis, see The Arthritis Society web site at www.arthritis.ca.

Results

In Canada, 19% of Canadian women and 11.4% of Canadian men have arthritis or rheumatism, with Nova Scotia reporting the highest rates in the country. In Nova Scotia, more than one in four women have arthritis or rheumatism, compared to 18.4% of men – with both male and female rates the highest in the country. The prevalence of arthritis and rheumatism has increased since the mid-1990s (Table 24).⁵³²

Table 22. Canadian men and women reporting arthritis or rheumatism, 1994/95 – 2000/01, (%)

1994/95		1996/97		1998/99		2000/01	
Male	Female	Male	Female	Male	Female	Male	Female
9.5	15.7	9.7	17.8	11.2	19.2	11.4	19.0

Sources: Statistics Canada, Canadian Community Health Survey 2000-01, National Population Health Surveys, 1994-95, 1996-97, and 1998-99.

Interpretation

Osteoporosis results are not given here, but should be an indicator of women's health, as women have higher rates of this disabling condition. As people age, bones may become brittle, resulting in osteoporosis, which in turn can lead to serious falls and injuries. Unintentional falls account for more than half of all hospital injury admissions in Canada, 67% of all hospital days due to injury, and 75% of all in-hospital injury deaths. Seniors 65 and older account for 48% of all fractures and dislocations of the lower limbs and 27% of all fractures and dislocations of the upper limbs.⁵³³

Arthritis and osteoporosis account for greater productivity losses due to long-term disability in Canada than any other diagnostic category.⁵³⁴ One U.S. study estimated that arthritis and heart disease were each responsible for about 15% of total disability in that country.⁵³⁵

One study found that hip fracture incidence in most western nations is about 130 cases per 100,000 population. Low calcium intake, vitamin D deficiency, and poor nutrition are linked to low bone mass and bone fragility, which in turn contribute to fracture risk.⁵³⁶ Physical inactivity,

⁵³² Statistics Canada, Health Indicators, catalogue no. 82-221-XIE.

⁵³³ Ibid., page 243.

⁵³⁴ Idem.

⁵³⁵ McDuffie, Frederic, et al., "Arthritis and Musculoskeletal Diseases," in Amler, Robert, and Bruce Hull (eds.), *Closing the Gap: The Burden of Unnecessary Illness*, Oxford University Press, New York and Oxford, 1987, page 19.

⁵³⁶ Heaney, Robert, "Hip Fracture: A Nutritional Perspective," *Proceedings of the Society for Experimental and Biological Medicine*, 200: 153-156, 1992, cited in Province of British Columbia (1996), *Cost Effectiveness/Value of Nutrition Services: An Annotated Bibliography*, prepared by the Nutrition Section, Prevention and Health Promotion, Ministry of Health, Province of British Columbia, July, 1996, page 37. To convert 1992US\$ to 2001Can\$, exchange rates from <http://www.x-rates.com/cgi-bin/hlookup.cgi> show \$US1 = \$Can1.1972 on 30 June, 1992. Therefore calculation (1): 1.1972 X \$14 million = \$16.76 million (1992 Can\$), and calculation (2): 2001 CPI (116.4) divided by 1992 CPI (100) X \$16.76m = \$19.5 million.

obesity, and poor diet are all key modifiable risk factors for chronic musculoskeletal disorders. A substantial portion of the burden of disability caused by these illnesses could therefore be avoided through increases in physical activity, improvements in diet, and weight reduction.

19.2 Asthma

Indicator description

This indicator is assessed for the population aged 12 and over who report that they have been diagnosed by a health professional as having asthma. Data sources are Statistics Canada's 2000-01 Canadian Community Health Survey, and Statistics Canada's 1994-95, 1996-97 and 1998-99 National Population Health Surveys.

Relevance

Asthma is chronic lung disease that causes inflammation of the airways. Asthma attacks bring breathlessness, wheezing, chest tightness, and/or coughing. More women than men have asthma, making this an important indicator of women's health.

Results

In Canada, 9.9% of women aged 12 and over, and 6.9% of men have been diagnosed with asthma. While rates of asthma among Canadian men have declined in recent years, they have steadily increased among women (Table 25).⁵³⁷

Table 23. Canadian men and women who have been diagnosed with asthma, 1994/95 – 2000/01, (%)

1994/95		1996/97		1998/99		2000/01	
Male	Female	Male	Female	Male	Female	Male	Female
7.3	7.1	7.0	8.5	7.9	9.1	6.9	9.9

Sources: Statistics Canada, Canadian Community Health Survey 2000-01, National Population Health Surveys, 1994-95, 1996-97, and 1998-99.

19.3 Diabetes

Indicator description

This indicator is assessed for the population aged 12 and over who report that they have been diagnosed by a health professional as having diabetes. Data sources are Statistics Canada's 2000-01 Canadian Community Health Survey, and Statistics Canada's 1994-95, 1996-97 and 1998-99 National Population Health Surveys.

⁵³⁷ Statistics Canada, Health Indicators, catalogue no. 82-221-XIE.

Relevance

Diabetes is a serious, lifelong condition that can cause heart disease, kidney failure, and blindness, and often leads to disability and death. Because it leads to other serious illnesses, diabetes is under-reported on death certificates. Conventional estimates of mortality, disease specific disability, and health expenditures attributed to diabetes are therefore almost certainly underestimates, because of the convention of classifying illnesses by principal diagnosis.

According to Health Canada:

*“There were 5,447 deaths in 1996 for which diabetes was certified as the underlying cause. This ranks diabetes as the seventh leading cause of death in Canada. However, the actual number of deaths for which diabetes was a contributing factor is probably five times this number.”*⁵³⁸

The U.S. Centers for Disease Control similarly report:

*“Actually diabetes contributes to a much larger proportion of mortality, since it is reported on only about half of the death certificates for persons who die with the disease and is listed as the underlying cause on only one-quarter of the certificates on which it appears. The most frequent causes of death among persons with diabetes are ischemic and other forms of heart disease, cerebrovascular disease, and other forms of atherosclerosis; renal disease, including nephritis/nephrosis and uremia; respiratory disease; and infection.”*⁵³⁹

Comprehensive U.S. estimates attribute 6.8% of total mortality in that country to diabetes mellitus.⁵⁴⁰ One U.S. estimate has pegged the combined direct and indirect costs of diabetes in that country at \$63 billion (2001\$Can) a year.⁵⁴¹

Results

In Canada, 4.4% of women aged 12 and over, and 3.9% of men have been diagnosed with diabetes. The prevalence of diabetes has increased for both women and men since the mid-1990s (Table 26).⁵⁴² Diabetes rates among First Nations people are triple the Canadian average, with 6.5% of First Nations people over the age of 15 reporting they have been diagnosed with diabetes.⁵⁴³

⁵³⁸ Health Canada, *Diabetes in Canada*, available at: http://www.hc-sc.gc.ca/hpb/lcdc/publicat/diabet99/d02_e.html.

⁵³⁹ Centers for Disease Control, op. cit., page 34. *MMWR* 35 (46), 21 November, 1986, pages 711-714, available at <http://www.cdc.gov/epo/mmwr/preview/mmwrhtml/00000824.htm>.

⁵⁴⁰ Huse, Daniel M et al., “The Economic Costs of Non-Insulin-Dependent Diabetes Mellitus,” *Journal of the American Medical Association*, 262 (19): 2708-2713, November 17, 1989.

⁵⁴¹ Manson, Joann, and Angela Spelsberg, “Primary Prevention of Non-Insulin-Dependent Diabetes Mellitus,” *American Journal of Preventive Medicine*, 10 (3), 1994.

⁵⁴² Statistics Canada, Health Indicators, catalogue no. 82-221-XIE.

⁵⁴³ Health Canada, First Nations and Inuit Health Branch, “Findings and Observations: Diabetes,” available at: http://www.hc-sc.gc.ca/fnihb-dgspni/fnihb/aboriginalhealth/findings_observations/findings_1.htm#Diabetes.

Interpretation

Diabetes is closely associated with obesity, with more than 50% of cases attributable to overweight.⁵⁴⁴ Given the epidemic increase in obesity, it is not surprising that the global population with diabetes has jumped nearly five-fold from 30 million in 1985 to 143 million in 1998. The average age of diabetics is getting younger, and the global incidence of the disease is expected to double to 300 million by the year 2025.⁵⁴⁵ Statistics Canada reports that Canadians with a body mass index greater than 30 are four times as likely to have diabetes.⁵⁴⁶

A substantial portion of diabetes costs could be avoided through improved nutrition, physical activity, and weight reduction. One study found that the achievable reduction in the risk of non-insulin-dependent diabetes mellitus by favourably altering modifiable risk factors was 50-75% for obesity and 30-50% for physical activity.⁵⁴⁷

Table 24. Canadian men and women who have been diagnosed with diabetes, 1994/95 – 2000/01, (%)

1994/95		1996/97		1998/99		2000/01	
Male	Female	Male	Female	Male	Female	Male	Female
3.1	3.0	3.5	2.9	3.9	3.0	4.4	3.9

Sources: Statistics Canada, Canadian Community Health Survey 2000-01, National Population Health Surveys, 1994-95, 1996-97, and 1998-99.

19.4 High blood pressure

Indicator description

This indicator is assessed for the population aged 12 and over who report that they have been diagnosed by a health professional as having high blood pressure. Data sources are Statistics Canada's 2000-01 Canadian Community Health Survey, and Statistics Canada's 1994-95, 1996-97 and 1998-99 National Population Health Surveys.

Relevance

High blood pressure is a major risk factor for cardiovascular disease. Blood pressure is assessed by measuring both the systolic pressure – the pressure of the blood against the artery walls when the heart contracts – and the diastolic pressure – the blood against the artery walls when the heart

⁵⁴⁴ C. Laird Birmingham, M.D. et al., *Canadian Medical Association Journal*, 23 February, 1999: 160 (4), page 486; Manson, Joann, and Angela Spelsberg, "Primary Prevention of Non-Insulin-Dependent Diabetes Mellitus," *American Journal of Preventive Medicine*, 10 (3), 1994.

⁵⁴⁵ Gardner, Gary and Halweil, Brian, "Nourishing the Underfed and Overfed," in Worldwatch Institute, *State of the World 2000*, Chapter 4, W. W. Norton and Co., New York, 2000, page 72.

⁵⁴⁶ Body mass index is calculated by dividing weight in kilograms by height in metres squared. See Gilmore, Jason, "Body Mass Index and Health," *Health Reports* 11 (1), Summer, 1999, Statistics Canada, pages 31-43.

⁵⁴⁷ Manson, and Spelsberg (1994), op. cit.

relaxes between beats. The desirable pressure for a healthy adult is 120 (systolic) over 80 (diastolic).⁵⁴⁸ Because women have higher rates of high blood pressure than men, prevalence of high blood pressure is a particularly important indicator of women's health.

Results

Across Canada more women than men have high blood pressure. In Canada, 12.6% of the population aged 12 and over have high blood pressure, including 13.9% of women and 11.4% of men. All four Atlantic provinces report higher than average rates of high blood pressure, with Nova Scotia recording the highest rates in the country (16.2%, including 17.9% of women). Cape Breton has particularly high rates of high blood pressure – 21.7%, including 24.3% of women and 18.9% of men. Rates of high blood pressure have steadily increased for both men and women (Table 27.)⁵⁴⁹

Table 25. Canadian men and women who have been diagnosed with high blood pressure, 1994/95 – 2000/01, (%)

1994/95		1996/97		1998/99		2000/01	
Male	Female	Male	Female	Male	Female	Male	Female
7.3	10.0	8.7	11.4	9.0	12.7	11.4	13.9

Sources: Statistics Canada, Canadian Community Health Survey 2000-01, National Population Health Surveys, 1994-95, 1996-97, and 1998-99.

19.5 Other cardiovascular diseases

While results are not given here for incidence of other cardiovascular diseases, it should be noted that high blood pressure is only one form of circulatory disease. Cardiovascular diseases (mainly heart disease, stroke, atherosclerosis, and high blood pressure) are the leading causes of death throughout the country. Ischemic heart disease, also called coronary heart disease or coronary artery disease, results from a reduced blood supply to the heart, and accounts for about half of all deaths due to cardiovascular disease. Stroke, or cerebrovascular disease, accounts for nearly one-fifth of cardiovascular deaths, and acute myocardial infarction (heart attack) for 25%.⁵⁵⁰

Cardiovascular disease (CVD) death rates in Canada have fallen by nearly half in the last 30 years, mainly due to improved medical and surgical care, but also due to early diagnosis and treatment, reduced smoking prevalence, and other lifestyle changes.⁵⁵¹ In the U.S., mortality due

⁵⁴⁸ National Heart, Lung, and Blood Institute, available at: <http://www.nhlbi.nih.gov/health/puclib/heart/index.htm>.

⁵⁴⁹ Statistics Canada, Health Indicators, catalogue no. 82-221-XIE.

⁵⁵⁰ Health Canada, *Statistical Report*, page 291; Centers for Disease Control (CDC), op. cit., pages 10 and 14; Heart and Stroke Foundation, op. cit., pages 72-73, 76-77.

⁵⁵¹ Heart and Stroke Foundation, op. cit., page 70.

to heart disease has fallen by an average of 2-3% annually since the 1950s, and is now 55% of the 1950s rate.⁵⁵²

Because only 25% of the mortality decline is attributable to better risk control and reduced disease incidence, a substantial portion of CVD mortality has been postponed to later ages rather than avoided, sometimes substituting prolonged disability for premature death.⁵⁵³

Smoking, physical inactivity, poor diet, obesity, high blood pressure, elevated cholesterol, and exposure to second-hand smoke are the major risk factors for heart disease and stroke. Many of these risk factors are linked, and surveys have found that 41% of Canadian men and 33% of women aged 18-74 have two or more of these risk factors. The Heart and Stroke Foundation of Canada notes that prevention of heart disease requires “modifying not only risk factors and risk behaviours but also such ‘risk conditions’ as poverty, powerlessness and lack of social support.”⁵⁵⁴

19.6 Cancer

Cancer is the second leading cause of death for Canadians after cardiovascular diseases, and is the leading cause of potential years of life lost before age 70. Cancer death rates have declined slowly for men since 1990, while they have remained relatively stable among women over the same period.⁵⁵⁵

Many risk factors for heart disease, including smoking, poor nutrition, physical inactivity, and exposure to second-hand smoke, are also key risk factors for cancer, and are preventable. According to the American Cancer Society, one-third of all cancer deaths are related to poor nutrition.⁵⁵⁶

Lung cancer is the leading cause of cancer deaths in Canada for both men and women. A single behaviour – cigarette smoking – accounts for 85% of all lung cancer cases. Prostate cancer is the second leading cause of cancer death for men, and breast cancer is the second leading cause of cancer death for women. It is estimated that about 30% of breast cancer deaths could be prevented through mammogram testing for women aged 50-69. The incidence of both lung cancer and breast cancer have been increasing among women since the 1970s.⁵⁵⁷ Colorectal

⁵⁵² Goldberg, Robert, “Temporal Trends and Declining Mortality Rates from Coronary Heart Disease in the United States,” in Ockene, Ira, and Judith Ockene, *Prevention of Coronary Heart Disease*, Little, Brown, and Company, Boston, 1992, page 41.

⁵⁵³ Health Canada, *Statistical Report*, page 321; Heart and Stroke Foundation, op. cit., page 23. US estimates cited in this publication indicate that 43% of the mortality decline is due to improved treatment; 29% to early diagnosis; and 25% to controlling risk factors and thus reducing disease incidence. There appears to have been a substantial shift in these proportions over time. Earlier estimates found that reductions in smoking, high serum cholesterol levels, and other risk factors, accounted for slightly over one half of the observed decline in CHD mortality between 1968 and 1976, while medical interventions contributed to about 40% of the decline. See Goldberg, Robert, “Temporal Trends and Declining Mortality Rates from Coronary Heart Disease in the United States,” in Ockene, Ira, and Judith Ockene, *Prevention of Coronary Heart Disease*, Little, Brown, and Company, Boston, 1992, page 63.

⁵⁵⁴ Heart and Stroke Foundation, op. cit., page 23.

⁵⁵⁵ Health Canada, *Toward a Healthy Future: Second Report on the Health of Canadians*, Ottawa, 1999, page 21.

⁵⁵⁶ Centers for Disease Control, op. cit., page 18.

⁵⁵⁷ Health Canada, *Toward a Healthy Future: Second Report on the Health of Canadians*, Ottawa, 1999, page 22.

cancer is the third leading cause of cancer deaths for both men and women. Physical inactivity, obesity, and diets high in saturated fats and low in vegetables and whole grains are risk factors for colorectal cancer.⁵⁵⁸

Though all forms of cancer are relevant to women's health, this statistical profile considers only one type – breast cancer.

19.7 Breast cancer

Indicator description

The incidence rate of breast cancer is assessed as the number of women diagnosed with breast cancer per 100,000 women.

Relevance

As breast cancer is the most frequently diagnosed cancer in Canadian women, accounting for 30% of all new female cancer cases each year, it is a key indicator of women's health. Incidence rates of breast cancer are increasing among women over 50, but breast cancer mortality has remained relatively stable, and has decreased slightly since 1986. One in nine Canadian women is expected to develop breast cancer in her lifetime and one in 25 is expected to die from it.⁵⁵⁹

Risk factors for breast cancer include a family history of breast cancer, obesity, physical inactivity, and various reproductive risk factors such as never having had children, being 30 or older at first full-term pregnancy, having early onset of menstruation, and late onset of menopause. However, seventy percent of all women diagnosed with breast cancer have no known risk factors.⁵⁶⁰

Results

Table 28 indicates that breast cancer incidence is increasing in Canada.⁵⁶¹

Table 26. Incidence of breast cancer, Canada, 1995-2002, rate per 100,000 women

Year	1995	1996	1997	1998	1999	2000	2001	2002
Rate per 100,000	98.7	98.5	102.0	102.6	103.6	104.4	105.3	106.1

Source: Health Canada, Surveillance and Risk Assessment Division, CCDPC.

⁵⁵⁸ National Cancer Institute of Canada, op. cit., page 27; Centers for Disease Control, op. cit., pages 26 and 30.

⁵⁵⁹ Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999, page 285; National Cancer Institute of Canada, *Canadian Cancer Statistics 2002*, Toronto; Gaudette, L.A., Silberberger C., Altmayer, C.A. and Gao, R.N., "Trends in breast cancer incidence and mortality," *Statistics Canada, Health Reports* 1996; 8(2): 29-37.

⁵⁶⁰ Kelsey, J.L., Bernstein, L., "Epidemiology and prevention of breast cancer," *Ann Rev Public Health* 1996; 17: 47-67; *Canadian Task Force on the Periodic Health examination: The Canadian guide to clinical preventive health care*, Minister of Public Works and Government Services Canada, catalogue no. H21-117/1994E, 1994.

⁵⁶¹ Health Canada, Surveillance and Risk Assessment Division, CCDPC.

19.8 HIV/AIDS⁵⁶²

Indicator description

Statistics Canada provides statistics both on the incidence of HIV infections and on the age-standardized rate of deaths due to AIDS and HIV infections (ICD-9 042-044) per 100,000 population. According to Statistics Canada, this information “measures success in preventing and treating AIDS and HIV (Human Immunodeficiency Virus, the agent that causes AIDS). Information on deaths can be used to estimate the number of persons living with HIV/AIDS, as well as the impact of treatment.”⁵⁶³ Data sources are Statistics Canada’s Vital Statistics, Death Database, and Demography Division population estimates.

Relevance

The profile of HIV/AIDS has changed dramatically in the last decade, with the proportion of new HIV infections due to male homosexual activity dropping from 75% of total infections in the late 1980s to 38% today. By contrast, new infections attributable to heterosexual activity rose from 6% to 19% of total infections, and more than doubled in absolute numbers, while infections due to intravenous drug use rose from 9% of all cases to 28% today.

Women represent an increasing proportion of HIV infections, up from 10% a decade ago to 25% today, and of new AIDS cases diagnosed each year, up from 9% as recently as 1995 to 21% in 1999. For this reason, HIV/AIDS infections and deaths are increasingly important indicators of women’s health in Canada.

In keeping with Health Canada’s gender-based analysis policy and its Women’s Health Strategy, it is also crucial to apply a diversity analysis to these indicators. In contrast to the national decline in AIDS cases, AIDS cases among Aboriginal Canadians have continued to rise, and there has been a general shift in rates of infection from middle class gay men to vulnerable populations, including the poor, unemployed, minorities, and the poorly educated. Rates of infection in the Canadian prison population are estimated to be at least 10 times greater than in the general population.

HIV/AIDS cost Canadians more than \$2 billion in 1999 in direct and indirect costs. Health care costs accounted for about \$560 million; prevention, research and supports to AIDS victims for about \$40 million; and lost economic production due to premature death and disability for nearly \$1.5 billion.

Results

Since the HIV virus was first diagnosed 20 years ago, 47,000 Canadians have tested positive for HIV. Of these, 17,165 have developed AIDS, of whom 70% (or 12,088 Canadians) have died of

⁵⁶² All references, citations, and sources for this section can be found in Colman, Ronald, et al., 2001, *The Cost of HIV/AIDS in Canada*, GPI Atlantic and Atlantic Centre of Excellence for Women’s Health, June, 2001.

⁵⁶³ Statistics Canada, *Health Indicators*, volume 2002, no. 2, catalogue no. 82-221-XIE, definition available at: <http://www.statcan.ca/english/freepub/82-221-XIE/01002/defin1.htm>.

the disease. Health Canada estimates that 15,000 additional Canadians are HIV positive but have not been tested and are unaware of their infection. This means there are as many as 50,000 Canadians (or one in 600) currently living with HIV/AIDS.

However, education, prevention and drug treatments have dramatically lowered the rate of HIV infections, AIDS diagnoses, and AIDS deaths in Canada, particularly in recent years. There were 25% fewer HIV-positive tests in Canada in 1999 than in 1995, 80% fewer AIDS cases, and 92% fewer AIDS deaths. *New* AIDS cases in Canada in 1999 dropped to 325, the lowest level since 1984.

While there is no known cure for the virus and the disease is still fatal, HIV is being much more successfully managed through drug treatments, and the lives of those infected are being significantly prolonged. Since 1990, the average age of death due to AIDS has increased from 36 years to 41 years.

As noted above, women represent an increasing proportion of HIV infections, up from 10% a decade ago to 25% today, and of new AIDS cases diagnosed each year, up from 9% as recently as 1995 to 21% in 1999.

Interpretation

It is essential not to view these Canadian statistics in isolation from the global AIDS epidemic, since the Canadian experience of the last decade has direct relevance to urgent needs in other countries. Canada's successful investment in prevention and management of HIV/AIDS has not been matched in developing countries with fewer resources. In 1999 alone, AIDS killed 2.6 million people worldwide, including half a million children, an increase of more than 70% in just three years. AIDS now kills more people than any other infectious disease and is the main cause of death in Africa.

There are now 34 million adults and children in the world living with HIV/AIDS, nearly 70% of them in sub-Saharan Africa alone. Of those, 55% are women – indicating that AIDS is increasingly a women's health issue. The disease is spreading so rapidly that one in six million of the 34 million victims became infected in 1999 alone.

The human, social and economic costs of the disease are devastating, with children orphaned and left without teachers, health care systems unable to cope, and lost productivity slowing growth rates. Twelve per cent of South African educators are HIV positive, and 25% of Ugandan households are now providing for an orphan. Health care expenditures for HIV/AIDS patients in Africa have been estimated at 21 times greater than for the general population.

In short, Canadian successes in stemming the HIV/AIDS epidemic are accompanied by the unchecked and devastating spread of the disease in Africa and elsewhere. The enormous drain on the resources of developing nations, to say nothing of the immense burden of human suffering and premature death, requires that strategies that have proved successful in Canada be applied without delay where the need is greatest. Such investments can be highly cost effective, producing enormous savings in direct health care costs and retained productive capacity.

Rather than becoming complacent about HIV/AIDS due to successes at home, it is incumbent upon Canada and other wealthy nations to apply their successful experience abroad, to provide the necessary resources for education and prevention in developing nations, and to facilitate the low-cost provision of drugs that can assist HIV patients to manage the disease successfully. That assistance should not be regarded as a "cost," but as an "investment" that will reduce the appalling costs of the disease and has already been proven to do so in Canada.

19.9 Depression

Indicator description

Depression rates are assessed by Statistics Canada for the population aged 12 and over who show symptoms of depression, based on their responses to a set of questions that establishes the probability of suffering a "major depressive episode".⁵⁶⁴ A major depressive disorder, in turn, is defined as one or more major depressive episodes consisting of at least two weeks of depressed mood or loss of interest in usual activities, accompanied by at least four additional symptoms of depression.⁵⁶⁵

Data sources are Statistics Canada's 2000-01 Canadian Community Health Survey, and Statistics Canada's 1994-95, 1996-97 and 1998-99 National Population Health Surveys.

Relevance

Approximately 8% of Canadian adults will experience major depression at some time in their lives. During any 12-month period, between 4% and 5% of the population will experience major depression. Worldwide, major depression is the leading cause of years lived with disability, and the fourth leading cause of disability-adjusted life years.⁵⁶⁶

In health promotion efforts, mental illness and its associated costs receive far less attention than lifestyle factors. Yet mental illness accounts for some of the highest illness costs. Of seven modifiable risk factors examined in a major study of 46,000 U.S. employees, depression and stress accounted for higher medical costs than any other risk factors. Depressed workers had 70% higher medical costs and highly stressed workers had 46% higher costs than those who did not suffer from depression and high stress.⁵⁶⁷ In addition, mental health problems can lead to a range of causes of premature death, including violence, substance abuse, and suicide.⁵⁶⁸

⁵⁶⁴ Statistics Canada, *Health Indicators*, volume 2002, no. 2, catalogue no. 82-221-XIE, definition available at: <http://www.statcan.ca/english/freepub/82-221-XIE/01002/defin1.htm>.

⁵⁶⁵ Health Canada, *A Report on Mental Illnesses in Canada*, October, 2002, Ottawa, page 32.

⁵⁶⁶ Health Canada, *A Report on Mental Illnesses in Canada*, October, 2002, Ottawa, pages 31 and 33.

⁵⁶⁷ Goetzel, Ron, David Anderson, R. William Whitmer, Ronald Ozminkowski, Rodney Dunn, Jeffrey Wasserman, and HERO Research Committee, "The Relationship Between Modifiable Health Risks and Health Care Expenditures: An Analysis of the Multi-Employer HERO Health Risk and Cost Database," *Journal of Occupational and Environmental Medicine* 40 (10): 843-854, October, 1998.

⁵⁶⁸ Foege, William, Robert Amler, and Craig White, "Closing the Gap," *Journal of the American Medical Association* 1985; 254: 1355-1358, in Amler, Robert, and Bruce Hull (eds.), *Closing the Gap: The Burden of Unnecessary Illness*, Oxford University Press, New York and Oxford, 1987, page 207.

In the U.S., an estimated \$16 billion a year is lost due to undiagnosed and untreated depression in the workplace, through lowered productivity, absenteeism, injury, alcoholism, and related physical illness. Yet many employees are afraid to disclose addiction or mental illness, and therefore avoid support that may be available through workplace health plans, employee assistance programs, or flexible work schedules.⁵⁶⁹

Women have a 14% higher rate of psychiatric hospitalization overall than men. Across all ages, female rates of separation from psychiatric institutions are markedly higher than male rates for neurotic disorders (ratio of 1.9:1), depressive disorders (1.8:1), affective psychoses (1.7:1) and adjustment reaction (1.4:1), while men have higher rates for alcohol and drug dependence (2.4:1) and schizophrenia (1.4:1). In general hospitals, women have a 21% higher rate of admission for mental disorders than men.⁵⁷⁰

Because women suffer higher rates of depression than men, depression is an important indicator of women's health. Studies have consistently documented higher rates of depression among women than among men, with the female – male ratio averaging about 2:1.⁵⁷¹

Results

In 1999, more women than men were hospitalized for major depressive disorders in every age group, with twice as many young women aged 15-19 hospitalized for depression than young men. The highest rate of hospitalization for women was in the 40-44 age group (158 per 100,000).⁵⁷²

In 1998/99, 6% of Canadian women aged 12 and over reported experiencing at least one major depressive episode in the previous year, compared with 3% of Canadian men. Among 20-24 year-old women, 10% of women and 4% of men had a major depressive episode, and among 25-34 year-olds, 9% of women and 3% of men had such an episode in the previous year.

In 1998/99, Nova Scotia residents were most likely (6%) to have suffered at least one major depressive episode in the previous year, while Newfoundland residents were least likely (3%). All the other provinces were similar to one another in their levels of prevalence to such depressive episodes. In 1994/95, Nova Scotia and Manitoba residents had the highest proportion of people with a probable risk of depression (8%), while the proportions in the other provinces ranged from 4% to 6%.⁵⁷³

According to the 2000/01 Canadian Community Health Survey, 7.1% of Canadians are at “probable risk of depression,” including 9.2% of women and 5% of men. As in previous population health surveys, Newfoundlanders and Prince Edward Islanders substantially lower

⁵⁶⁹ Ballon, Diana, Editor, *Journal of Addiction and Mental Health*, 4 (1), Toronto, January-February 2001, available at: www.camh.net/journal/journalv4no1/note_from_editor.html.

⁵⁷⁰ Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999, pages 296 and 301.

⁵⁷¹ Health Canada, *A Report on Mental Illnesses in Canada*, October, 2002, Ottawa, page 34.

⁵⁷² Health Canada, *A Report on Mental Illnesses in Canada*, October, 2002, Ottawa, page 35.

⁵⁷³ Statistics Canada, *Health Indicators*, catalogue no 82-221-XIE, “Depression,” summary results from the 1998-99 National Population Health Survey available at: <http://www.statcan.ca/english/freepub/82-221-XIE/00601/high/depres.htm>.

risks of depression (4.7% and 5.8% respectively), and Nova Scotians are still well above the national average (8.7%, including 10.6% for women and 6.6% for men.)⁵⁷⁴ It is notable that rates of depression recorded in the 2000-01 Canadian Community Health Survey are considerably higher for both men and women than in all the population health surveys of the 1990s (Table 29).

Table 27. Canadian men and women at risk of depression, 1994/95 – 2000/01, (%)

Risk of Depression	1994/95		1996/97		1998/99		2000/01	
	Male	Female	Male	Female	Male	Female	Male	Female
Possible	2.3	2.8	1.5	1.6	1.2	1.8	2.5	3.1
Probable	3.3	7.1	2.7	5.3	2.9	5.7	5.0	9.2

Sources: Statistics Canada, Canadian Community Health Survey 2000-01, National Population Health Surveys, 1994-95, 1996-97, and 1998-99.

20. Life Expectancy & Mortality

20.1 Life expectancy

Indicator description

Life expectancy is a widely used indicator of the health of a population and estimates the number of years a person would be expected to live, starting from birth (for life expectancy at birth) or at age 65 (for life expectancy at age 65), on the basis of the mortality statistics for a given observation period. Life expectancy measures quantity rather than quality of life. Source are Statistics Canada's Vital Statistics, Death Database, and Demography Division (population estimates).

Relevance

Although women suffer from higher rates of many chronic illnesses and have higher rates of disability and activity limitation, they also live longer than men. However the gender gap in life expectancy has narrowed significantly over the last two decades. In 1981, a Canadian woman could expect to live 7.1 years longer than a man. By 1998, the difference had narrowed to 5.4 years. As life expectancy is a traditional indicator of population health, it is also a key indicator of women's health.

Results

A woman born in 1998 can expect to live to 81.5 years, compared to 76.1 years for a man. Life expectancy at age 65 is 19.9 years for women and 16.1 years for men.⁵⁷⁵

⁵⁷⁴ Statistics Canada, Canadian Community Health Survey 2000/01, *Health Indicators*, catalogue no. 82-221-XIE.

⁵⁷⁵ Statistics Canada, *Health Indicators*, catalogue no. 82-221-XIE, December, 2001.

The lowest life expectancy in Canada is in Nunavut – 68.9 years – 70.2 for women and 67.7 for men – dramatically lower than the Canadian average. Interesting, for life expectancy at age 65, the gender gap completely disappears in Nunavut, and is 13.3 years for both men and women. Disturbingly, there has been no significant change in these figures over 10 years.⁵⁷⁶

The life expectancy of Canadians has increased by about five years in the last quarter century. In 1901, a woman born in Canada could expect to live to age 50 and a man to age 47. However, the dramatic increase in life expectancy in the 20th century is due almost entirely to the elimination of premature death, particularly neonatal mortality. For persons 40 years and older, life expectancy increased relatively little; for those 75-years-old, the change was barely perceptible, suggesting a natural limit to the life span. If all premature death were eliminated, “statistics suggest that under ideal societal conditions mean age at death is not far from 85 years.”⁵⁷⁷

Thus, while life expectancy at birth has increased dramatically (by 30 years) since 1900, life expectancy at age 65 has increased by less than 6 years since 1900. In 1900, a 65-year-old man could expect to live another 11.5 years. At the end of the 20th century, a 65-year old man could expect to live another 16 years. For 65-year-old women, the corresponding figures are 12 years in 1900 and 19 years at the end of the 20th century.⁵⁷⁸ Thus, the huge leap in average life expectancy at birth is due almost entirely to the sharp drop in infant and child mortality rather than to an increase in the length of old age. The sharp decline in premature death resulted from the prevention of infectious diseases that took their greatest toll in the first year of life.⁵⁷⁹

Life expectancy is closely related to socio-economic factors, increasing with income and educational attainment, and decreasing with higher unemployment levels. One study found that Canadian men in the highest quarter of income distribution can expect to live 6.3 years longer and 14.3 more years free of disability than those in the lowest quartile. For women the differences are 3 and 7.6 years respectively. Other studies have confirmed that as earnings increase, the rate of premature mortality decreases, with low economic status more likely to increase exposure to unhealthy life conditions.⁵⁸⁰

Canada’s life expectancy at birth (78.7 years) ranks seventh in the world, behind countries like Japan and Sweden which have greater earnings equality, and ahead of countries like the United States where income distribution is more unequal.⁵⁸¹

⁵⁷⁶ Statistics Canada, *CANSIM Database*, Table 102-0025, “Life expectancy - abridged life table, at birth and at age 65, by sex, Canada, provinces and territories, annual (years),” available at: <http://www.statcan.ca/english/freepub/82-221-XIE/01002/hlthstatus/deaths2.htm>.

⁵⁷⁷ Ibid., page 131. See also Chernomas, Robert, *The Social and Economic Causes of Disease*, Canadian Centre for Policy Alternatives, March, 1999, page 2.

⁵⁷⁸ Life expectancy averages 1900-1997 are available at: <http://www.efmoody.com/estate/lifeexpectancy.html>. Although these figures are for the U.S., they may be used as an approximate indicator for Canada as well.

⁵⁷⁹ Brown, Allan, *Costs and Benefits of Preventive Medicine*, Canadian Medical Association, Department of Medical Economics, 1984, page 1.

⁵⁸⁰ Health Canada, *Toward a Healthy Future: Second Report on the Health of Canadians*, Ottawa, 1999, page 26.

⁵⁸¹ Organization for Economic Cooperation and Development, *OECD Health Data 98*, cited in Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999, page 324.

In keeping with these findings, and with Health Canada's commitment to a diversity analysis in assessing women's health, it is important to note that the life expectancy of Canada's status Indian population is about seven years less than that for the overall Canadian population.⁵⁸² Canadian Aboriginals have high rates of poverty, unemployment, poor housing, and low educational attainment, and they are also particularly vulnerable to certain diseases like tuberculosis that are almost entirely preventable. The Romanow Commission reported growing rates of HIV infection and high rates of disability, cardiac problems, and exposure to alcohol abuse and drug addiction among Aboriginals.⁵⁸³ These and other factors, including higher suicide rates, contribute to the shorter life expectancy of Canada's Aboriginal population.

20.2 Life expectancy without disability

Indicator description

Disability-free life expectancy combines mortality rates with data on major activity limitations and the proportion of the population living in health care institutions. It therefore estimates the number of years of life that a person can expect to live without activity limitation and outside a health care institution.⁵⁸⁴

According to Statistics Canada:

"Disability-free life expectancy is a more comprehensive indicator than that of life expectancy because it introduces the concept of quality of life. It is used to distinguish between years of life free of any activity limitation and years experienced with at least one activity limitation. To that end, disability-free life expectancy establishes a threshold based on the nature of such limitations. Years of life lived in conditions above this threshold are counted in full. Those lived in conditions below the threshold are not counted. Thus, the emphasis is not exclusively on the length of life, as is the case for life expectancy, but also on the quality of life."

Data sources are Statistics Canada's Vital Statistics, Death Database, Demography Division (population estimates), and the 1996 Census (20% sample).

In addition to disability-free life expectancy, Statistics Canada also calculates disability-adjusted life expectancy. According to Statistics Canada:

"Disability-adjusted life expectancy (DALE) is a more comprehensive indicator than that of life expectancy because it introduces the concept of quality of life. DALE integrates data on mortality, long-term institutionalization and activity limitations in the population and represents a comprehensive index of population

⁵⁸² Idem.

⁵⁸³ Romanow, Roy, *Building on Values: The Future of Health Care in Canada: Final Report*, Ottawa, November, 2002, pages 218-219.

⁵⁸⁴ Statistics Canada, "The health of Canada's communities," *Supplement to Health Reports*, volume 12, 2002, catalogue no. 82-003, page 4.

health status. Thus, the emphasis is not exclusively on the length of life, but also on the quality of life.

“To calculate DALE, a set of weights (relative values) is assigned to four states of health. These states are, in order from greatest to least weight: no activity limitations, activity limitations in leisure activities or transportation, activity limitations at work, home and/or school and institutionalization in a health care facility in order to establish units of equal value. These units are summed to yield a type of 'quality-adjusted' life expectancy.”⁵⁸⁵

Relevance

Because women suffer from higher rates of disability and activity limitation, disability-free and disability-adjusted life expectancy are more revealing indicators of women’s health, wellbeing, and quality of life than the more traditional life expectancy indicator, which is a quantitative measure only.

Results

Because women suffer from higher rates of disability and activity limitation, the male-female gap is narrower for measures of life expectancy without disability than for unadjusted life expectancy figures (Table 30).⁵⁸⁶

Table 28. Life expectancy without disability, Canada, 1996, (years)

	Male	Female
Disability-free life expectancy at birth	66.9	70.2
Disability-free life expectancy at age 65	10.9	12.4
Disability-adjusted life expectancy at birth	72.2	76.9
Disability-adjusted life expectancy at age 65	14	16.9

Sources: Statistics Canada, Canadian Community Health Survey 2000-01, National Population Health Surveys, 1994-95, 1996-97, and 1998-99.

The regional gaps are also larger for disability-free and disability-adjusted life expectancy than for life expectancy in general. For example, the average Nova Scotian has three fewer disability-free years of life than the average Canadian (65.5 compared to 68.6). Cape Bretoners have an average disability-free life expectancy of only 61.8 years, seven fewer than the national average, and the lowest of all the 139 health regions in Canada. This means that Cape Bretoners can expect to live considerably more years with a disability than other Canadians.

⁵⁸⁵ Statistics Canada, *Health Indicators*, catalogue no. 82-221-XIE, Definitions, available at: <http://www.statcan.ca/english/freepub/82-221-XIE/01002/defin1.htm>.

⁵⁸⁶ Statistics Canada, *Health Indicators*, catalogue no. 82-221-XIE, available at: <http://www.statcan.ca/english/freepub/82-221-XIE/01002/hlthstatus/function2.htm>.

20.3 Infant mortality

Indicator description

Statistics Canada provides data on infants who die in the first year of life, expressed both as a count and a rate per 1,000 live births. According to Statistics Canada, this indicator is a long-established measure, not only of child health, but also of the wellbeing of a society. It reflects the level of mortality, health status, and health care of a population, and the effectiveness of preventive care and the attention paid to maternal and child health. Data are from Statistics Canada's Vital Statistics, Birth and Death Databases.⁵⁸⁷

Relevance

Infant mortality is an indicator of women's health and child wellbeing in particular, and is also a more general indicator of social wellbeing.

Results

Canada's infant mortality rate has decreased steadily (Table 31), but the rate of improvement may be lower than in most other industrialized countries. In 1990, Canada ranked fifth among 17 OECD countries. By 1996, it ranked 12th, and with the Canadian infant mortality rate lower only than the U.S., New Zealand, Greece, the U.K., and Australia. Infant mortality is higher for boys than for girls, with the lowest overall rate in Quebec (4.6 per 1,000) and the highest rates in Saskatchewan (8.4) and the Northwest Territories (12.2).⁵⁸⁸

Table 29. Infant mortality, Canada, rate per 1,000, 1993-1997⁵⁸⁹

1993	1994	1995	1996	1996/97
6.3	6.3	6.1	5.6	5.5

Sources: Statistics Canada, Health Indicators

20.4 Perinatal mortality

Indicator description

Statistics Canada provides data on the count and rate of stillbirths and early neonatal deaths (deaths in the first week of life) per 1,000 total births (includes stillbirths). Stillbirths are defined here as gestational age of 28 or more weeks. Stillbirths with unknown gestational age are excluded. According to Statistics Canada, the probability that a fetus considered to be viable will

⁵⁸⁷ Statistics Canada, *Health Indicators*, catalogue no. 82-221-XIE, definition available at: <http://www.statcan.ca/english/freepub/82-221-XIE/01002/defin1.htm#19>.

⁵⁸⁸ Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999, pages 305-306. Note that Statistics Canada and Health Canada caution that some of the variation in international comparisons may be due to different reporting rates among countries – particularly whether low birth weight infants are included in the calculations.

⁵⁸⁹ Sources: Statistics Canada, *Health Indicators*, catalogue no. 82-221-XIE, December, 2001

be stillborn or will die before the end of the first week of life reflects standards of obstetric and pediatric care, as well as the effectiveness of public health initiatives. This indicator could therefore also be included among the indicators of health system performance that follow this section.

Definitions of the different types of infant death are as follows:

- Perinatal mortality: deaths less than one week, and stillbirths at 28 or more weeks.
- Early neonatal mortality: deaths less than one week.
- Infant mortality: deaths less than one year.

Data sources for all these indicators are from Statistics Canada's Vital Statistics, Birth, Death and Stillbirth Databases.⁵⁹⁰

Indicator description

Perinatal complications are the most important single cause of both infant mortality and perinatal deaths. Congenital anomalies also contribute to infant and perinatal mortality. Sudden infant death syndrome was the cause of 166 infant deaths in 1996.⁵⁹¹ Fetal, neonatal, and postnatal infant deaths are partly attributable to maternal health problems and to inadequate maternal care, and partly to factors in the infant's environment.⁵⁹² Perinatal mortality is therefore an indicator of women's health and child wellbeing in particular, and is also a more general indicator of social wellbeing and health system performance.

Results

Perinatal mortality rates have decreased substantially since 1974, but levelled off in the 1990s (Table 32). The perinatal mortality rate was 16 per 1,000 in 1974, compared to 6 per 1,000 in the mid-1990s. Perinatal mortality is higher for boys than for girls – 7 per 1,000 for boys in 1996, compared to 6.3 per 1,000 for girls.⁵⁹³

Table 30. Perinatal / fetal mortality, Canada, rate per 1,000, 1993-1997⁵⁹⁴

1993	1994	1995	1996	1996/97
6.0	5.9	6.1	6.7	6.1

Sources: Statistics Canada, Health Indicators

20.5 Age-standardized mortality by cause

Due to limitations of time and resources, mortality statistics are not provided in this statistical profile. But the following mortality indicators are all relevant to women's health issues:

⁵⁹⁰ Statistics Canada, *Health Indicators*, catalogue no. 82-221-XIE, definition available at: <http://www.statcan.ca/english/freepub/82-221-XIE/01002/defin1.htm#19>.

⁵⁹¹ Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999, page 305.

⁵⁹² Health Canada, *Perinatal Health Indicators for Canada: A Resource Manual*, 2000.

⁵⁹³ Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999, pages 305-306.

⁵⁹⁴ Sources: Statistics Canada, *Health Indicators*, catalogue no. 82-221-XIE, December, 2001.

1. Age-standardized mortality due to circulatory diseases
2. Age-standardized mortality due to ischaemic heart disease
3. Age-standardized mortality due to stroke
4. Age-standardized mortality due to cancer
5. Age-standardized mortality due to lung cancer
6. Age-standardized mortality due to breast cancer
7. Age-standardized mortality due to respiratory diseases
8. Age-standardized mortality due to AIDS

20.6 Potential years of life lost by cause

Indicator description

Potential years of life lost is a measure of how young people die and of loss of life at an early age. Statistics Canada defines deaths prior to age 75 as “early” or as potential years of life that have been lost. In other words, it is a measure of premature death. According to Statistics Canada: “Potential years of life lost (PYLL) is the number of years of life “lost” when a person dies “prematurely” from any cause - before age 75. A person dying at age 25, for example, has lost 50 years of life.”⁵⁹⁵

Relevance

Again, time and resources did not permit a full explication of this indicator for women’s health. However, an inventory of women’s health indicators should include potential years of life lost according to those causes and diseases to which women are particularly susceptible.

Results

Cancer has been the leading cause of potential years of life lost in Canada and, with suicides, is the only major cause of years of life lost to have increased in the last 30 years. By contrast, years of life lost due to accidents and heart disease have been declining in Canada for the past quarter century.⁵⁹⁶

This is one indicator where provincial averages may again mask significant intra-provincial disparities, and where the importance of a diversity analysis, as recommended by Health Canada’s Gender-based Analysis Policy is particularly apparent. To give just one example, the Labrador health district, with its substantial Aboriginal population and high suicide rate, has the greatest number of potential years of life lost per 100,000 population in Atlantic Canada (7,432.4 per 100,000) – 30% more than the Canadian average of 5,696.6 per 100,000.

Labrador has a very high number of potential years of life lost due to suicide and unintentional injuries. Residents of Labrador lose 938.1 years of life per 100,000 population to suicide every

⁵⁹⁵ Statistics Canada, *Health Indicators*, definitions at: <http://www.statcan.ca/english/freepub/82-221-XIE/01002/defin1.htm#d>.

⁵⁹⁶ Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999, page 319.

year – more than double the national average of 449.9. Residents of Labrador also lose 1,482 years of life per 100,000 population to unintentional injuries each year – again more than double the national average of 725.4. In sum, potential years of life lost by cause can provide revealing evidence on the health status of disadvantaged women and men in Canada, including Aboriginals, visible minorities, and people with disabilities.

HEALTH SYSTEM PERFORMANCE

The following indicators of health system performance are given here:

Access to Health Care Services

- Percentage of population with a regular family physician
- Percentage reporting difficulties accessing routine care
- Percentage reporting unmet health care needs
- Percentage expressing satisfaction with health care received

Secondary Prevention

- Percentage of women, aged 50-59, who have received a routine screening mammogram in the last two years
- Percentage of women, aged 18-69, who have received a Pap smear in the last three years
- Percentage of seniors, aged 65 and older, who have been immunized for influenza.

21. Access to Health Care Services

Indicator description

Statistics Canada has acknowledged that, up to this point, existing Canadian data on health care utilization have not provided a complete picture of access to health services. They have not provided information about the experiences of those accessing care, and have provided only limited information on potential barriers to care. As well, there was no comprehensive information on waiting times for health care services.⁵⁹⁷

To fill these vital information gaps, Statistics Canada conducted its first Health Services Access Survey in November-December 2001, with a national sample size of 14,210 respondents. Key results were released in June, 2002. The survey provides information on access to a range of health services, and on different kinds of difficulties experienced in accessing services.

Relevance

Although Statistics Canada did not publicly release these results by gender, they are included here because women have higher rates of health care utilization and are therefore disproportionately affected by difficulties accessing these services.

Access to good health care is a key determinant of health. Studies have found that access to a regular family physician, for example, can improve overall health status.⁵⁹⁸ Yet Canadians are

⁵⁹⁷ Sanmartin, Claudia, et al., *Access to Health Care Services in Canada 2001*, Statistics Canada, catalogue no. 82-575-XIE, Ottawa, June, 2002, pages 6-8.

⁵⁹⁸ Shi, L. and B. Starfield, "The effect of primary care physician supply and income inequality on mortality among blacks and whites in US metropolitan areas," *American Journal of Public Health* 2001; 91 (8): 1246-1250, cited in Sanmartin, Claudia, et al., *Access to Health Care Services in Canada 2001*, Statistics Canada, catalogue no. 82-575-XIE, Ottawa, June, 2002, pages, 8, 22.

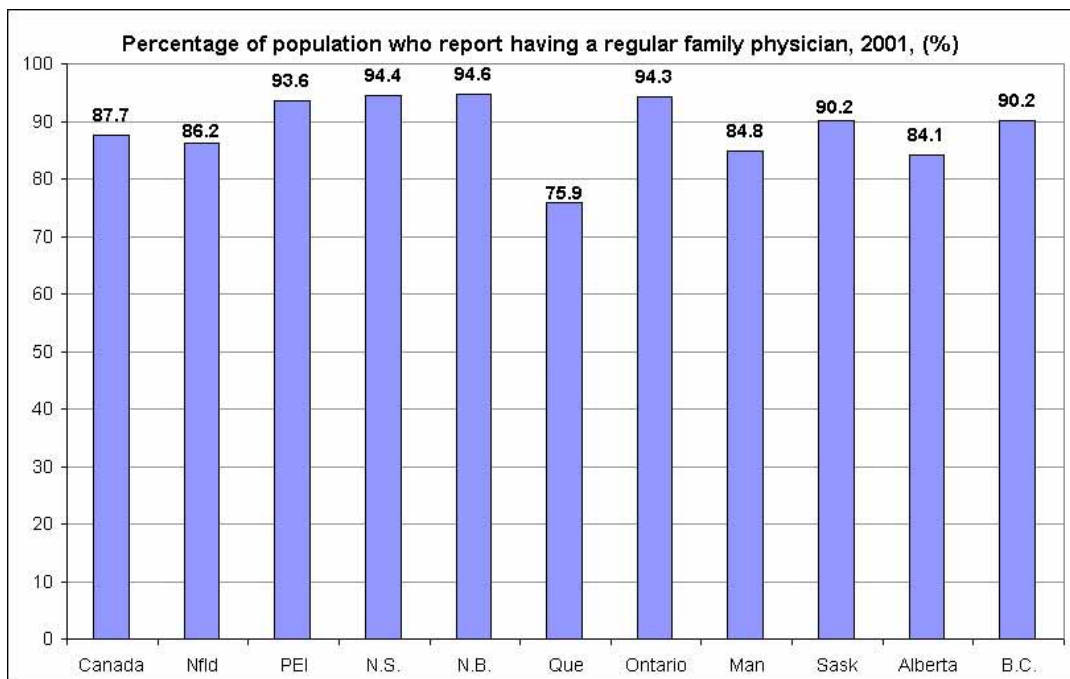
increasingly facing difficulties accessing health care services. According to Statistics Canada, one in eight Canadians reported having unmet health care needs in 2000/01, up from one in 24 in 1994/95, with long waits and unavailability of services the most frequently cited complaints.⁵⁹⁹

The Romanow Commission recently acknowledged that: “Providing timely access to quality health care services is a serious challenge in every province and territory.... Canadians’ first concern is with access, and that issue must be dealt with on a priority basis.”⁶⁰⁰ As one of its key recommendations, the Commission emphasized the need for access to primary care and health information 24 hours a day, seven days a week.⁶⁰¹ Implementation of these recommendations is likely to have a positive impact on women’s health in Canada.

Results

The vast majority of Canadians (87.7%) have a family physician. Maritimers are more likely to have a regular family physician than other Canadians, with New Brunswick (94.6%) and Nova Scotia (94.4%) registering the highest rates in the country, followed by Ontario (94.3%) and Prince Edward Island (93.6%). Residents of Quebec are the least likely to have a family physician (75.9%) (Figure 72).

Figure 72. Percentage of population who report having a regular family physician, 2001, (%)



Source: Statistics Canada, Access to Health Care Services in Canada 2001.

⁵⁹⁹ Sanmartin, Claudia, et al., “Changes in unmet health care needs,” *Health Reports* 13 (3), March, 2002, Statistics Canada, catalogue no. 82-003, pages 15-21.

⁶⁰⁰ Romanow, Roy, *Building on Values: The Future of Health Care in Canada, Final Report*, Commission on the Future of Health Care in Canada, November, 2002, pages 137-138.

⁶⁰¹ Ibid., chapter 5.

Among those who did *not* have a regular physician however, Atlantic Canadians were much more likely than other Canadians to cite lack of physician availability as the key reason for not having a family physician – 79.3% of New Brunswickers without a family physician, 76.3% of Prince Edward Islanders, 65.9% of Newfoundlanders, and 59.5% of Nova Scotians without a family physician said they didn't have a family physician because there wasn't one available. About half of Ontarians without a family physician gave lack of availability as their main reason for not having a regular family physician.

In other provinces, Canadians were much more likely to give their main reason for not having a regular family physician as not having contacted one – 73.6% of Quebeckers without a family physician, 68.2% of Albertans, and more than 50% of those without a physician in Manitoba, British Columbia and Saskatchewan said they didn't have a regular family physician because they had not contacted one.⁶⁰²

More than one in ten Canadians (11.1%) reported difficulty accessing routine care; 13.1% reported difficulty getting health information or advice; and 18.8% had trouble getting immediate care for a minor health problem. Reported barriers to care included problems getting an appointment, waiting too long for care, and getting inadequate information.

Manitobans had the most difficulty accessing care in the country – 17.1% had trouble getting routine care, 19.4% had trouble getting health information or advice; and 26.2% had difficulty getting immediate care for a minor health problem. Residents of the Atlantic provinces and Alberta also had more difficulties accessing care than other Canadians. Residents of Saskatchewan were least likely to have problems getting immediate care for a minor health problem (13.1%).⁶⁰³

The Romanow Commission recognized significant rural-urban differences in access to medical care:

“Canadians in rural communities often have difficulty accessing primary health care and keeping health care providers in their communities, let alone accessing diagnostic services and other more advanced treatments.... People in rural communities also have the added burden of paying for the high costs of travel in order to access the care they need. This often means days and weeks away from family and social support as well as the added cost of accommodation and meals....

“Problems in access to health services quite often stem from serious shortages in health care providers in rural communities.... In 1993, there was less than one

⁶⁰² Sanmartin, Claudia, et al., *Access to Health Care Services in Canada 2001*, Statistics Canada, catalogue no. 82-575-XIE, Ottawa, June, 2002, pages 10 and 23.

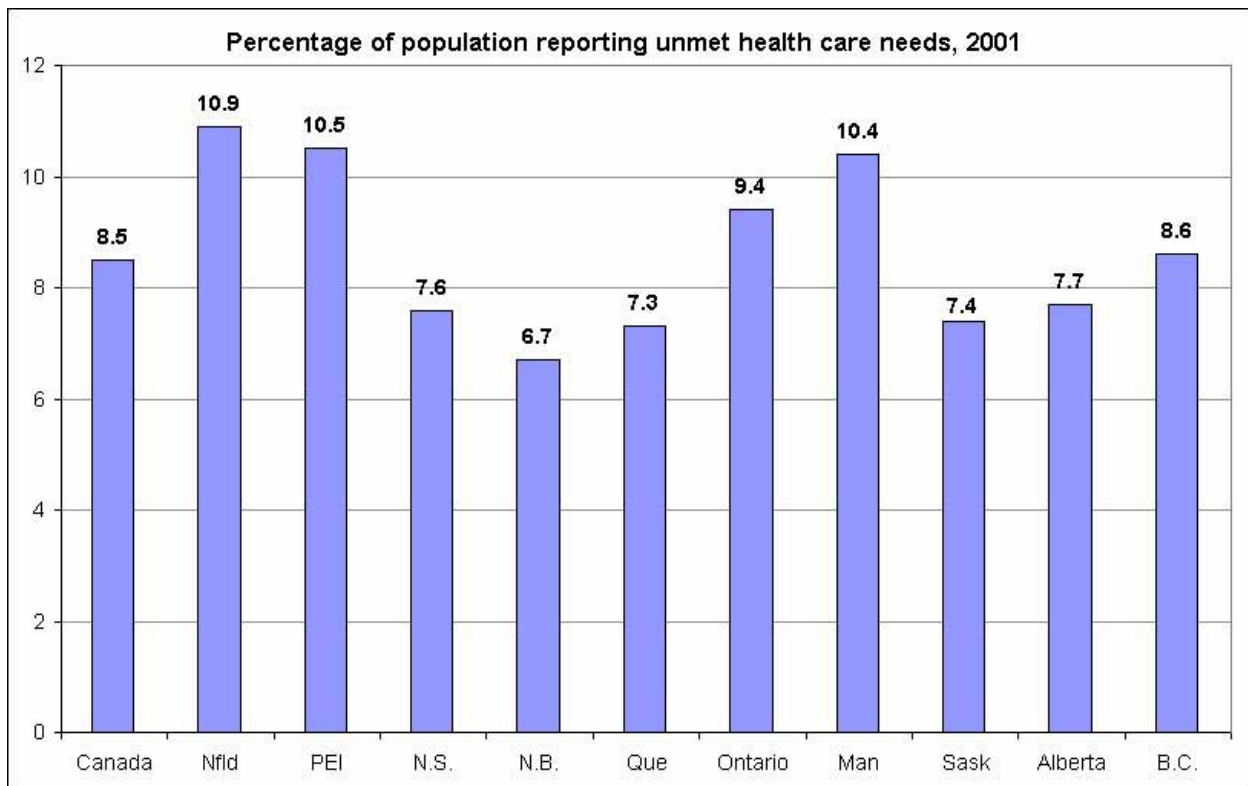
⁶⁰³ Sanmartin, Claudia, et al., *Access to Health Care Services in Canada 2001*, Statistics Canada, catalogue no. 82-575-XIE, Ottawa, June, 2002, Table A-2, page 24. Statistics Canada's *CANSIM II* database, Tables 105-3027, 3028, and 3029, report the barriers by time of day (regular office hours, evening, and night) from the same source (the Health Services Access Survey, 2001, but give lower rates, apparently calculated as a percentage of *all* respondents rather than as a percentage of those accessing care as in the Figure provided here.

physician per 1,000 people in rural and small town areas, compared to two or more physicians per 1,000 people in larger urban centres.”⁶⁰⁴

To remedy these difficulties, the Romanow Commission recommended a Rural and Remote Access Fund to attract and retain health care providers, to provide rural experiences as part of the education and training of physicians and nurses, to expand telehealth approaches, and generally “to support innovative ways of delivering health care services to smaller communities.”⁶⁰⁵

Respondents to Statistics Canada’s Health Services Access Survey were also asked whether there was a time in the past 12 months when they needed health care services and did not receive them. In response to that question, residents of Prince Edward Island, Newfoundland and Manitoba reported the country’s highest rates of unmet needs for health care services. New Brunswick had the lowest rate in the country (Figure 73).⁶⁰⁶

Figure 73. Percentage of population reporting unmet health care needs, 2001



Source: Statistics Canada, Access to Health Care Services in Canada 2001

⁶⁰⁴ Romanow, op. cit., page 162.

⁶⁰⁵ Romanow, op. cit., Recommendations 30-33, pages 166 and 168.

⁶⁰⁶ It should be noted that due to limited sample size, confidence intervals are frequently sufficiently large to prevent attribution of statistical significance to these rankings. See Sanmartin, Claudia, et al., *Access to Health Care Services in Canada 2001*, Statistics Canada, catalogue no. 82-575-XIE, Ottawa, June, 2002, Table 8, page 15.

When those who didn't get the health care services they needed were asked why this occurred, respondents cited lengthy waits for care, and the unavailability of the service either when needed or in their area.⁶⁰⁷ Many Canadians reported worry, anxiety, stress, pain, and diminished health status while waiting for care, and more than one-quarter of those who waited for specialized services said their waiting time was "unacceptable." Statistics Canada concluded: "Long waits were clearly not acceptable to Canadians, particularly when they experienced adverse affects (sic) such as worry and anxiety or pain while waiting for care."⁶⁰⁸

Access to health services is recognized by Health Canada as a key health determinant, and it is possible that the gap between health care needs and availability of services may help explain actual health outcomes in some cases. For example, Newfoundland and Labrador has the country's lowest incidence of new cancers – 20% below the national average, but some of the highest rates of cancer mortality – 12% above the national average. Whether this unusual gap is due to lack of timely diagnosis and treatment or to other factors requires further research. The Romanow Commission report gives a possible indication:

*"In fact, some would say that there is an 'inverse care law' in operation. People in rural communities have poorer health status and greater needs for primary health care, yet they are not as well served and have more difficulty accessing health care services than people in urban centres."*⁶⁰⁹

22. Satisfaction With Health Care Services

Indicator description

The 2000/01 Canadian Community Health Survey asked respondents two questions relating to each basic health service area: "Overall how would you rate the quality of health care received? ... Excellent? Good? Fair? Poor?" and "overall how satisfied were you with the way health care services were provided? Were you: Very satisfied? Somewhat satisfied? Neither satisfied nor dissatisfied? Somewhat dissatisfied? Very dissatisfied?"

The questions were asked for each of the following areas:

- health care services received in the past 12 months
- most recent hospital care received in the past 12 months
- most recent family doctor or other physician care received in the past 12 months
- most recent community-based care received in the past 12 months.

Results are presented as part of Statistics Canada's CANSIM database, and are available at: <http://www.statcan.ca/english/freepub/82-401-XIE/01002/tables3.htm>.

⁶⁰⁷ Sanmartin, Claudia, et al., *Access to Health Care Services in Canada 2001*, Statistics Canada, catalogue no. 82-575-XIE, Ottawa, June, 2002, pages 15-16.

⁶⁰⁸ Ibid., page 21.

⁶⁰⁹ Romanow, op. cit., page 162.

Relevance

A September, 2000, Communiqué on Health issued by Canada's first ministers, committed to provide clear accountability reporting to Canadians, beginning in September 2002. Patient satisfaction was one of 14 comparable health indicators selected by the federal, provincial, and territorial governments for reporting purposes, and is one of seven key indicators selected to gauge the quality of service provided.

Health Canada's Women's Health Strategy notes that women have been subject to biases in the health care system. It cites the results of Women's College Hospital Health Survey, which found that 43% of Canadian women have changed doctors because they were dissatisfied with the way they were being treated.⁶¹⁰ For this reason, patient satisfaction is a particularly important indicator of women's health.

Results

Canadians are generally satisfied with the health care services they receive, with about 80% expressing satisfaction with the quality of hospital care and community-based care they receive, and about 90% satisfied with the care they receive from physicians. Men and women have similar levels of satisfaction with hospital and physician care, and women are slightly more likely than men to be satisfied with community-based care they receive.

Despite greater barriers to access, residents of PEI and Newfoundland have the highest rates of satisfaction in the country with the quality of the health care services they receive. According to the Canadian Community Health Survey 2000/01 Atlantic Canadians also generally express high levels of satisfaction with the quality of hospital, physician, and community-based health care in particular.

Remarkably, every female survey respondent in Newfoundland was satisfied with the community-based health care she received, and almost all (99.4%) rated that community care as excellent or very good – by far the highest levels of satisfaction in the country. By contrast, fewer than three-quarters of women in Ontario rated their community-based health services as excellent or very good (Tables 33 and 34). In general, Ontarians and Albertans tended to be less satisfied with the hospital and community-based care they received than most other Canadians. Residents of Nunavut reported the lowest levels of satisfaction in the country with the health care services they received. Among the provinces, Manitobans reported the lowest levels of overall satisfaction with the health care services they had received.⁶¹¹ The results indicate that barriers to access are not necessarily related to satisfaction with key health services.

⁶¹⁰ Health Canada, *Health Canada's Women's Health Strategy*, Ottawa, 1999, page 17.

⁶¹¹ Statistics Canada, *CANSIM II Database*, Tables 105-0080, 0081, 0082, and 0083, using data from the Canadian Community Health Survey (CCHS) 2000/01. Interestingly, a parallel question in the 2001 Health Services Access Survey (HSAS) on the quality of family physician care reported by those with a regular family physician yields somewhat different results. Sanmartin, Claudia, et al., *Access to Health Care Services in Canada 2001*, Statistics Canada, catalogue no. 82-575-XIE, Ottawa, June, 2002, Table 3, page 11. The CCHS data are used here because the sample size is many times larger than that of the HSAS, and the CCHS data thus likely yield more accurate results.

Table 31. Proportion of population, aged 15 and over, rating quality of health care services received in past 12 months as excellent or very good, Canada, provinces, and territories, 2000, (%)

	Both sexes	Men	Women
Canada	84.4	84.0	84.7
Newfoundland and Labrador	88.9	87.3	90.3
Prince Edward Island	89.6	89.0	90.1
Nova Scotia	85.3	83.0	87.2
New Brunswick	82.8	82.8	82.9
Quebec	85.0	85.5	84.6
Ontario	84.5	84.6	84.4
Manitoba	80.3	79.2	81.2
Saskatchewan	85.6	86.8	84.5
Alberta	83.6	81.7	85.4
British Columbia	84.0	82.3	85.3
Yukon Territory	81.7	83.3	80.3
Northwest Territories excluding Nunavut	80.5	76.5	84.3
Nunavut	70.8	70.7	70.9

Source: Statistics Canada, Canadian Community Health Survey, CANSIM II database.

Table 32. Patient satisfaction with most recent hospital care, with physician care in the past 12 months, and with most recent community-based health care received in the past 12 months, (%), 2000/01

	Patient satisfaction with most recent care received in the past 12 months with:											
	Hospital care				Physician care				Community-based care			
	Excellent or very good		Satisfied		Excellent or very good		Satisfied		Excellent or very good		Satisfied	
	male	fem	male	fem	male	fem	male	fem	male	fem	male	fem
Can	79.8	80.5	79.7	79.3	88.7	90.5	90.8	90.9	76.3	78.8	80.1	82.8
Nfld	82.5	91.4	82.2	84.0	94.4	92.9	94.4	94.6	94.5	99.4	91.1	100
PEI	86.7	85.3	83.8	86.5	95.6	91.8	95.0	94.0	85.0	76.4	98.2	91.1
NS	85.3	81.8	80.2	80.8	90.9	91.8	91.7	90.4	81.6	85.0	92.0	89.5
NB	73.5	82.1	81.3	84.6	94.3	90.4	93.2	91.6	96.1	91.3	90.3	96.1
Que	84.6	83.2	81.1	80.3	87.0	91.3	89.9	89.8	89.4	85.5	83.9	87.9
Ont	77.0	77.7	77.7	76.3	89.4	90.2	92.2	91.2	70.7	74.0	75.9	78.1
Man	82.0	82.0	81.7	81.5	90.0	90.2	89.8	91.4	80.8	77.8	78.4	81.2
Sask	85.2	78.2	85.4	81.0	92.1	90.5	93.2	92.1	91.2	81.2	93.1	88.8
Alta	77.0	81.8	80.7	80.0	85.0	91.0	84.2	90.6	66.4	81.5	70.8	83.3
B.C.	78.2	80.8	78.6	82.2	88.0	89.3	91.6	91.2	82.4	80.4	91.1	86.5
Yuk	99.0	70.5	94.5	73.9	77.6	85.4	79.3	86.9	66.5	80.2	70.5	92.0
Nwt	80.9	89.2	95.6	91.1	83.0	85.5	95.6	89.5	61.3	65.2	87.3	77.6
Nvt	73.0	77.4	71.9	76.3	74.3	85.8	78.7	78.4	79.8	69.8	74.1	63.3

Note: The "satisfied" category combines "very" and "somewhat" satisfied.

Source: Statistics Canada, Canadian Community Health Survey, CANSIM II database.

23. Secondary Prevention – Screening & Immunization

The Canadian Institute for Health Information's National Consensus Conference on Population Health Indicators classified secondary prevention (mammogram screening, Pap smears, and immunization) under the category of "health system performance: accessibility."⁶¹² But these indicators are also determinants of health because of their proven capacity to prevent disease, to avoid premature mortality, and to detect disease at an early enough stage to allow effective treatment.

23.1 Screening

Indicator description

Statistics Canada reports the proportion of women aged 50-69 who report receiving a screening mammogram within the last two years, either for routine screening or for other reasons.⁶¹³ It also reports the proportion of women, aged 18 to 69, who report having had a Pap smear within the last three years.⁶¹⁴ Data are from Statistics Canada's 2000/01 Canadian Community Health Survey, and from the 1994/95, 1996/97 and 1998/99 National Population Health Surveys.

Relevance

Canadian women have a one in nine lifetime risk of breast cancer, the most common cancer to afflict women. One in 25 Canadian women will die from breast cancer, and the incidence of breast cancer has been rising steadily. Because of the relatively young age at which women die from breast cancer, it results in 98,000 potential years of life lost each year in Canada. The three Maritime provinces have among the highest rates of breast cancer incidence in the country.⁶¹⁵

Early detection of breast cancer through mammograms has been shown to reduce mortality in women age 50-69, and the breast cancer mortality rate is now at its lowest since 1950.⁶¹⁶ The Advisory Committee on Population Health reports that:

*The dramatic increase in mammography use is a positive example of how public education combined with efficient screening practices can make a dramatic difference in the use of proven preventive measures.*⁶¹⁷

⁶¹² Canadian Institute for Health Information, *National Consensus Conference on Population Health Indicators: Final Report*, Ottawa, 1999, pages 5 and B-10.

⁶¹³ Statistics Canada, <http://www.statcan.ca/english/freepub/82-221-XIE/00502/defin3.htm#56>; Canadian Institute for Health Information, *National Consensus Conference on Population Health Indicators: Final Report*, Ottawa, 1999, page B-10.

⁶¹⁴ Statistics Canada, <http://www.statcan.ca/english/freepub/82-221-XIE/00502/defin3.htm#56>; Canadian Institute for Health Information, *National Consensus Conference on Population Health Indicators: Final Report*, Ottawa, 1999, page B-10.

⁶¹⁵ National Cancer Institute of Canada, *Canadian Cancer Statistics 2001*, Toronto, April, 2001.

⁶¹⁶ Idem; and Health Canada, *Toward a Healthy Future: Second Report on the Health of Canadians*, Ottawa, 1999, page 147

In 1990 just 47% of Canadian women 50 and over had ever had a mammogram. By 1996-97, the figure was 75%. Currently, mammography screening is recommended every two years for women aged 50-69, and the likelihood that a woman has had a mammogram increases with age, peaking at age 50-59.⁶¹⁸

Cervical cytology screening with a Pap smear reduces the incidence of and mortality from cervical cancer. As a result of the widespread adoption of this simple screening procedure, cervical cancer incidence and mortality rates have fallen dramatically across the country. Between 1969 and 1998, the age-standardized incidence rate fell from 21.8 to 8.3 cases per 100,000, and the mortality rate from 7.4 to 2.2 deaths per 100,000. Indeed, most cases of invasive cervical cancer today occur in women not previously screened *or* not screened recently. Pap smears are recommended every three years for women aged 18 and over.⁶¹⁹

Results

Routine mammogram

Nearly 70% of Canadian women, aged 50-69, reported having received a mammogram within the last two years. Of these, 51.8% received routine screening, and the remaining 17.7% received a mammogram for other reasons. Here we report only on routine screening, as this is the best indicator of the use of mammograms for preventive purposes.

All four Atlantic provinces have lower rates of routine mammogram screening than the rest of Canada. Newfoundland has the lowest rate in the country (41.7%), New Brunswick the second lowest (45%), Nova Scotia the third lowest (46.6%), and Prince Edward Island the fourth lowest (47.3%). The other provinces, in ascending order, are British Columbia (49.9%), Manitoba (50.1%), Alberta (50.8%), Quebec (53.2%), Saskatchewan (53.4%), and Ontario (53.5%).

Newfoundland and Labrador has the largest proportion of women, aged 50-69, who have not received a mammogram in the last two years (35.4% compared to the national average of 26.2%) (Figure 74). This may be part of the reason why Newfoundland and Labrador has a lower incidence of cancer than the national average, but a higher rate of cancer mortality.⁶²⁰

Data on screening rates for health districts, provided by the 2000/01 Canadian Community Health Survey, can help provincial and district health authorities identify areas in particular need of these services, and of appropriate educational tools. For example, fewer than a third of women, aged 50-69, in Cape Breton reported a routine mammogram screening in the last two years, and 45% of Cape Breton women, aged 50-69, have not received a mammogram for at least

⁶¹⁷ Health Canada, *Toward a Healthy Future*, page 154; Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999, pages 82-85.

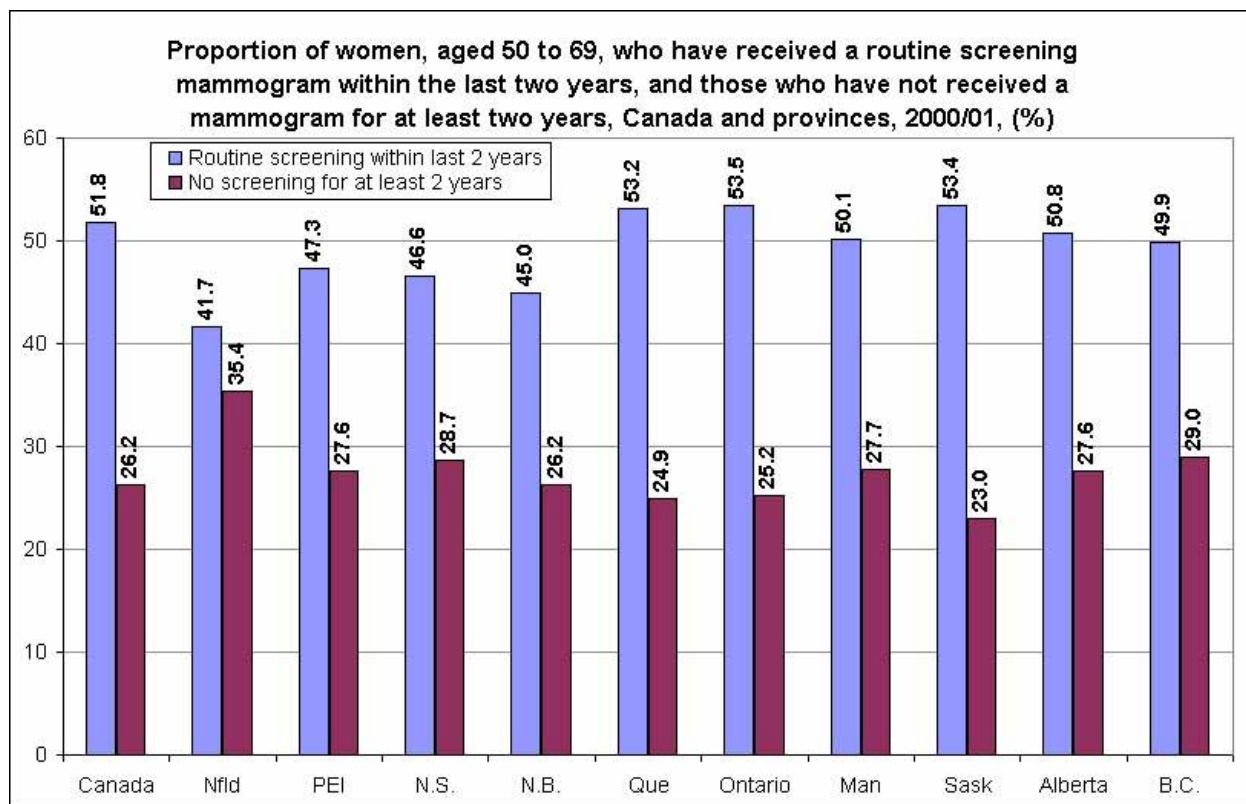
⁶¹⁸ Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, 1999, pages 83- 84.

⁶¹⁹ Judy Lee, Greg Parsons, Jane Gentleman, "Falling Short of Pap Test Guidelines," Statistics Canada, *Health Reports*, pages 9-19, esp. page 11, Health Canada, *Toward a Healthy Future*, pages 146-147, Health Canada, *Statistical Report on the Health of Canadians*, page 79.

⁶²⁰ National Cancer Institute of Canada, *Canadian Cancer Statistics 2002*, Toronto, 2002.

two years for any reason. A higher rate of mammogram screening could help reduce that region's high cancer mortality rate.

Figure 74. Proportion of women, aged 50 to 69, who have received a routine screening mammogram within the last two years, and those who have not received a mammogram for at least two years, Canada and provinces, 2000/01, (%)

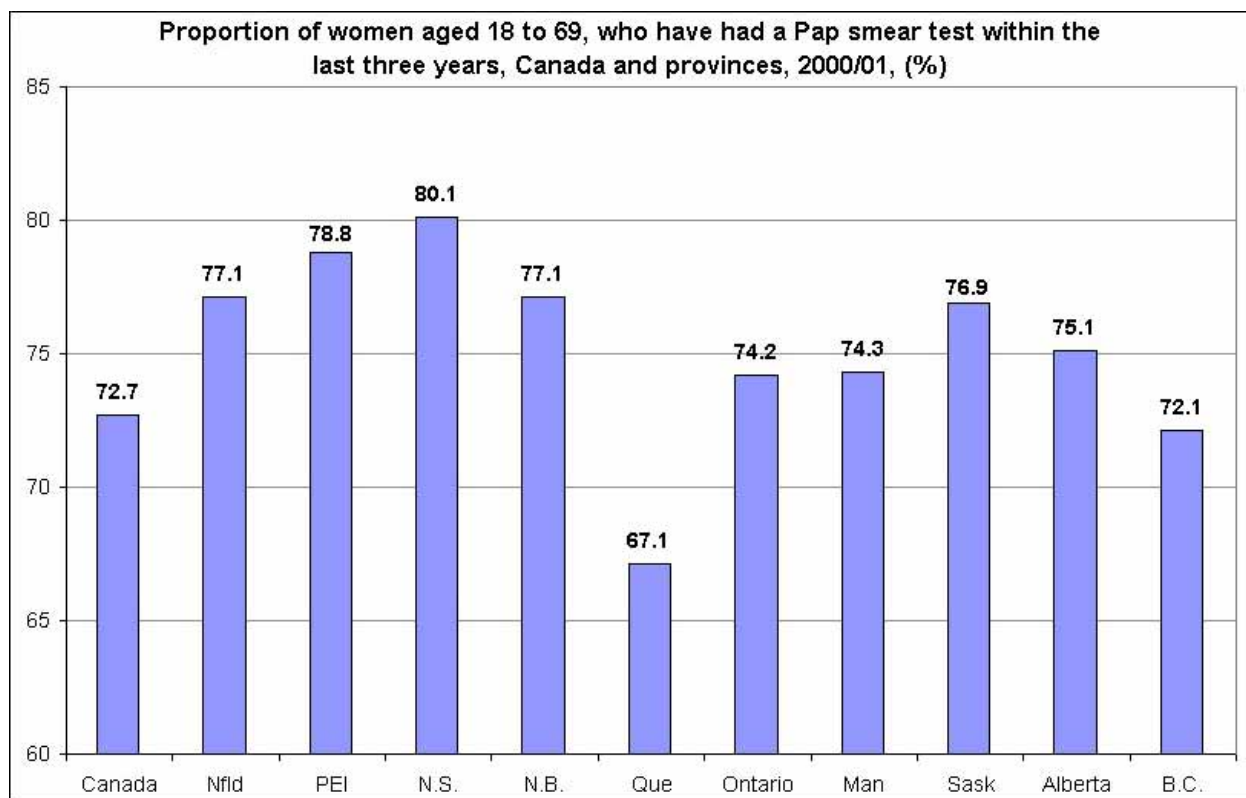


Source: Statistics Canada, Canadian Community Health Survey, 2000/01

Routine Pap smear

Among Canadian women aged 18-69, 52.6% have had a Pap smear test within the last year, and 72.7% have had a Pap smear within the last three years, as medically recommended. All four Atlantic provinces have higher proportions of women, 18 and over, who have had a Pap smear within the last three years. Four out of five women in Nova Scotia have had a Pap smear within the last three years – the highest rate in the country, compared to two-thirds of Quebec women, who have by far the lowest rate of testing in the country. PEI has the second highest rate of Pap smear testing in Canada, followed by Newfoundland, New Brunswick, and Saskatchewan.

Figure 75. Proportion of women aged 18 to 69, who have had a Pap smear test within the last three years, Canada and provinces, 2000/01, (%)



Source: Statistics Canada, Canadian Community Health Survey, 2000/01, health file.

23.2 Immunization

Indicator description

The National Consensus Conference on Population Health Indicators confirmed two immunization indicators in its “health system performance: accessibility” category – influenza immunization for those aged 65 and over, and childhood immunization. But it recognized that there were limited data availability for childhood immunization.⁶²¹ For that reason, only influenza immunization is considered here.⁶²²

In the 1996/97 National Population Health Survey and the 2000/01 Canadian Community Health Survey, Statistics Canada assessed influenza immunization rates for the population aged 65 and over, according to respondents’ reports on when they had their last influenza immunization (flu shot).⁶²³

⁶²¹ Canadian Institute for Health Information, *National Consensus Conference on Population Health Indicators: Final Report*, Ottawa, 1999, page 5.

⁶²² Influenza immunization data are available at: <http://www.statcan.ca/english/freepub/82-221-XIE/01002/tables/html/3216n.htm>.

⁶²³ Statistics Canada, <http://www.statcan.ca/english/freepub/82-221-XIE/00502/defin3.htm#55>.

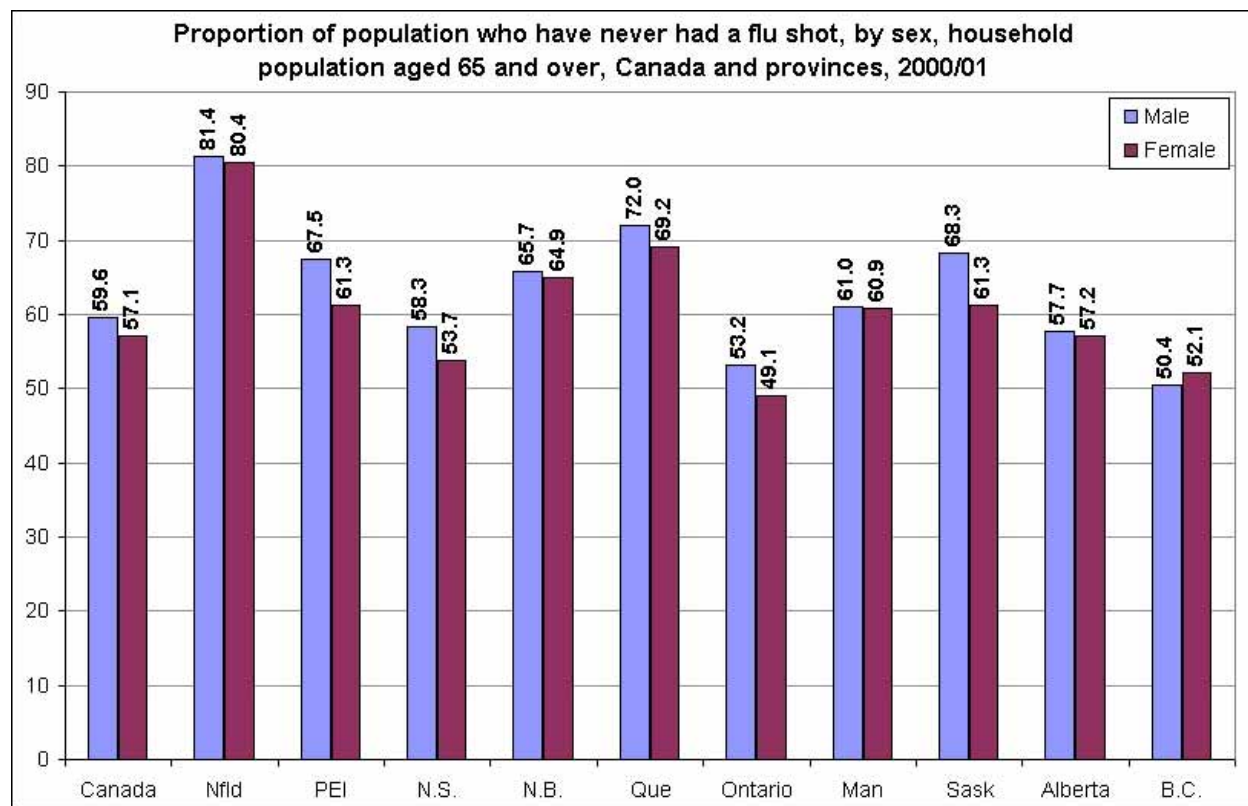
Relevance

Immunization rates are a particularly relevant indicator for the health of senior women, with higher rates of immunization likely to signify increased protection from influenza among seniors.

Results

Canadian women, 65 and over, are more likely than senior men to have had a flu shot – 29.1% of women and 22.4% of men had a flu shot within the last year, and 40.3% of women and 35.8% of men have had one at some time. Similarly, men are slightly more likely than women never to have had a flu shot. Newfoundland has the lowest rate of flu immunization in the country, with seniors in that province less than half as likely as other Canadians to have had a flu shot (Figure 76).

Figure 76. Proportion of population who have never had a flu shot, by sex, household population aged 65 and over, Canada and provinces, 2000/01



Source: Canadian Community Health Survey 2000/01.

CONCLUSION

While time and resources do not allow a comprehensive summary of all the results in the indicator sets described above, certain key themes have emerged from this analysis, a few of which are noted briefly here:

- a. The determinants of women's health are highly interactive.
- b. An understanding of women's health requires consideration of additional indicators not normally included in inventories of population health indicators.
- c. A gender analysis is essential to identify practical and cost-effective interventions designed to improve health.
- d. Despite remarkable improvements in data availability, this gender analysis is still inhibited by serious data gaps, particularly for vulnerable sub-groups of women.
- e. The results point to key social interventions that can significantly improve women's health in Canada.

24.1 The determinants of women's health are highly interactive

This statistical profile of women's health in Canada has focussed in most detail on social determinants of health, because it is now widely accepted that "upstream" interventions are most likely to have the broadest impacts on health improvement. Health Canada recognizes that gender, income, employment, education, and other basic social and economic characteristics have a profound effect on health outcomes. In addition, behavioural patterns, which may be the most proximate risk factors in determining health, are themselves dependent on deeper, underlying social characteristics. Thus, for example, low-income, unemployed, and poorly educated groups have higher rates of smoking, physical inactivity, poor diets, and obesity than higher income groups. For these reasons, this report has given most attention to the socio-economic determinants of women's health.

Despite an emerging consensus that health outcomes may be determined by systemic social and economic conditions, however, there is much less agreement about *how* these conditions translate into particular patterns of health or illness. There is even less agreement on the social policy interventions required to improve health. Researchers have pointed out that, while correlations may be made between these pathways and population health, the causal mechanisms and pathways between socio-economic circumstances and health outcomes are not well understood.⁶²⁴

*The factors that influence health are many and complex, ranging from genetic pre-disposition to physical environment, socioeconomic conditions, and lifestyle. The literature generally organizes the social determinants of disease into major pathways that link the determinant to disease. Researchers most often refer to these main pathways as behavioural, materialist, psychosocial, and political/economic.*⁶²⁵

⁶²⁴ Chernomas, R. (1999). *The Social and Economic Causes of Disease*. Ottawa, Canada: Canadian Centre for Policy Alternatives (CCPA).

⁶²⁵ Shaw, M., D. Dorling, D. Gordon, & G. D. Smith. (1999). *The Widening Gap: Health Inequalities and Policy in Britain*. Bristol, UK: The Policy Press.

Researchers have also observed that material deprivation, social and psychological factors, risk behaviours, and health outcomes are linked and interdependent. Thus, poverty and income inequities lead to lack of resources for adequate food, housing, education, recreation, and employment. Lack of resources, in turn, may lead to breakdown and fragmentation in the social fabric of society. These social problems include social exclusion, unhealthy child development, disparities in development, depression and stress, crime, and violence.

Social inequities, in turn, are linked to risk factors and unhealthy behaviours that are often precursors of chronic disease.⁶²⁶ Chronic physical and mental diseases, including cardiovascular disease, diabetes, cancer, chronic obstructive pulmonary disease, musculoskeletal disorders, depression, anxiety disorders, and communicable diseases such as HIV/AIDS have all been linked *both* to risk behaviours *and* to underlying social and economic circumstances.⁶²⁷

The pathways between inequity and chronic disease are circular and multi-causal. Shared social values, as well as historical, cultural, economic and political structures have effects on the creation of poverty and inequity, and determine which groups are disproportionately afflicted. The consequences of poverty and inequity, in turn, create social, economic, and environmental risk conditions for chronic disease, through a number of the pathways. These societal risk conditions influence behavioural risk factors and choices that can then lead to ill health. The circularity of this process arises from the fact that chronic disease affliction may then become one more factor of disadvantage contributing to increased vulnerability and social exclusion. For example, chronic conditions may inhibit employment prospects and deepen poverty.

The literature therefore recognizes a wide range of pathways between inequity and disease. It is vital that these pathways be understood from a policy perspective, since the effectiveness of policy interventions depends on locating the optimal points in these processes and pathways where such interventions can interrupt and reverse the potential for disease onset.

While eliminating inequities in society may be a most efficient way to improve population health, identifying and implementing the appropriate intervention is clearly not easy. Many potential policies that affect health lie outside the traditional domain of the health sector. Recommendations therefore usually call for a “multi-sectoral” approach that recognizes, for instance, that broader economic policies may affect the health of the population. Researchers like York University’s Dennis Raphael point out the importance of raising incomes and access to resources, increasing social relationships and supports, decreasing chronic stress, and changing economic and social policies that undermine health.⁶²⁸

This statistical profile of women’s health in Canada provides some clear examples of the highly interactive nature of the determinants of health, and of the danger of assuming simplistic cause-

⁶²⁶ Raphael, D. (2001). *Inequality is Bad for Our Hearts: Low Income Found to be a Major Causes of Heart Disease in Canada*. North York Heart Health Network. Retrieved from the World Wide Web:

<http://depts.washington.edu/eqhlth/paperA15.html>

⁶²⁷ Ibid. Retrieved from the World Wide Web:

⁶²⁸ Raphael, D. (2002). *Social Justice is Good for Our Hearts: Why Societal Factors -- Not Lifestyles -- Are Major Causes of Heart Disease in Canada and Elsewhere*. Centre for Social Justice Foundation for Research and Education (CSJ). Retrieved from the World Wide Web: <http://www.socialjustice.org/pubs/justiceHearts.pdf>

effect relationships between any one indicator and specific health outcomes. One example will suffice here.

The last few years have seen a sharp decline in low-income rates among women and children, with marked increases in the real income of single mothers. Since poverty is the most reliable predictor of poor health, this trend – at least on the surface – is clearly positive, and holds promise for improvements in women's health.

Income, however, is itself related to employment trends. A closer examination of the evidence, therefore, reveals that the improvement in single parent incomes is almost entirely due to a dramatic increase in the proportion of single mothers entering the paid work force since the mid-1990s. The low-income rate of single mothers without paying jobs has hardly changed at all, and remains close to 90%. That change in employment patterns is itself related to sharp cuts in federal social transfers to the provinces in mid-1990s, and to consequent cuts in social assistance payments to single mothers.

Even when this chain of events is partially recognized, the net impacts on health are difficult to discern. Statistics Canada reports that single mothers with full-time jobs put in an average 75-hour work week when paid and unpaid work are both counted, and that they spend considerably less dedicated time with their own children than their married counterparts. Statistics Canada has identified working mothers as the most time-stressed demographic group, and reports that women working long hours are more likely to smoke and drink more, gain weight, be physically inactive, and suffer depression. In addition, working single mothers spend three times as high a proportion of their income on paid child-care (12%) as married mothers (4%), so apparent income gains may go in one pocket and out the other.

In sum, what *is* the actual health impact of higher incomes for single mothers? To what extent does the adverse impact of higher stress rates undermine the health gains that might be expected to result from higher incomes, for example? An observation of trends in the 1980s and 1990s appears to indicate that higher social assistance benefits encourage single mothers to spend more time with their own children and less time working for pay. These are complex issues, with no simple answers.

What is clear is that there is no single or predictable pathway between a particular health determinant and a given health outcome, and that the determinants of health are highly interactive. In the example above, it is necessary to examine income and employment trends, the combined effect of women's paid and unpaid work burden, stress rates and child-care supports, government social policies and the macro-economic trends underlying those policies, and more, in order to discern the potential health impacts of particular social determinants of health.

The complexity of these interactions is not a reason to abandon the search for deeper understanding of the pathways between health determinants and health outcomes. For this reason, this statistical profile of women's health has included a wider range of indicators than is normally considered. In addition to standard indicators like employment and unemployment rates, for example, it is recognized that indicators of job security may affect women's health. One survey of 3,000 young people found that those dissatisfied with their jobs had same low

mental health scores as those who were unemployed.⁶²⁹ Temporary, insecure, routine work with no benefits, providing no job satisfaction or control over work circumstances, may therefore undermine health as surely as unemployment.

In sum, this statistical profile attempts to point to the complexities and interactions among the determinants of health rather than to jump to simplistic causal conclusions. It recognizes the need for continuing research into the pathways and mechanisms that link social and economic circumstances to health outcomes, and into the ways in which these pathways interact either synergistically, or in ways that ameliorate otherwise adverse circumstances.

24.2 Additional women's health indicators

The Canadian Institute for Health Information's National Consensus Conference on Population Health Indicators identified many important indicators that are referenced in this statistical profile of women's health in Canada. This report has attempted to identify those indicators that have particular relevance to women's health issues. However, the CIHI conference, and Statistics Canada's subsequent 2000/01 Canadian Community Health Survey did not include certain very important indicators that are essential to an understanding of women's health issues, and particularly to an analysis of the social determinants of women's health. Two such indicators have been highlighted in this report:

First, it is simply not possible to undertake a realistic assessment of women's work without considering the added responsibilities of unpaid household work, where women still carry almost two-thirds of the burden. Indeed, employment and unemployment statistics in isolation may provide a misleading picture, and understate the stress levels to which many women are subject. It also masks important inequities. While women have doubled their rate of labour force participation in the last 40 years and now comprise 46% of the paid work force in Canada, they still do 63% of the household work. Thus a massive change in the gender division of labour in the paid work force has not been matched by a similar change in the gender division of labour in the household economy. Both the hidden inequities and the ensuing stress levels may have serious health consequences.

An exclusive focus on paid work may also lead to simple-minded policy interventions that push single mothers into the paid work force without considering the impact on child-rearing and household work responsibilities. We have already noted that, according to Statistics Canada's time use surveys, single mothers who work full-time, put in an average 75-hour work week when paid and unpaid work are both counted, while full-time employed married mothers work 74 hours a week. Not surprisingly, Statistics Canada's time stress surveys found working mothers to be the most time-stressed demographic group.

Conversely, recognizing the balance of paid work, unpaid work, and free time as a vital indicator of women's health can focus attention on important policy interventions that are currently not central to the policy agenda of most governments in Canada. Only Quebec has taken the

⁶²⁹ David Fryer, "Unemployment: A Mental Health Issue" in "The Jobs Letter" 24:9, September, 1995.

initiative in proposing a four-day workweek for parents of young children. Explicitly valuing unpaid work can encourage employers to provide flexible work hours, and governments to study European models that foster a better balance between paid and unpaid work responsibilities. One example, from the Netherlands, is given below.

Recommendation:

It is therefore an explicit recommendation of this study that unpaid work be given the same status as a determinant of women's health as employment and unemployment currently have, and that assessments of women's health examine the *total* work burden that both men and women carry. Fortunately, Statistics Canada has been developing a *Total Work Accounts System* that includes both paid and unpaid work hours, so the database for such an assessment is available.

Similarly, CIHI's National Consensus Conference on Population Health Indicators and Statistics Canada's Health Indicators include crime as a key non-medical determinant of health. However they do not recognize that family and domestic violence, and sexual assault rates, are essential indicators of women's health in particular. This report has noted the enormity of this problem in Canada, with fully 8% of Canadian women having been physically assaulted by their partner in the last five years, with spousal violence accounting for 18% of all violence reported to police, and with women accounting for 85% of victims of spousal abuse. The 1999 General Social Survey found that 220,000 Canadian women were victims of spousal violence in the previous 12 months alone.

Recommendation

As family and spousal violence is a direct threat to women's health, this study also explicitly recommends its inclusion as a key indicator of women's health. Fortunately, Statistics Canada's victimization surveys, administered as part of the General Social Survey, provide data sets that go beyond police-reported crime, where spousal and family violence is notoriously under-reported. In fact, victimization surveys indicate that women report only 37% of attacks by their husbands and partners. It is therefore recommended that the more accurate and comprehensive victimization survey statistics be used to track changes in the rates of spousal and family violence.

24.3 Practical necessity of gender analysis

The importance of gender analysis in population health research has been well established from both the descriptive and normative points of view. It is understood women have particular health needs, health determinants, and health outcomes that differ in many respects from those of men. It is also recognized that gender analysis can help overcome traditional biases, including underlying social and economic inequities, health research and clinical trials conducted only on male subjects, and health care treatment that "has conferred on women's health processes a pathological status in situations where life conditions were natural."⁶³⁰

⁶³⁰ Health Canada, *Health Canada's Women's Health Strategy*, Ottawa, 1999, page 17.

A third major reason for gender analysis emerges from this statistical profile of women's health in Canada – its practical utility as a policy tool, and its potential to point to cost-effective interventions that can target health dollars more wisely than blanket solutions that do not account for gender differences.

To give just one example, it is noted that men smoke more than women in all age brackets except for the youngest. A gender analysis reveals that, while teenage smoking rates among Canadian males, aged 15-19, have dropped from 40% to 21% since 1996, 24% of teenage girls still smoke – unchanged since 1996.⁶³¹ Surveys further indicate that the main reasons that teenage girls smoke are stress and weight loss. Programs, educational materials, counselling, and other interventions that target these motivations directly may be more effective for this group than health warnings aimed at the population at large. Clearly gender-specific knowledge like this can help policy makers identify actions that will yield the greatest benefit for every dollar spent.

24.4 Diversity approach and data gaps

There have been remarkable advances in data availability for population health analysis in recent years. Not only is a wide range of health determinants now recognized and measured on a regular basis, but the 2000/01 Canadian Community Health Survey for the first time provides sub-provincial data for 139 health regions in Canada. This is a vital step in furthering the diversity approach that is recognized as an essential part of Health Canada's Women's Health Strategy and Gender-Based Analysis. That approach acknowledges that women are not a homogeneous group, and that data are needed for sub-groups of women, particularly those who are marginalized.

The large sample size of the 2000/01 Canadian Community Health Survey – 130,000 Canadians aged 12 and over – provides comparative male and female statistics that demonstrate vast disparities among Canadian women. To give just one example, in Atlantic Canada, Cape Breton stands out as having high rates of unemployment and low-income, a very high incidence of chronic illness, disability, and premature death, the highest age-standardized mortality rate in Maritimes, and the highest death rate from circulatory disease and heart disease in Maritimes – 30% above the national average.

Of all 21 Atlantic Canadian health regions, Cape Breton has the highest death rates from cancer (231.8 per 100,000, 25% higher than the national average), from lung cancer, from bronchitis, emphysema, and asthma (9.2 per 100,000, more than 50% above the national average). It also has the highest rates of high blood pressure– 21.7%, (24.3% for women and 19% for men), 72% higher than the Canadian rate, of arthritis and rheumatism (31% of women, 23% of men), and of activity limitations (34%).

Not surprisingly, the life expectancy of Cape Bretoners is relatively low – 72.8 years for men, and 79.4 for women, compared to the Canadian average of 75.4 years for men and 81.2 years for women. Cape Bretoners have an average disability-free life expectancy of only 61.8 years, seven fewer than the national average, and the lowest of all the 139 health regions in Canada. This

⁶³¹ Statistics Canada and Health Canada, *Canadian Tobacco Use Monitoring Survey 2001*, Ottawa, 2002.

means that Cape Bretoners can expect to live considerably more years with a disability than other Canadians.

As a result of this poor health profile, Cape Bretoners have the highest number of potential years of life lost due to both cancer and circulatory diseases of any health region in Atlantic Canada. Cape Bretoners lose 2,261.9 potential years of life per 100,000 population due to cancer – 41% higher than the national average of 1,603.7, and they lose 1,684 potential years of life per 100,000 population due to circulatory diseases – 65% higher than the national average of 1,020.7.

In sum, women in Cape Breton have a very different health profile than their counterparts in Halifax, just as women in northern Quebec and northern New Brunswick have a very different health profile than their counterparts in the southern parts of those provinces. In sum, the new health region information available in the 2000/01 Canadian Community Health Survey makes a major contribution to a diversity analysis, by allowing regional distinctions for sub-groups of Canadian women that were not previously possible. The health region information also allows new analysis of differences between the health profiles of rural and urban women in Canada.

This report also points to knowledge now available on Aboriginal women's health that identifies health problems unique to Aboriginal women. This information on particular, vulnerable or marginalized sub-groups of women allows policy makers to target interventions where they are most needed. To give specific examples:

- Diabetes rates among Canadian Aboriginals are three times higher than among non-Aboriginals, and Aboriginal women have twice the incidence of diabetes as men.
- Aboriginal women have twice the incidence of HIV/AIDS as their non-Aboriginal counterparts, with 50% of cases attributable to intravenous drug use (compared to 17% for non-Aboriginal women).
- Cape Breton women have a very low rate of routine mammogram screening and, correspondingly, a very high rate of breast cancer deaths.

This information is vital to policy makers seeking to direct resources where needs are greatest and where they can make the most difference.

However, the same depth of information is not available for many other vulnerable sub-groups of Canadian women. For example, this report could not provide detailed information on health determinants and health outcomes for immigrant women, for women with disabilities, for visible minorities, and for other sub-groups of women with particular health needs and special challenges. It is strongly recommended that future population health surveys gather systematic data with sufficient sample sizes for these women, to provide much needed information that can deepen a diversity approach to women's health in Canada.

There are also major data gaps on particular topic areas of major importance to women's health. For example, women have higher rates of several mental illnesses, but there is still very little evidence on the incidence and prevalence of most mental illnesses in Canada; their association with socio-economic status, education, ethnicity and other variables; their impacts on physical health and wellbeing; associated risk and protective factors; and access to mental health

services.⁶³² An indicator of life stress is included in the statistical profile presented here, but it does not do justice to the importance and complexity of mental health issues.

Fortunately, Cycle 1.2 of the Canadian Community Health Survey, specifically on mental health and wellbeing, has just been administered to 30,000 Canadians (May-November, 2002), and results will be released by Statistics Canada at the end of summer, 2003. This survey will soon provide detailed first-time information on the mental health of Canadians that will allow far more comprehensive updates on the mental health of Canadian women than have hitherto been possible.

Similarly, there are major gaps in the area of environmental determinants of health. Only one indicator has been referenced in this statistical profile of women's health – exposure to second-hand smoke. CIHI's National Consensus Conference on Population Health Indicators proposed several other environmental indicators for potential future development – including air quality, water quality, toxic waste, and an ecological footprint analysis. However, none of these were confirmed at the May, 1999 conference as possible to compile from existing, comparable data sources.⁶³³

It was noted that environmental determinants of health may be particularly important indicators for women's health, because women constitute the majority of those afflicted with environmental illnesses, including Multiple Chemical Sensitivity (MCS), Chronic Fatigue Syndrome (CFS) and Fibromyalgia (FM). It is estimated that there are about 4.5 million Canadians (15%) currently suffering from some degree of MCS, with young women most likely to be affected.⁶³⁴

Thus, further development of indicators and data sets for mental illnesses and for the environmental determinants of health will provide crucial information on women's health that is currently missing or very sparse. Other data gaps have been noted throughout this report, but these broad categories stand out as areas where further research and development are of particular importance for any assessment of women's health.

24.5 Policy Recommendations

The nature of illness in Canada has changed dramatically in this century. And yet there are lessons to be learned from history about the type of policy actions needed to improve the health of Canadian women. Just as social interventions dramatically improved population health in the early part of the 20th century, so social interventions today can improve the health of Canadians in general, and of women in particular.

⁶³² Health Canada, *A Report on Mental Illnesses in Canada*, Ottawa, October, 2002.

⁶³³ Canadian Institute for Health Information, *National Consensus Conference on Population Health Indicators: Final Report*, Ottawa, 1999, page 6.

⁶³⁴ Environmental Illness Society of Canada, http://www.eisc.ca/news_release_Oct1.htm; U.S. Department of Labour, Occupational Health and Safety Administration, "Multiple Chemical Sensitivities," available at: <http://www.osha.gov/SLTC/multiplechemicalsensitivities/>.

In 1900, the major causes of death were tuberculosis, dysentery, and diphtheria, and average life expectancy at birth was less than 50. Public health improvements, social reforms, and technological advances have sharply reduced the incidence of acute disease and infant mortality in the last hundred years, and thereby substantially increased average life expectancy at birth. Today Canadian women can expect to live to 81 and men to 75; deaths from the deadly infectious diseases of the early 20th century are extremely rare; smallpox has been eradicated, and measles nearly eliminated through immunization.⁶³⁵

At the same time, the incidence of chronic disease has increased sharply during the same period, with coronary heart disease surpassing infectious diseases in the 1930s as the major cause of death in Canada and the U.S. The second half of the 20th century, in turn, saw a sharp increase in cancer incidence up to the early 1990s, while deaths from cardiovascular disease fell by nearly half.⁶³⁶

Yet despite the marked changes in the nature of illness and primary causes of death in 1900 and 2000, there is a remarkable similarity that provides reason for optimism, and that is the primary motivation behind this report. Control of the infectious diseases that afflicted Canadians one hundred years ago had far less to do with any break-through medical cures than with social interventions that tackled the precursors and social causes of fatal diseases. Disease outbreaks were prevented by safer and more hygienic water, food, housing, and work conditions, and by immunization campaigns, even more than by medical advances. Though once epidemic in nature, the acute, infectious diseases of the early 20th century are today regarded as almost entirely preventable.

Similarly, the chronic diseases that today account for 80% of deaths in Canada, that cause untold suffering and debilitate hundreds of thousands of Canadians, that drain tax dollars and slow the economy, are largely preventable. By some estimates, up to 70% of premature deaths and two-thirds of the cases of chronic disability are preventable and therefore unnecessary.⁶³⁷ An analysis in the Canadian Medical Association Journal more than 30 years ago concluded that living conditions are probably far more important than medical care to physical and mental health.⁶³⁸ Just as prevention overcame the acute, infectious diseases of the early 20th century, prevention can reduce a significant portion of the chronic disease burden that today afflicts the modern world, and consumes such a large proportion of its resources:

⁶³⁵ Health Canada, *Statistical Report on the Health of Canadians*, Ottawa, September, 1999, page 324; Almer, Robert, and Donald Eddins, "Cross-Sectional Analysis: Precursors of Premature Death in the United States," in Amler, Robert, and Bruce Hull (eds.), *Closing the Gap: The Burden of Unnecessary Illness*, Oxford University Press, New York and Oxford, 1987, page 181.

⁶³⁶ Thompson, Beti, and Michael Pertschuk, "Community Intervention and Advocacy," in Ockene, Ira, and Judith Ockene, *Prevention of Coronary Heart Disease*, Little, Brown, and Company, Boston, 1992, page 494. For cancer trends, see <http://www.calacreek.com>, summarizing the U.S. National Cancer Institute's *Annual Report to the Nation on the Status of Cancer, 1973-1997*, as published in the May 15, 2000 issue of *Cancer*, authors: Hannah K. Weir, Ph.D. (CDC), Harry M. Rosenberg, Ph.D. (NCHS), Sally W. Vernon, Ph.D. (University of Texas), Kathleen Cronin, Ph.D. (NCI), and Brenda K. Edwards, Ph.D. (NCI). Although these are U.S. statistics, the broad historical trends are applicable to Canada.

⁶³⁷ U.S. Department of Health and Human Services, 1990, *Prevention '89/'90: Federal Programs and Progress*, Public Health Service, Washington D.C.

⁶³⁸ Gelman, D., "The Price of Progress: Technology and the Cost of Medical Care," *Canadian Medical Association Journal* 1971; 104: 401-406.

"The public health revolution of the early twentieth century brought unprecedented benefits to the U.S. population and economy.... [O]pportunities exist to achieve additional, comparable gains at the present time."⁶³⁹

The data presented in this statistical profile suggest social interventions that could significantly improve women's health in Canada. Three of these interventions are profiled here, because good models and practical examples already exist in Canada and elsewhere in the industrialized world. These examples are by no means an exhaustive list, but they suggest the type of thinking and action that may be provoked by a comprehensive assessment of women's health issues today.

24.5.1 Reducing overwork and stress, and improving work-life balance

A social determinants approach to women's health makes it very clear that health improvements are not the sole responsibility of federal or provincial health departments. Efforts to reduce work stress and restore a better work-family balance are an excellent example of the critical need for inter-departmental cooperation to improve population health. Some Scandinavian countries now have a special Ministry of Children and Family that fosters such efforts; and family-friendly work arrangements and the reduction of work hours have become more important priorities in collective bargaining in those countries than wages, a movement strongly supported by female unionists. Successes have been achieved without any loss of prosperity or business competitiveness; and morale and health improvements have actually been shown to improve work productivity. Quality of life can also dramatically improve as a result of this focus on balancing work with other aspects of life: International time use studies have shown that people have 11 hours more free time per week in Denmark than in Canada.⁶⁴⁰

The Netherlands, for example, reduced its unemployment rate from 12% to 3% and now has the lowest annual work hours of any industrial country. Dutch workers put in an average of 1,370 hours of paid work per year, compared to 1,732 for Canadians, the equivalent of 10 weeks less per year.⁶⁴¹ That remarkable improvement in the quality of life has been achieved by redistributing work hours to counter an excessive polarization of hours very similar to that which we have witnessed in Canada since the early 1990s.

The Netherlands legislated a non-discrimination clause for part-time workers, ensuring them equal hourly pay, pro-rated benefits, and equal opportunity for career advancement, and the Dutch parliament has considered a bill to give workers the right to reduce their work hours, a right already enshrined in most Dutch collective agreements.⁶⁴² Holland now has the highest rate of part-time work among OECD countries, but part-time work is considered "good work" in that

⁶³⁹ Almer, Robert, and Donald Eddins, "Cross-Sectional Analysis: Precursors of Premature Death in the United States," in Amler, Robert, and Bruce Hull (eds.), *Closing the Gap: The Burden of Unnecessary Illness*, Oxford University Press, New York and Oxford, 1987, page 187.

⁶⁴⁰ Andrew Harvey, "Canadian Time Use in a Cross-National Perspective," *Statistics in Transition*, November, 1995, volume 2, no. 4, pages 595-610; especially table 3, page 603.

⁶⁴¹ For comparative annual work hours see International Labour Organization, *Key Indicators of the Labour Market*, September, 1999, available at (<http://www.ilo.org/public/english/60empfor/polemp/kilm/kilm.htm>).

⁶⁴² European Industrial Relations Observatory, Netherlands 1999, "Political Compromise on Proposed Part-time Work Legislation," available at <http://www.eiro.eurofound.ie/1999/10/inbrief/NL9910170N.html>

country, and the rate of involuntary part-time work is just 6%, less than one-quarter the rate in Canada.

In contrast to North Americans who are working longer hours, the Dutch, Danes, Norwegians, French and other European countries have actively reduced work hours both in order to spread the work more evenly and thus to reduce unemployment and underemployment as well as overwork, and to improve work-family balance. Since the unemployed have a reduced life expectancy and suffer significantly more health problems than people who have a job, the reduction and redistribution of work hours can have positive health effects in several ways.⁶⁴³

Canadian governments could begin shifting the focus in this direction in a simple cost-free way - by giving annual honorary awards to businesses that institute family-friendly work arrangements, including flexible work hours, job-sharing arrangements, and the right to reduce working hours without career penalties. The Quebec government has already proposed a four-day workweek for parents of young children. Working women in particular, still carrying most unpaid household work responsibilities, would benefit greatly from such initiatives in this country.

24.5.2 Eliminating the gender wage gap

Detailed Statistics Canada studies have found that between one-half and three-quarters of the persistent gender wage gap cannot be explained by any of 14 demographic, occupational, educational, or work characteristics, including work experience, length of time with employer, or supervisory responsibilities. In fact, the persistence of the wage gap is even harder to fathom in light of the growing educational parity among men and women in Canada. In the absence of any rational explanation, one Statistics Canada analyst therefore labelled the gender wage gap “gender-based labour market discrimination.”⁶⁴⁴ Since the wage gap contributes to higher rates of low income among Canadian women than men, and since inequality has been associated with adverse health impacts, the elimination of the gender wage gap can help improve women’s health.

Again there are good models for action. Prince Edward Island has by far the smallest gender wage gap and the lowest rates of low income in the country. PEI women have higher rates of union coverage than men, thereby ensuring better incomes and greater job security, and single mothers in PEI have the second highest incomes of any province in the country. New Brunswick has established a pay equity roundtable under the direction of a Minister that includes business, union, government, academic, and community representatives. And a major lawsuit promoted greater pay equity among federal government employees. As Statistics Canada has demonstrated

⁶⁴³ On the health impacts of unemployment, see Canadian Public Health Association, *The Health Impacts of Unemployment: A Position Paper*, CPHA, Ottawa, 1996; R. Evans, *Why Are Some People Healthy and Other People Not?*, Canadian Working Paper no. 20, Institute for Advanced Research, Program in Population Health, December, 1992; both references cited in ACPH, *Toward a Healthy Future*, page 54.

⁶⁴⁴ Drolet, Marie, *The Persistent Gap: New Evidence on the Canadian Gender Wage Gap*, Statistics Canada, catalogue no 11F0019-MPE, no. 157, January, 2001; Marie Drolet, *The Persistent Gap: New Evidence on the Canadian Gender Wage Gap*, Income Statistics Division, Statistics Canada, December, 1999, catalogue no. 75F0002MIE-99008; see Table 3 for the 14 factors examined and for the fraction of the gender wage gap explained by each factor.

that there is no good reason for the persistent gender wage gap, its elimination is a clear social goal that can contribute to improved women's health in Canada.

24.5.3 Reducing poverty rates among single mothers and other vulnerable groups

This statistical profile of women's health has noted that low-income women have significantly higher rates of hospitalization and health care utilization than higher income women. Since higher rates of health service usage are costly to taxpayers, strategic investments in reducing poverty rates among the most vulnerable sub-groups of women will yield long-term cost savings to the health care system. As single mothers and elderly women living alone have the highest rates of low income of any demographic group in Canada, adequate social supports for these groups are one of the most cost-effective investments governments can make.

It can be done. Concerted public policies and improved income supports have dramatically and continuously lowered poverty rates among Canadian seniors in the last 20 years, although unattached elderly women still have high rates of low income (21% in 2000). Since 1980, Canada has successfully reduced low-income rates among the elderly, aged 65 and over, from 34% in 1980 to 7% in 2000. In 2000, 4.4% of elderly men and 9.5% of elderly women lived below Statistics Canada's low-income cut-off line down from 13.6% and 6% respectively in 1991.⁶⁴⁵ Sadly, that substantial gain is tempered by high poverty rates among children, single mothers, Aboriginals, the disabled, elderly women living alone, and other vulnerable groups.

This shift in the distribution of poverty from old to young illustrates one of the most interesting aspects of a population health approach based on the determinants of health -- the highly interactive functioning of the various determinants. The 1994-95 National Population Health Survey found that depression rates are highest and psychological wellbeing lowest among youth, and that mental wellbeing increases with age. Remarkably, this is a reversal from the patterns of a generation ago, when seniors were more likely than younger Canadians to be depressed.⁶⁴⁶

It is clear that the steady reduction in poverty rates over two decades among older Canadians is highly correlated with their improved wellbeing. Conversely, high rates of child poverty, youth unemployment and job insecurity, student debt, and single mother poverty help explain declines in mental wellbeing among those groups.

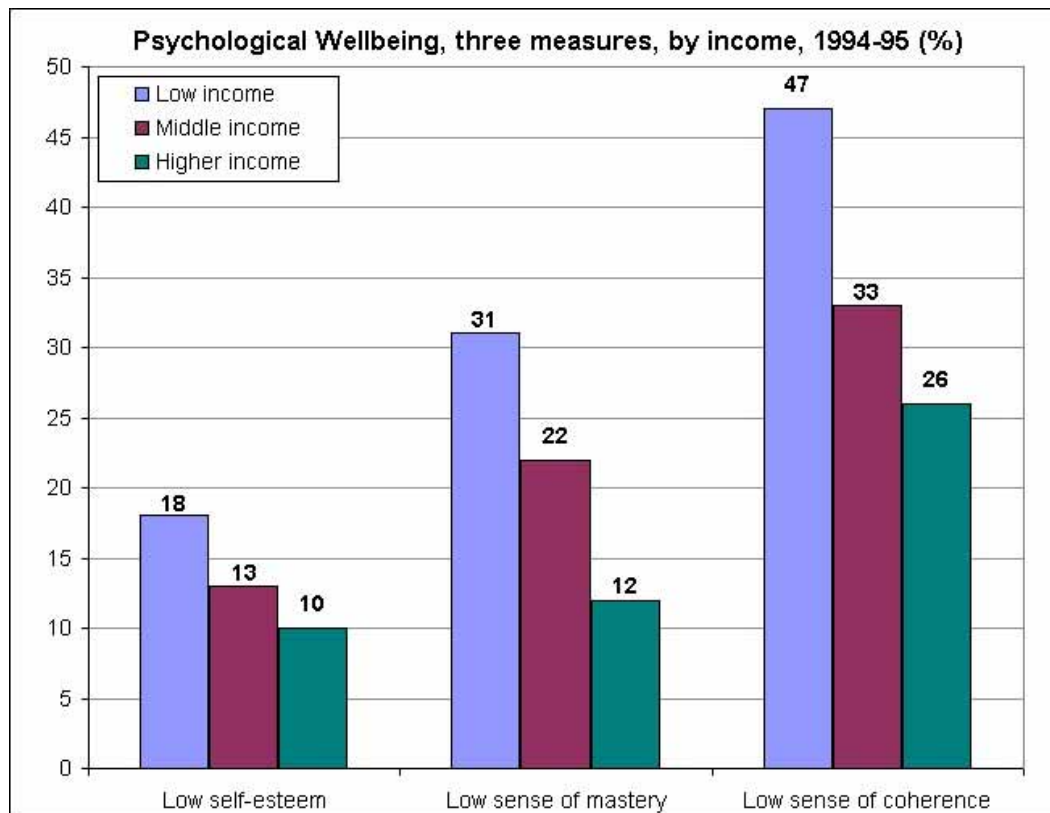
This statistical profile of women's health in Canada indicates that this understanding is very good news for the practical cost-conscious health official, because a strategic investment in one determinant of health, like the alleviation of poverty among single mothers, will have far-reaching positive effects in many other spheres. In every instance, working with the causes and conditions of health and illness is a far more cost-effective approach to reducing health costs than the medical interventions required to deal with disease after it has occurred, interventions that are generally so symptom-specific that they have few, if any, positive spin-off benefits in other health areas. There is an enormous financial burden in treating mental disorders, and psychiatric patient days account for a remarkably high proportion of all hospital days. The close

⁶⁴⁵ Statistics Canada, *Low Income Persons, 1980 to 1997*, catalogue no. 13-569-XIB, pages 26-27; Statistics Canada, *Income in Canada 2000*, page 91.

⁶⁴⁶ Health Canada, *Toward a Healthy Future: Second Report on the Health of Canadians*, Ottawa, 1999, page 16.

link between mental health and income level thus provides clear guidance for cost-conscious and responsible policy makers (Figure 77).⁶⁴⁷

Figure 77: Psychological Wellbeing, three measures, by income, 1994-95 (%)



Source: Statistics Canada, 1994-95 National Population Health Survey

Single mothers represent a comparable population sample to the elderly. If determined public policy can achieve this measure of success in reducing poverty among the elderly, there is no reason why governments cannot act just as decisively to provide the necessary supports to single mothers, their children and to elderly women living alone. The dividends will be substantial in reduced health care, social service and justice costs, improved educational performance, and enhanced workplace productivity and taxation revenues.

In sum, social interventions like reducing work hours to improve work-family balance; eliminating the gender wage gap; and reducing poverty rates among single mothers, Aboriginals and other vulnerable groups, all have the potential to improve women's health markedly in Canada. These concluding remarks on potential social policy interventions are all based on hard data presented in this report – on women's double paid and unpaid work burden and the concomitant time stresses on working women; on the gender wage gap; and on high rates of low-income among single mothers and other sub-groups of women. Appropriate policy responses to

⁶⁴⁷ Health Canada, *Toward a Healthy Future: Second Report on the Health of Canadians*, Ottawa, 1999, page 16.

these data are not a mystery, and successful working models can be found for all the examples given above.

The only real purpose of indicators and of research into women's health issues is to provide the necessary information base for policy actions that can improve health outcomes. It is hoped that this statistical profile of women's health in Canada can make a small contribution to that goal.